

'81

# OWNER'S MANUAL

**HONDA**  
**CB650** CUSTOM

READ BEFORE YOU RIDE!

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## IMPORTANT NOTICE

- **OPERATOR AND PASSENGER**

This motorcycle is designed to carry the operator and one passenger. Never exceed the vehicle capacity load as shown on the tire information label.

- **ON-ROAD USE**

This motorcycle is not equipped with a spark arrester and is designed to be used only on the road. Operation in forest, brush or grass covered areas may be illegal. Obey local laws and regulations.

- **READ OWNER'S MANUAL CAREFULLY**

Pay special attention to statements preceded by the following words

**WARNING**

*Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.*

**CAUTION:**

*Indicates a possibility of personal injury or equipment damage if instructions are not followed.*

**NOTE:**

Gives helpful information.

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



# HONDA CB650 CUSTOM OWNER'S MANUAL

1981



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## WELCOME,

Your new motorcycle presents you with an invitation to adventure and a challenge to master the machine. Your safety depends not only on your own alertness and familiarity with the machine, but also the machine's mechanical condition. A pre-ride inspection before every outing and regular maintenance are essential.

To help meet the challenges safely and enjoy the adventure fully, become thoroughly familiar with this Owner's Manual **BEFORE YOU RIDE THE MOTORCYCLE**. Also, for your own and your Honda's sake, please read all the written material which came with your new Honda. These items include:

- \* Honda Owner's Identification Card
- \* Set-up and Predelivery Checklist
- \* Honda Motorcycle Emission Control System, Distributor's Warranty
- \* Honda Motorcycle, Distributor's Limited Warranty

When service is required, remember that your Honda dealer knows what it takes to keep your Honda going strong. If you have the required mechanical "know-how" and tools, your dealer can supply you with an official Honda Shop Manual to help you perform many maintenance and repair tasks.

Pleasant riding and thank you for choosing a Honda!



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## MOTORCYCLE SAFETY

### WARNING

- \* *Motorcycle riding requires special efforts on your part to ensure your safety. Know these requirements before you ride.*

### SAFE RIDING RULES

1. Always make a Pre-ride Inspection (page 28) before you start the engine. You may prevent an accident or equipment damage.
2. Many accidents involve inexperienced riders. Most states require a special motorcycle riding test or license. Make sure you are qualified before you ride. NEVER lend your motorcycle to an inexperienced rider.
3. Many automobile/motorcycle accidents happen because the automobile driver does not "see" the motorcyclist. Make yourself conspicuous to help avoid the accident that wasn't your fault:
  - Wear bright or reflective clothing.
  - Don't drive in another motorist's "blind spot."
4. Obey all federal, state and local laws and regulations.
  - Excessive speed is a factor in many accidents. Obey the speed limits, and NEVER travel faster than conditions warrant.
  - Signal before you make a turn or lane change. Your size and maneuverability can surprise other motorists.
5. Don't let other motorists surprise you. Use extra caution at intersections, parking lot entrances and exits, and driveways.
6. Keep both hands on the handlebars and both feet on the foot pegs while riding. A passenger should hold on to the motorcycle or the operator with both hands and keep both feet on the passenger foot pegs.



## **PROTECTIVE APPAREL**

1. Most motorcycle accident fatalities are due to head injuries: ALWAYS wear a helmet. You should also wear a face shield or goggles as well as boots, gloves, and protective clothing. A passenger needs the same protection.
2. The exhaust system becomes very hot during operation, and it remains hot after operation. Never touch any part of the hot exhaust system. Wear clothing that fully covers your legs.
3. Do not wear loose clothing which could catch on the control levers, foot pegs, drive chain or wheels.



## LOADING AND ACCESSORIES

### WARNING

*\* To prevent an accident, use extreme care when adding and riding with accessories and cargo. Addition of accessories and cargo can reduce a motorcycle's stability, performance, and safe operating speed. Never ride an accessory-equipped motorcycle at speeds above 80 mph. And remember that this 80 mph limit may be reduced by installation of non-Honda accessories, improper loading, worn tires and overall motorcycle condition, poor road or weather conditions, etc. These general guidelines may help you decide whether or how to equip your motorcycle, and how to load it safely.*

### Loading

The combined weight of the rider, passenger, cargo and all accessories must not exceed 460 lbs, the vehicle capacity load. Cargo weight alone should not exceed 60 lbs.

1. Keep cargo and accessory weight low and close to the center of the motorcycle. Load weight equally on both sides to minimize imbalance. As weight is located farther from the motorcycle's center of gravity, handling is proportionally affected.
2. Adjust tire pressure (TIRES, pages 5–7), front fork air pressure (FRONT SUSPENSION, page 8) and rear shock absorber springs (SHOCK ABSORBERS, page 9) to suit load weight and riding conditions.
3. Luggage racks are for light weight items. Do not carry more than 30 lbs of cargo on a luggage rack behind the seat. Bulky items too far behind the rider may cause wind turbulence that impairs handling.
4. All cargo and accessories must be secure for stable handling. Re-check cargo security and accessory mounts frequently.
5. Do not attach large, heavy items to the handlebars, front forks, or fender. Unstable handling or slow steering response may result.



### Accessories

Genuine Honda accessories have been specifically designed for and tested on this motorcycle.

Because the factory cannot test all other accessories, you are personally responsible for proper selection, installation and use of accessories. Always follow the guidelines under Loading above, and these:

1. Carefully inspect the accessory to make sure it does not obscure any lights, reduce ground clearance and banking angle or limit suspension travel, steering travel or control operation.
2. Large fork-mounted fairings or windshields, or poorly designed or improperly mounted fairings can produce aerodynamic forces that cause unstable handling. Do not install fairings that decrease cooling air flow to the engine.
3. Accessories which alter your riding position by moving hands or feet away from controls may increase reaction time in an emergency.

4. Do not add electrical equipment that will exceed the motorcycle's electrical system capacity. A blown fuse could cause a dangerous loss of lights or engine power at night or in traffic.
5. This motorcycle was not designed to pull a sidecar or trailer. Handling may be seriously impaired if so equipped.



## TIRES: TUBELESS

This motorcycle is equipped with tubeless tires, valves, and wheel rims. Use only tires marked "TUBELESS" and tubeless valves on rims marked "TUBELESS TIRE APPLICABLE."

Proper air pressure will provide maximum stability, riding comfort and tire life. Check tire pressures frequently and adjust if necessary.

### NOTE:

- \* Check tire pressure when the tires are "cold," before you ride.
- \* Tubeless tires have some degree of self-sealing ability if they are punctured, and leakage is often very slow. Inspect very closely for punctures, especially if the tire is not fully inflated.

Dry weight kg (lbs)	204 (450)
Curb weight (wet) kg (lbs)	218 (481)
Gross vehicle weight rating kg (lbs)	433 (955)
Vehicle capacity load kg (lbs)	215 (475)

		Front	Rear
Tire size		3.50S19-4PR	130/90-16 67S
Cold tire pressures kg/cm <sup>2</sup> (psi)	Up to 90 kg (200 lbs) load	2.0 (28)	2.0 (28)
	90 kg (200 lbs) load to vehicle capacity load	2.0 (28)	2.25 (32)
Tire brand TUBELESS ONLY BRIDGESTONE DUNLOP		L303 F11	S714 K127

Check the tires for cuts, imbedded nails or other sharp objects. Check the rims for dents or deformation. If there is any damage, see your authorized Honda dealer for repair, replacement, and balancing.



#### **WARNING**

- \* *Improper tire inflation will cause abnormal tread wear and create a safety hazard. Underinflation may result in the tire slipping on, or coming off of the rim.*
- \* *Operation with excessively worn tires is hazardous and will adversely affect traction and handling.*

Replace tires before tread depth at the center of the tire reaches the following limit:

Minimum tread depth	
Front:	1.5 mm (1/16 in)
Rear:	2.0 mm (3/32 in)

#### Repair/Replacement:

See your authorized Honda Dealer.

#### **WARNING**

- \* *The use of tires other than those listed on the tire information label may adversely affect handling.*
- \* *Do not install tube-type tires on tubeless rims. The beads may not seat and the tires could slip on the rims, causing tire deflation.*
- \* *Do not install a tube inside a tubeless tire. Excessive heat build-up may cause the tube to burst resulting in rapid tire deflation.*
- \* *Proper wheel balance is necessary for safe, stable handling of the motorcycle. Do not remove or change any wheel balance weights. When wheel balancing is required, see your authorized Honda dealer. Wheel balancing is required after tire repair or replacement.*
- \* *Do not exceed 50 mph (80 km/h) for the first 24 hours after tire repair, or repair failure and tire deflation may result. Never use a repaired tire for racing or speeds over 80 mph (120 km/h).*



- \* *Replace the tire if the sidewall is punctured or damaged. Sidewall flexing may cause repair failure and tire deflation.*

**CAUTION:**

- \* *Do not try to remove tubeless tires without special tools and rim protectors. You may damage the rim sealing surface or disfigure the rim.*

**MODIFICATIONS**



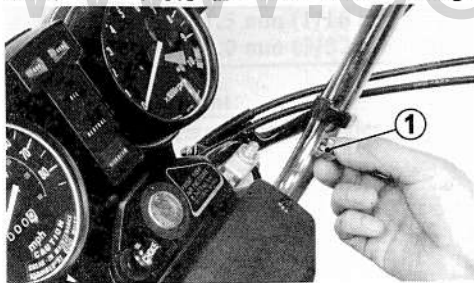
- \* *Modification of the motorcycle, or removal of original equipment may render the vehicle unsafe or illegal. Obey all federal, state and local equipment regulations.*

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## FRONT SUSPENSION

The front suspension of this motorcycle can provide the desired ride under various rider/cargo weights and driving conditions through adjustment of the air pressure within the fork tubes. The recommended pressure under normal riding conditions is 0.7–1.1 kg/cm<sup>2</sup> (10–16 psi). Low air pressure settings provide a softer ride and are for light loads and smooth road conditions. High air pressure settings provide a firmer ride and are for heavy loads and rough road conditions. Check and adjust air pressure when the front fork tubes are cold before riding.



(1) Air valve cap

1. Place the motorcycle on its center stand. Do not use the side stand or you will get false pressure readings.
2. Remove the front fork air valve cap (1).
3. Check the air pressure using a pressure gauge.

### NOTE:

- \* Some pressure will be lost when removing the gauge from the valve. Determine the amount of loss and compensate accordingly.

4. Add air to the recommended pressure.

### CAUTION:

- \* Do not exceed 3 kg/cm<sup>2</sup> (42 psi) or the air pressure gauge may be damaged.

### NOTE:

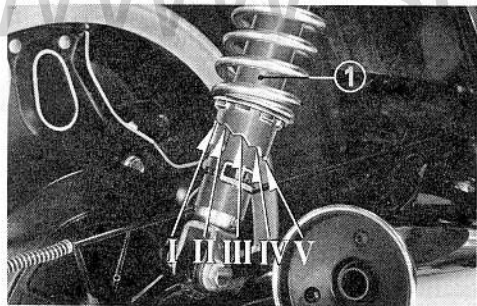
- \* Do not exceed the recommended air pressure or the ride will be harsh and uncomfortable.



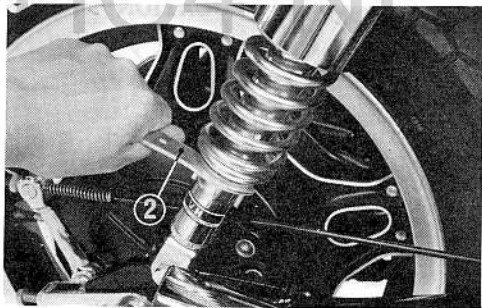
## SHOCK ABSORBERS

Each shock absorber (1) has five adjustment positions for different load or riding conditions.

Position I is for light loads and smooth road conditions. Positions II to V increase spring preload for a stiffer rear suspension, and can be used when the motorcycle is heavily loaded. Be certain to adjust both shock absorbers to the same position.



(1) Shock absorber



(2) Hook spanner



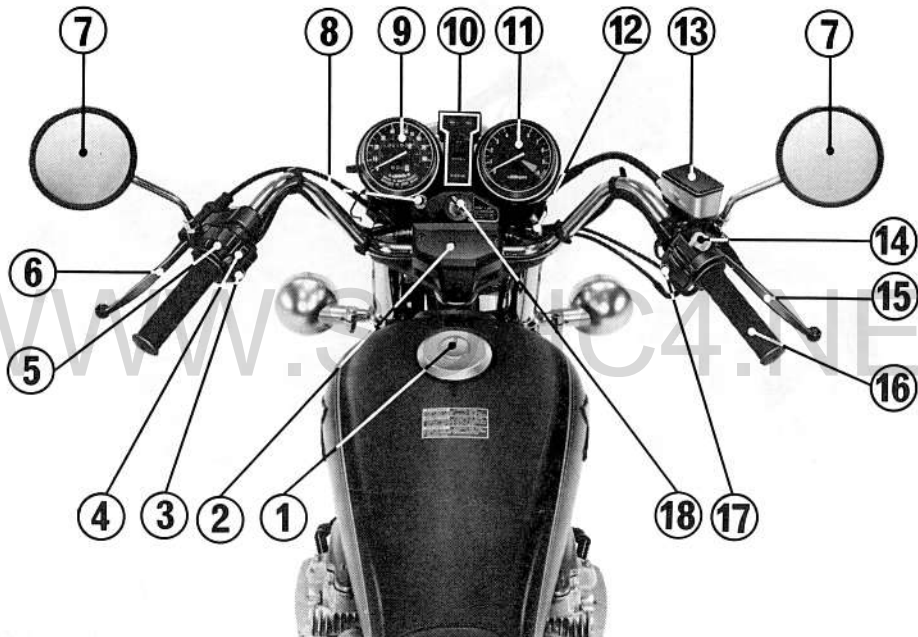
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## DESCRIPTION

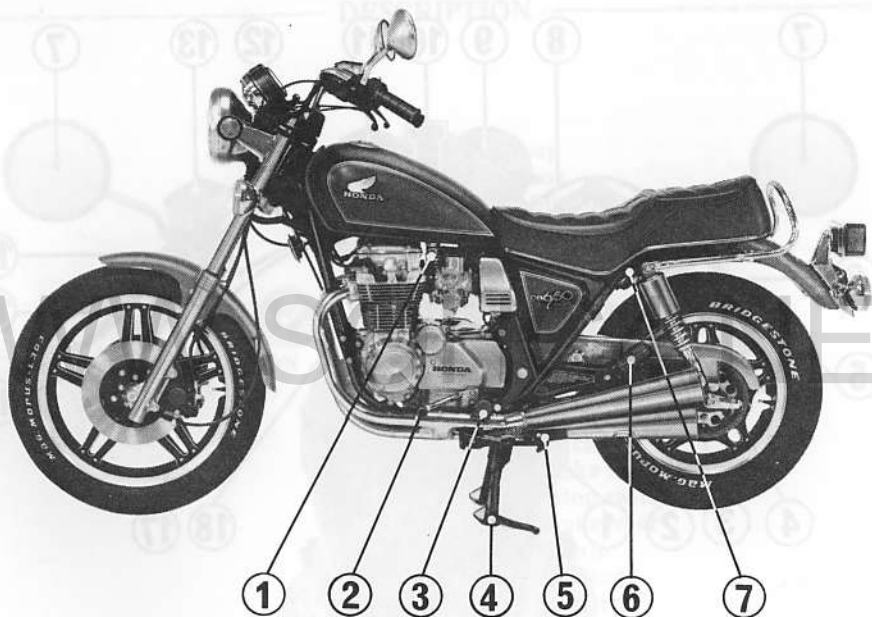
### PARTS LOCATION

- ( 1 ) Fuel cap
- ( 2 ) Fuse box
- ( 3 ) Horn button
- ( 4 ) Turn signal switch
- ( 5 ) Headlight dimmer switch
- ( 6 ) Clutch lever
- ( 7 ) Rear view mirrors.
- ( 8 ) Choke knob
- ( 9 ) Speedometer
- (10) Warning and indicator lights
- (11) Tachometer
- (12) Air valve cap
- (13) Front brake fluid reservoir
- (14) Engine stop switch
- (15) Front brake lever
- (16) Throttle grip
- (17) Starter button
- (18) Ignition switch









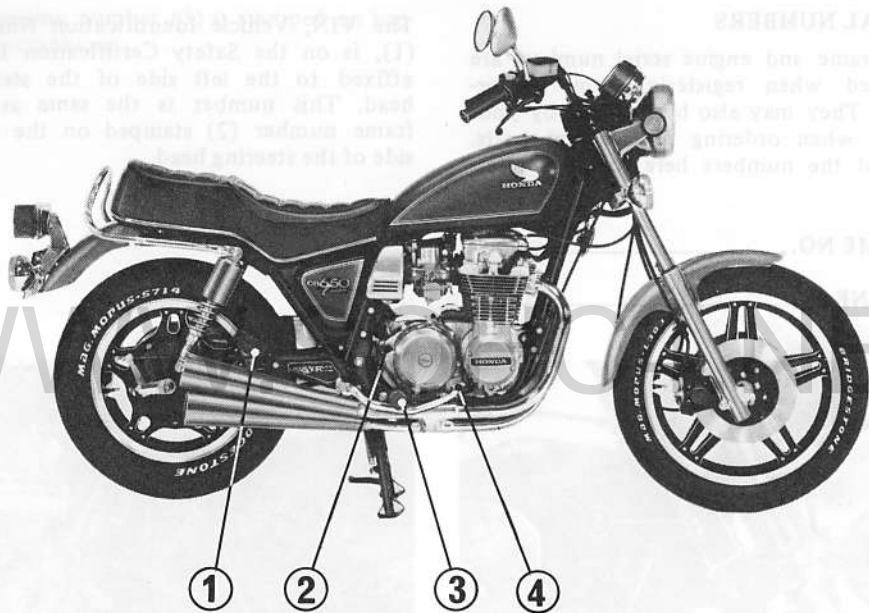
(1) Fuel valve  
(2) Gearshift pedal

(3) Foot peg  
(4) Center stand

(5) Side stand  
(6) Passenger foot peg

(7) Helmet holder





- (1) Passenger foot peg  
(2) Oil filler cap/dipstick

- (3) Foot peg  
(4) Rear brake pedal

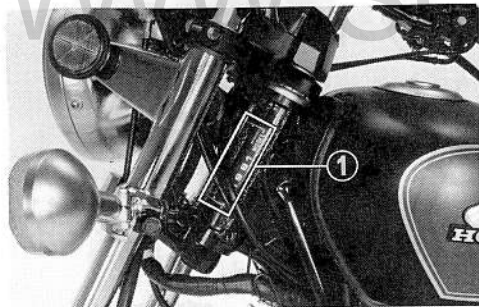


## SERIAL NUMBERS

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.

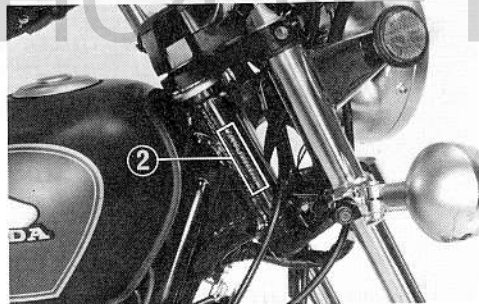
FRAME NO. \_\_\_\_\_

ENGINE NO. \_\_\_\_\_



(1) VIN number

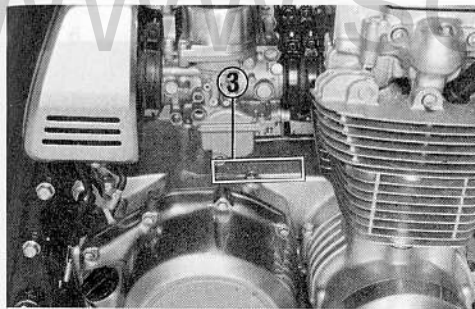
The VIN, Vehicle Identification Number (1), is on the Safety Certification Label affixed to the left side of the steering head. This number is the same as the frame number (2) stamped on the right side of the steering head.



(2) Frame number



The engine number (3) is stamped on top of the crankcase.



(3) Engine number



## PARTS FUNCTION

### Instruments and Indicators

The indicators and warning lights are grouped between the instruments, above the headlight. Their functions are described in the tables on the following pages.

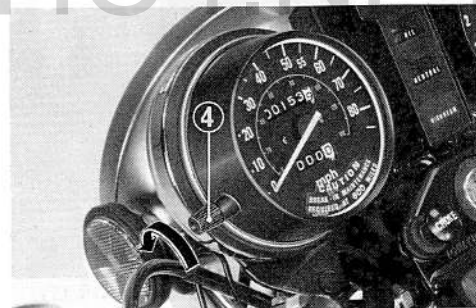
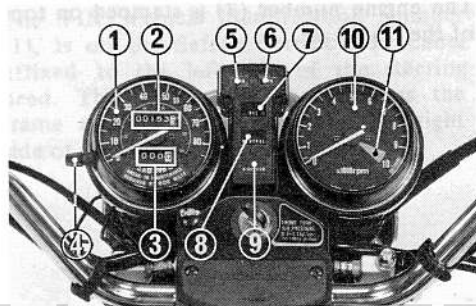
#### USA model:

Odometer and tripmeter read in miles.

#### Canadian model:

Odometer and tripmeter read in kilometers.

- (1) Speedometer
- (2) Odometer
- (3) Tripmeter
- (4) Tripmeter reset knob
- (5) Left turn signal indicator
- (6) Right turn signal indicator
- (7) Oil pressure warning light
- (8) Neutral indicator
- (9) High beam indicator
- (10) Tachometer
- (11) Tachometer red zone





Ref. No.	Description	Function
1	Speedometer	Shows driving speed, 0 to 85 mph.
2	Odometer	Shows accumulated mileage.
3	Tripmeter	Shows mileage per trip.
4	Tripmeter reset knob	Resets tripmeter to zero (0). Turn knob in direction shown.
5	Left turn signal indicator (amber)	Flashes when left turn signal operates.
6	Right turn signal indicator (amber)	Flashes when right turn signal operates.

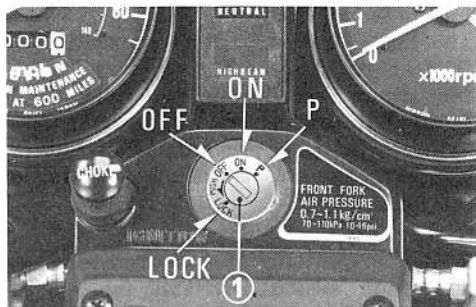


Ref. No.	Description	Function
7	Oil pressure warning light (red)	<p>Lights when engine oil pressure is below normal operating range. Should light when ignition switch is ON and engine is not running. Should go out when engine starts, except for occasional flickering at or near idling speed when the engine is warm.</p> <p><b>CAUTION:</b></p> <p><i>* Running the engine with insufficient oil pressure will cause serious engine damage.</i></p>
8	Neutral indicator (green)	Lights when transmission is in neutral.
9	High beam indicator (blue)	Lights when headlight is on high beam.
10	Tachometer	Shows engine rpm.
11	Tachometer red zone	<p>Do not operate engine in red zone when avoidable. NEVER operate beyond red zone.</p> <p><b>CAUTION:</b></p> <p><i>* Exceeding recommended maximum engine rpm may cause serious engine damage.</i></p>



## Ignition Switch

The ignition switch (1) is below the indicator panel.



(1) Ignition switch

Key Position	Function	Key Removal
LOCK (Steering lock)	Steering is locked. Engine and lights cannot be operated. See page 22.	Remove the key.
OFF	Engine and lights cannot be operated.	Remove the key.
ON	Headlight, taillight and meter lights are on and other lights can be operated. Engine can be started.	Key cannot be removed.
P (Parking)	For parking the motorcycle near traffic. The taillight is on, but all other lights are off. The engine cannot be started.	Remove the key.



### Engine Stop Switch

The three position engine stop switch (2) is next to the throttle grip. In RUN, the engine will operate. In either OFF position the engine will not operate. This switch is intended primarily as a safety or emergency switch and should normally remain in RUN.

#### NOTE:

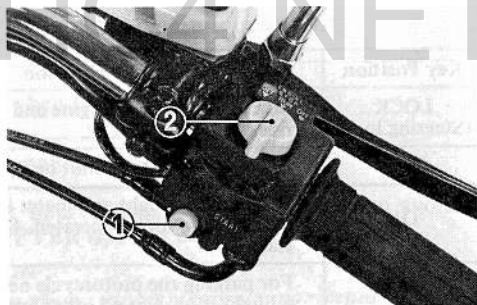
- \* If your motorcycle is stopped with the ignition switch ON and the engine stop switch OFF, the headlight and taillight will still be on, resulting in battery discharge.

### Starter Button

The starter button (1) is below the engine stop switch (2).

When the starter button is pressed the starter motor will crank the engine, the headlight will automatically go out, but the taillight will stay on.

See pages 29–31 for starting procedure.



- (1) Starter button
- (2) Engine stop switch



The three controls next to the left handle-bar grip are:

**Headlight Dimmer Switch (1)**

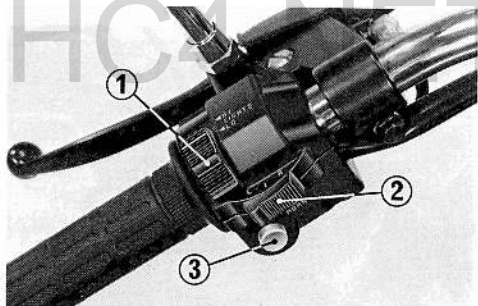
Select HI for high beam, LO for low beam.

**Turn Signal Switch (2)**

Move to L to signal a left turn, R to signal a right turn. Return to the center (off) when finished.

**Horn Button (3)**

Press the button to sound the horn.



- (1) Headlight dimmer switch
- (2) Turn signal switch
- (3) Horn button



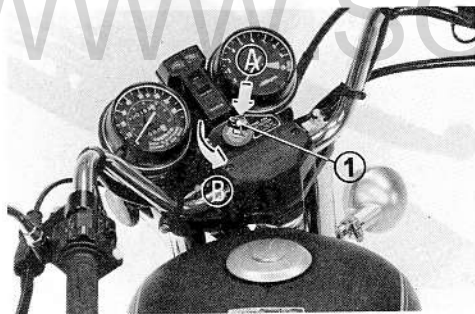
## Steering Lock

To lock the steering, turn the handlebars all the way to the left or right, turn the key (1) to LOCK while pushing in. Remove the key.



### WARNING

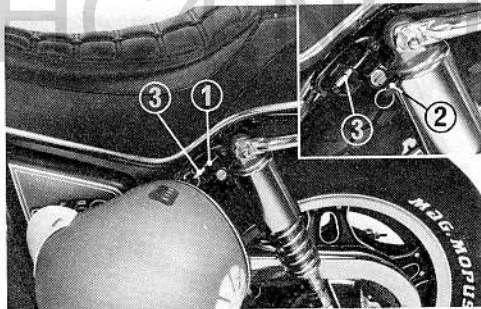
\* *Do not turn the key to LOCK while riding the motorcycle.*



(1) Ignition key  
(A) Push in  
(B) Turn to LOCK

## Helmet Holder

The helmet holder (1) is by the left side of the seat. Insert the ignition key (2) and turn it counterclockwise to unlock. Hang the helmet on the lock and push in the holder pin (3).



(1) Helmet holder  
(2) Ignition key  
(3) Holder pin



**WARNING**

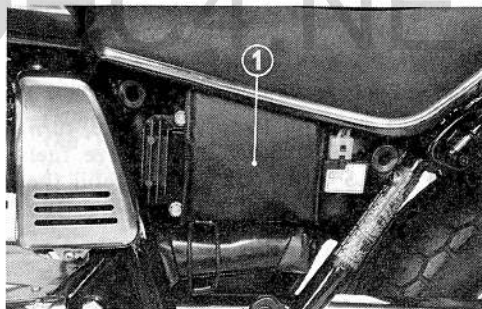
- \* *The helmet holder is designed for use while parking. Do not operate the motorcycle with a helmet attached to the holder. The helmet may interfere with the rear wheel, possibly stopping the wheel.*

**Document Container**

The document container (1) is behind the left side cover.

This owner's manual and other documents should be stored in this container.

When washing your motorcycle, be careful not to flood this area with water.



(1) Document container



## FUEL

### Manual Fuel Valve

The manual fuel valve (1) is under the left side of the fuel tank. Set it to ON for normal operation or RES when you start to run out of the main fuel supply. The OFF setting is only for long term storage or servicing of fuel system components.

### Automatic Fuel ON-OFF

With the fuel valve set to ON (or RES) fuel flows to the carburetors only when the engine is being started or is running. A diaphragm shuts off fuel flow when the engine is turned off.

### Reserve Fuel

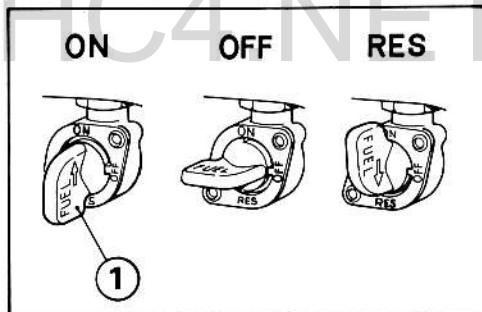
When the main fuel supply is gone, turn the fuel valve to RES. The reserve fuel supply is 2.5 l (0.7 US gal) so refill the tank as soon as possible then switch the valve back to ON.

### WARNING

- \* *Know how to operate the fuel valve while riding the motorcycle. You may avoid a sudden stop in traffic.*
- \* *Be careful not to touch any hot engine parts while operating the fuel valve.*

### NOTE:

- \* Do not operate the machine with the fuel valve in the RES position after refueling. You may run out of fuel, with no reserve.



(1) Fuel valve in normal operating position



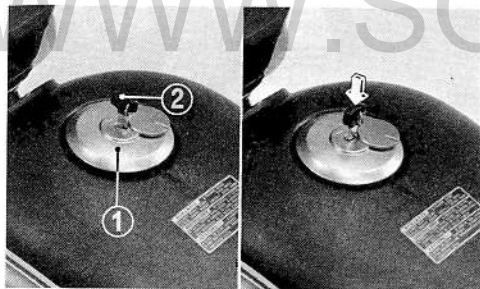
## Fuel Tank

Fuel tank capacity is 13.5 ℓ (3.6 US gal) including 2.5 ℓ (0.7 US gal) in the reserve supply. To remove the fuel cap (1), insert the ignition key (2) and turn it clockwise. The cap will pop up and can be lifted off. Any automotive gasoline with a pump octane number ( $\frac{R + M}{2}$ ) of 86 or higher,

or a research octane number of 91 or higher may be used. If “knocking” or “pinging” occurs, try a different brand of gasoline or a higher octane grade.

To attach the fuel tank cap, align the tab on the underside of the cap with the slot in the filler neck.

Push the cap into the filler neck until it snaps closed and locks. Remove the key.



- (1) Fuel cap
- (2) Ignition key

### WARNING

- \* *Gasoline is extremely flammable and is explosive under certain conditions. Refuel in a well ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where the motorcycle is refueled or where gasoline is stored.*
- \* *Do not overfill the tank (there should be no fuel in the filler neck). After refueling, make sure the fuel cap is closed securely.*



## ENGINE OIL

### Engine Oil Level Check

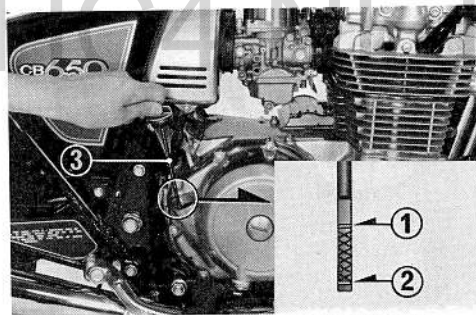
Check the engine oil level each day before riding the motorcycle.

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

1. Start the engine and let it idle for a few minutes. Make sure the red oil pressure warning light goes off. If the light remains on, stop the engine immediately.
2. Stop the engine and put the motorcycle on its center stand on level ground.
3. After a few minutes, remove the oil filler cap/dipstick (3), wipe it clean, and reinsert the dipstick without screwing it in. The oil level should be between the upper (1) and lower (2) level marks on the dipstick.
4. Add the specified oil up to the upper level mark, if required.
5. Replace the oil filler cap/dipstick. Check for oil leaks.

### CAUTION:

*\* Running the engine with insufficient oil can cause serious engine damage.*



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



### Engine Oil Recommendation

USE HONDA 4-STROKE OIL OR AN EQUIVALENT

Use only high detergent, premium quality motor oil certified to meet or exceed US automobile manufacturers' requirements for Service Classification SE.

Motor oils intended for Service SE will show this designation on the container. The use of special oil additives is unnecessary and will only increase operating expenses.

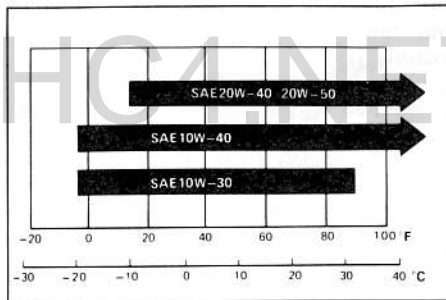
### CAUTION:

\* *Engine oil is a major factor affecting the performance and service life of the engine. Non-detergent, vegetable, or castor based racing oils, are not recommended.*

### Recommended Oil Viscosity

#### SAE 10W-40

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





### PRE-RIDE INSPECTION

#### WARNING

*\* If the Pre-ride Inspection is not performed, serious damage or an accident may result.*

Inspect your motorcycle every day before you start the engine. The items listed here will only take a few minutes, and in the long run they can save time, expense and possibly your life.

1. Engine oil level—add engine oil if required (page 26). Check for leaks.
2. Fuel level—fill fuel tank when necessary (page 25). Check for leaks.
3. Front and rear brakes—check operation; make sure there is no brake fluid leakage. Adjust free play if necessary (pages 59–62).
4. Tires—check condition and pressure (pages 5–7).
5. Drive chain—check condition and slack (pages 63–66). Adjust and lubricate if necessary.

6. Throttle—check for smooth opening and closing in all steering positions.
7. Lights and horn—check that headlight, tail/stoplight, turn signals, indicators and horn function properly.
8. Engine stop switch—check for proper function (page 20).

Correct any discrepancy before you ride. Contact your authorized Honda dealer for assistance if you cannot correct the problem.



## STARTING THE ENGINE

### WARNING

- \* *Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas.*

### NOTE:

- \* Do not use the electric starter for more than 5 seconds at a time. Release the starter button for approximately 10 seconds before pressing it again.
- \* The electric starter will work when the transmission is in gear with the clutch disengaged.
- \* Do not flood the engine by twisting the throttle repeatedly. The carburetors have an accelerator pump.

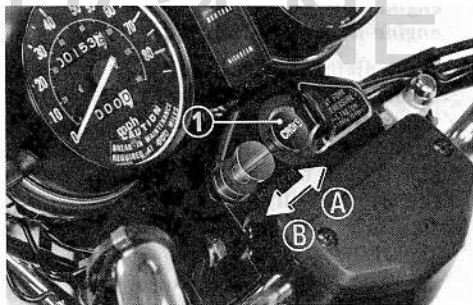
## PREPARATION

Make sure the transmission is in neutral, the engine stop switch is at RUN, and the fuel valve is ON. Insert the key and turn the ignition switch ON.

Check that the red oil pressure warning light comes on.

## STARTING PROCEDURE

To restart a warm engine, follow the procedure for “High Air Temperature.”



(1) Choke knob      (A) Fully Closed  
(B) Fully Open



### Normal Air Temperature

10° - 35°C (50° - 95°F)

1. Pull the choke knob (1) up all the way to Fully Closed (A).
2. Start the engine, leaving the throttle closed.

#### **CAUTION:**

*\* The red oil pressure warning light should go off a few seconds after the engine starts. If the light stays on, stop the engine immediately and check engine oil level. Do not operate the engine with insufficient oil pressure.*

3. Immediately after the engine starts, operate the choke knob (1) to keep fast idle at 1,000–2,700 rpm.
4. About 45 seconds after the engine starts, push the choke knob (1) down all the way to Fully Open (B).
5. If idling is unstable, open the throttle slightly.

### High Air Temperature

35°C (95°F) or above

1. Do not use the choke.
2. Open the throttle slightly.
3. Start the engine.



### Low Air Temperature

10°C (50°F) or below

1. Follow steps 1 and 2 under “Normal Air Temperature.”
2. When engine rpm begins to pick up, operate the choke knob (1) to keep fast idle at 1,000–2,700 rpm.
3. To speed warm up, open and close the throttle, keeping engine rpm below 2,700 rpm.
4. About 6 minutes after the engine starts, push the choke knob down all the way to Fully Open (B).
5. Continue warming up the engine by opening and closing the throttle until it will idle smoothly.

### **CAUTION:**

- \* *Extended use of the choke may impair piston and cylinder wall lubrication.*



## **Flooded Engine**

If the engine fails to start after repeated attempts, it may be flooded with excess fuel. To clear a flooded engine, turn the engine stop switch OFF and push the choke knob down all the way to Fully Open (B). Open the throttle fully and crank the engine with the electric starter for 5 seconds. Turn the engine stop switch ON and follow the "High Air Temperature" Starting Procedure.

## **BREAK-IN**

During initial break-in, newly machined surfaces will be in contact with each other and these surfaces will wear in quickly. Break-in maintenance at 600 miles (1,000 km) is designed to compensate for this initial minor wear. Timely performance of break-in maintenance will ensure optimum service life and performance from the engine.

The general rules are as follows:

1. Maximum continuous engine speed during the first 600 miles (1,000 km) must not exceed 5,000 rpm.
2. Increase the maximum continuous engine speed by 2,000 rpm between odometer readings of 600 miles (1,000 km) and 1,000 miles (1,600 km). Drive briskly, vary speeds frequently and use full throttle for short bursts only. Do not exceed 7,000 rpm.
3. Bear in mind never to lug the engine with full throttle at low engine speeds. This rule is applicable not only during break-in but at all times.



4. Upon reaching an odometer reading of 1,000 miles (1,600 km), you can subject the motorcycle to full throttle operation.

However, do not exceed 9,500 rpm at any time (tachometer RED ZONE limit).

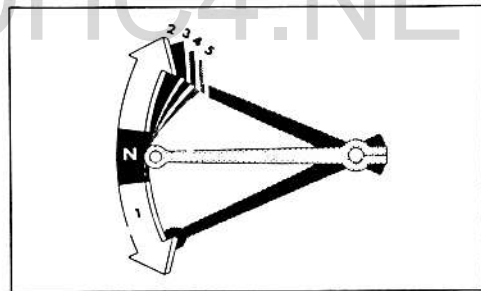
**NOTE: (USA ONLY)**

- \* After break-in maintenance, remove the "BREAK-IN" caution label from the speedometer lens.

## RIDING

### **WARNING**

- \* *Review Motorcycle Safety (pages 1–9) before you ride.*
- \* *Make sure the side stand is fully retracted before riding the motorcycle. If the stand is extended, it may interfere with control during a left turn.*



Shifting pattern



Proper shifting will provide better fuel economy. When changing gears under normal conditions, use the shifting points recommended by Honda as follows:

Shifting Up:

- From 1st to 2nd: 19 mph (30 km/h)
- From 2nd to 3rd: 25 mph (40 km/h)
- From 3rd to 4th: 31 mph (50 km/h)
- From 4th to 5th: 37 mph (60 km/h)

Shifting Down:

- From 5th to 4th: 25 mph (40 km/h)
- From 4th to 3rd: 19 mph (30 km/h)

Disengage the clutch when speed drops below 9 mph (15 km/h), when engine roughness is evident, or when engine stalling is imminent; and shift down to 1st gear for acceleration.



**WARNING**

- \* *Do not downshift when traveling at a speed that would force the engine to overrev in the next lower gear, or cause the rear wheel to lose traction.*

**CAUTION:**

- \* *Do not shift gears without disengaging the clutch and closing the throttle. The engine and drive train could be damaged by overspeed and shock.*
- \* *Do not tow the motorcycle or coast for long distances while the engine is off. The transmission will not be properly lubricated and damage may result.*
- \* *Do not exceed 8,000 rpm when running the engine without a load. Serious engine damage may result.*

**NOTE:**

- \* The battery will not charge while the engine speed is below 1,700 rpm. Avoid idling for prolonged periods, or continuous operation below 1,700 rpm.



## BRAKING

1. For normal braking, gradually apply both front and rear brakes while downshifting to suit your road speed.
2. For maximum deceleration, close the throttle and apply the front and rear brakes firmly. Disengage the clutch before the motorcycle stops.



### WARNING

- \* *Independent use of only the front or rear brake reduces stopping performance. Extreme braking may cause either wheel to lock, reducing control of the motorcycle.*
- \* *When possible reduce speed or brake before entering a turn; closing the throttle or braking in mid-turn may cause wheel slip. Wheel slip will reduce control of the 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. Sudden accel-*

*eration, 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. Continuous brake application can overheat the brakes and reduce their effectiveness.*



## PARKING

1. After stopping the motorcycle, shift the transmission into neutral and turn the ignition switch OFF.
2. Use the side or center stand to support the motorcycle while parked.

### CAUTION:

- \* *Park the motorcycle on firm, level ground to prevent overturning.*
3. Lock the steering to help prevent theft (page 22).

### NOTE:

- \* When stopping for a short time near traffic at night, the ignition switch may be turned to P and the key removed. This will turn on the taillight to make the motorcycle more visible to traffic.

The battery will discharge if the ignition switch is left at P for too long a time.

## ANTI-THEFT TIPS

1. Always lock the steering and never leave the key in the ignition switch. This sounds simple but people do forget.
2. Be sure the registration information for your motorcycle is accurate and current.
3. Park your motorcycle in a locked garage whenever possible.
4. Use an additional anti-theft device of good quality.
5. Put your name, address, and phone number in this Owner's Manual and keep it on your motorcycle at all times. Many times stolen motorcycles are identified by information in the Owner's Manuals which are still with them.

NAME: Wayne A. Sluiter

ADDRESS: 7060 Ponderosa  
Cadillac Mich  
49601

PHONE NO: 616-775-6732



## **SPECIAL PROCEDURES**

These special procedures are intended to help you out in case of trouble on the road: a flat tire, or a blown fuse. In case of a flat tire, you can remove the entire wheel and take it to a qualified repair facility. Refer to "TIRES" on pages 5–7. Because of the critical nature of wheel attachment, you should proceed to an authorized Honda dealer as soon as possible after repair to verify proper assembly.

### **WARNING**

- \* *Stop the engine and support the motorcycle securely on a level surface before performing these procedures.*

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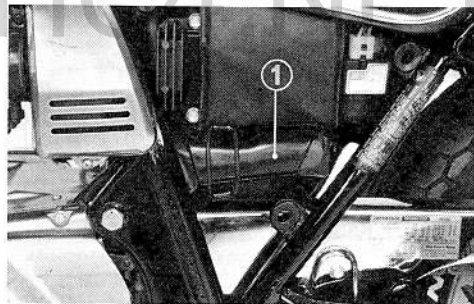


## Tool Kit

The tool kit (1) is behind the left side cover. Remove the side cover and unhook the strap to remove the tool kit.

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

- 10 x 12mm open end wrench
- 14 x 17mm open end wrench
- Pliers
- No. 2 screwdriver
- No. 2 phillips screwdriver
- 6 mm hex wrench
- Screwdriver grip
- Handle for 22 mm and 24 mm wrenches
- 22 mm wrench
- 24 mm wrench
- Spark plug wrench
- Hook spanner
- Feeler gauge 0.7 mm
- Tool bag



(1) Tool kit

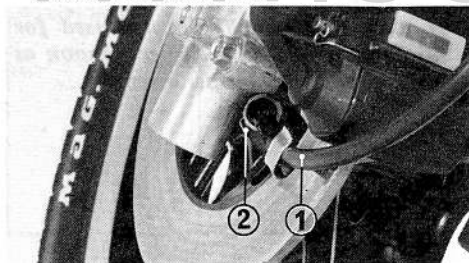


## Front Wheel Removal

1. Raise the front wheel off the ground by placing a support block under the engine.
2. Disconnect the speedometer cable (1) by expanding the speedometer cable set spring (2).
3. Remove the caliper assemblies (3) from the fork legs by removing the fixing bolts (4) (two on each side).

### CAUTION:

\* Support the caliper assemblies so that they don't hang on the hoses. Do not twist the brake hoses.

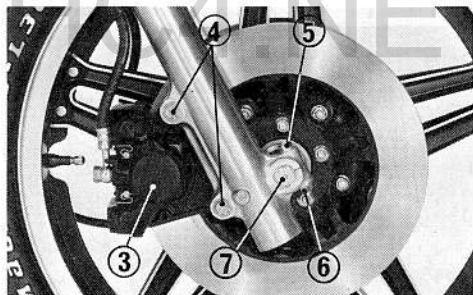


(1) Speedometer cable  
(2) Speedometer cable set spring

4. Remove the front axle holding bolt (5) by loosening the nut (6). Unscrew and pull out the front axle (7). Remove the front wheel.

### NOTE:

\* 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 authorized Honda dealer.

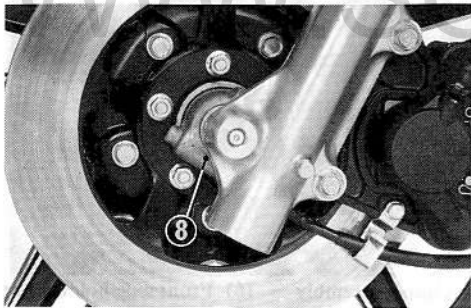


(3) Caliper assembly (6) Front axle holding nut  
(4) Caliper fixing bolts (7) Front axle  
(5) Front axle holding bolt



### Installation Notes:

To install the front wheel assembly, insert the axle through the right fork leg and wheel hub, and screw it into the left fork leg. Make sure the speedometer gearbox (8) is perpendicular to the left fork leg. Tighten the axle to the specified torque. Axle torque: 5.5–6.5 kg-m (40–47 ft-lb). Install the axle holding bolt (5) and tighten the nut (6) loosely.



(8) Speedometer gearbox

Fit the calipers over the discs taking care not to damage the brake pads. Install the caliper mounting bolts and tighten to the recommended torque (3.0–4.0 kg-m, 22–29 ft-lb).

Measure the clearance between the outside surface of the right brake disc and the rear of the right caliper holder with a 0.7 mm (0.028 in) feeler gauge (see sketch). If gauge inserts easily, tighten the axle holding nut (6) to the specified torque. Axle holding nut: 1.5–2.5 kg-m (11–18 ft-lb).

### **WARNING**

- \* *If a torque wrench was not used for installation, see your dealer as soon as possible to verify proper assembly.*



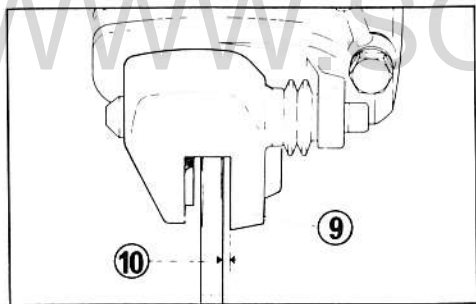
If the feeler gauge cannot be inserted easily, pull the right fork outward until the gauge can be inserted and tighten the holding nuts with the gauge inserted. After tightening, remove the gauge.

Check that the other three corners of the right caliper holder have a clearance of at least 0.7 mm (0.028 in) between caliper holder and disc.

After installing the wheel, apply the brake several times then recheck both discs for caliper holder to disc clearance. Do not operate the motorcycle without adequate clearance.

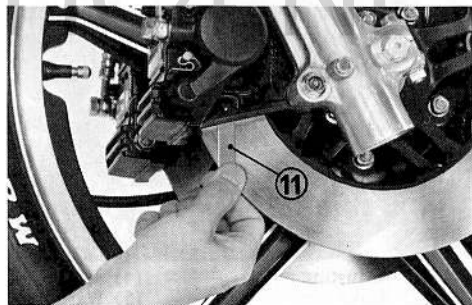
**WARNING**

*\* Failure to provide adequate disc to caliper holder clearance may damage the brake discs and impair braking efficiency.*



(9) Caliper holder

(10) Disc

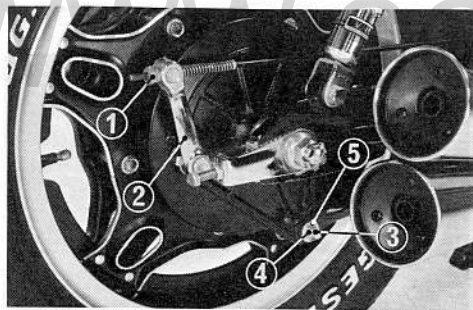


(11) Feeler gauge



## Rear Wheel Removal

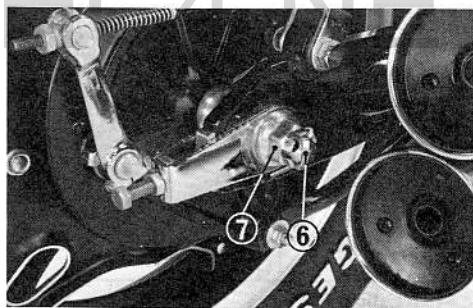
1. Place the motorcycle on its center stand.
2. Remove the rear brake adjusting nut (1). Disconnect the brake rod from the brake arm (2) by pushing down on the brake pedal. Disconnect the stopper arm from the brake panel by removing the cotter pin (3), stopper arm nut (4), washer (5) and rubber grommet.



- (1) Adjusting nut  
(2) Brake arm  
(3) Cotter pin

- (4) Nut  
(5) Washer

3. Remove the cotter pin (6) from the axle and loosen the nut (7).
4. Loosen the drive chain adjusting lock nuts (8) and bolts (9).
5. Pull the adjusters (10) down, push the wheel forward, and derail the drive chain from the driven sprocket. Remove the wheel.



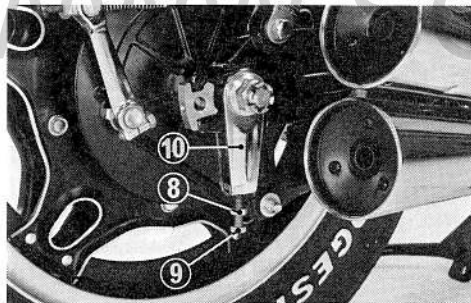
- (6) Cotter pin

- (7) Axle nut



### Installation Notes:

- To install the rear wheel, reverse the removal procedure.  
Torque:  
Axle nut:  
8.0–10.0 kg-m (58–72 ft-lb)  
Stopper arm nut:  
1.8–2.5 kg-m (13–18 ft-lb)
- Adjust the brake (page 61) and drive chain (page 63).
- Apply the brake several times and check for free wheel rotation when released.



- (8) Lock nut                      (10) Chain adjuster  
(9) Drive chain adjusting bolt

### **WARNING**

- \* *If a torque wrench was not used for installation, see your dealer as soon as possible to verify proper assembly.*

### **CAUTION:**

- \* *Always replace used cotter pins with new ones.*

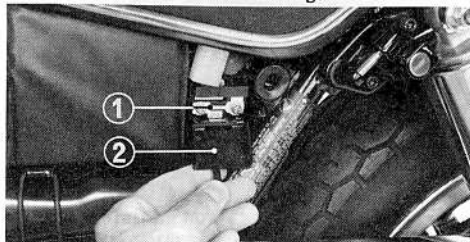


## Fuse Replacement

The main fuse (1) is behind the left side cover. Remove the side cover and open the main fuse cover (2). The main fuse is 30 A. The fuse box (3) is located between the handlebars. Remove the screws (4) and fuse box cover. The specified fuses are 15A (5). When frequent fuse failure occurs, it usually indicates a short circuit or an overload in the electrical system. See your authorized Honda dealer for repair.

### CAUTION:

\* Turn the ignition switch OFF before checking or replacing fuses to prevent accidental short-circuiting.

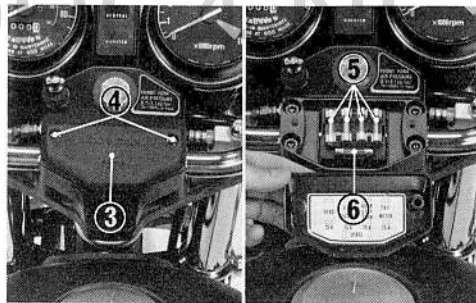


(1) Main fuse

(2) Fuse box cover

To replace the main fuse, loosen the screws and remove the old fuse. Install the new fuse and tighten the screws securely.

To replace fuses in the fuse box, remove the screws and the fuse box cover. Pull the old fuse out of the clips; or slide it lengthwise until one end comes out, then lift it out with your fingers. Push a new fuse into the clips and install the fuse box cover.



(3) Fuse box

(4) Screws

(5) Fuses

(6) Spare fuse

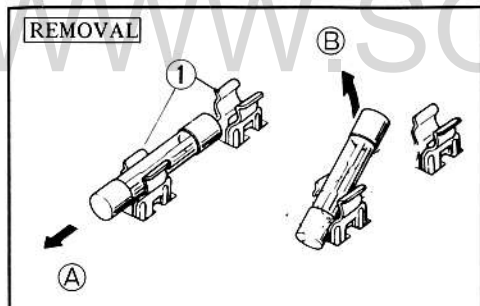


**WARNING**

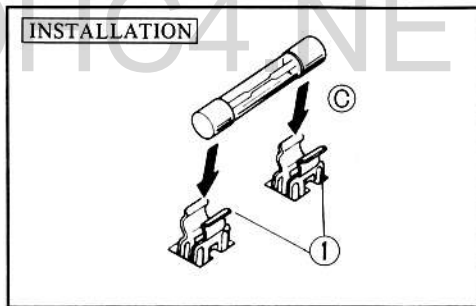
- \* *Never use a fuse with a different rating from that specified. Serious damage to the electrical system or a fire may result, causing a dangerous loss of lights or engine power at night or in traffic.*

**WARNING**

- \* *Do not pry the clips open to get a fuse out; you could bend them and cause poor contact with the new fuse. A loose fuse could cause damage to the electrical system and even start a fire.*



- (1) Fuse holder clips      (B) Remove  
(A) Slide



- (1) Fuse holder clips  
(C) Push



## MAINTENANCE

- The U.S. Environmental Protection Agency requires manufacturers to certify that motorcycles built after December 31, 1977 will comply with applicable emissions standards during their useful life, when operated and maintained according to the instructions provided. Compliance with the terms of the Distributor's Warranty for Honda Motorcycle Emission Control Systems is necessary in order to keep the emissions system warranty in effect. (USA ONLY).
- When service is required, remember that your authorized Honda dealer knows your motorcycle best and is fully equipped to maintain and repair it. The scheduled maintenance may also be performed by a qualified service facility that normally does this kind of work; or you may perform most of the work yourself if you are mechanically qualified and have the proper tools and service data.
- These instructions are based on the assumption that the motorcycle will be used exclusively for its designed purpose. Sustained high speed operation, or operation in unusually wet or dusty conditions will require more frequent service than specified in the MAINTENANCE SCHEDULE. Consult your authorized Honda dealer for recommendations applicable to your individual needs and use.



**WARNING**

- \* *If your motorcycle is overturned or involved in a collision, inspect control levers, cables, brake hoses, calipers, accessories, and other vital parts for damage. Do not ride the motorcycle if damage impairs safe operation. Have your Honda dealer inspect the major components including frame, suspension, and steering parts for misalignment and damage that you may not be able to detect.*
- \* *Stop the engine and support the motorcycle securely on a level surface before performing any maintenance.*
- \* *Use new, genuine Honda parts or their equivalent for maintenance and repair. Parts which are not of equivalent quality may impair the safety of your motorcycle and the effective operation of the emission control systems.*

The Vehicle Emission Control Information (1) is attached to the frame by the left side cover. (USA ONLY)



(1) Vehicle Emission Control Information



## MAINTENANCE SCHEDULE

Perform the Pre-ride Inspection (page 28) at each scheduled maintenance period.

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

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

ITEM			FREQUENCY	WHICHEVER COMES FIRST	ODOMETER READING [NOTE 3]							
					EVERY	600mi (1,000km)	4,000mi (6,400km)	8,000mi (12,800km)	12,000mi (19,200km)	16,000mi (25,600km)	20,000mi (32,000km)	REFER TO
EMISSION RELATED ITEMS	*	FUEL LINES			I	I	I	I	I			
	*	THROTTLE OPERATION		I	I	I	I	I	I			
	*	CARBURETOR-CHOKE			I	I	I	I	I			
		AIR CLEANER	NOTE 1		C	R	C	R	C	Page 55		
		CRANKCASE BREATHER	NOTE 2		C	C	C	C	C	Page 56		
		SPARK PLUGS			R	R	R	R	R	Page 53		
	*	VALVE CLEARANCE		I	I	I	I	I	I			
		ENGINE OIL	YEAR	R	R	R	R	R	R	Pages 51–52		
		ENGINE OIL FILTER	YEAR	R	R	R	R	R	R	Page 52		
	*	CAM CHAIN TENSION			A	A	A	A	A			
*	CARBURETOR-SYNCHRONIZE			I	I	I	I	I				
*	CARBURETOR-IDLE SPEED			I	I	I	I	I	Page 54			



ITEM		FREQUENCY	WHICHEVER COMES FIRST ↓	ODOMETER READING [NOTE 3]							REFER TO
				<div>600mi (1,000km) 4,000mi (6,400km) 8,000mi (12,800km) 12,000mi (19,200km) 16,000mi (25,600km) 20,000mi (32,000km)</div>							
				EVERY							
NON-EMISSION RELATED ITEMS		DRIVE CHAIN		I, L EVERY 300 mi (500 km)						Pages 63–66	
		BATTERY	MONTH	I	I	I	I	I	I	Pages 68–69	
		BRAKE FLUID (FRONT)	MONTH I 2 YEARS R	I	I	I	*R	I	I	Pages 59–60	
		BRAKE PAD/SHOE WEAR			I	I	I	I	I	Pages 59–62	
		BRAKE SYSTEM		I	I	I	I	I	I		
	*	BRAKE LIGHT SWITCH		I	I	I	I	I	I		
	*	HEADLIGHT AIM		I	I	I	I	I	I		
		CLUTCH		I	I	I	I	I	I	Pages 57–58	
		SIDE STAND			I	I	I	I	I	Page 67	
	*	SUSPENSION		I	I	I	I	I	I		
	*	NUTS, BOLTS, FASTENERS		I	I	I	I	I	I		
	**	WHEELS		I	I	I	I	I	I		
	**	STEERING HEAD BEARING		I		I		I			

\* SHOULD BE SERVICED BY AN AUTHORIZED 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 AN AUTHORIZED HONDA DEALER.

NOTE: 1. Service more frequently when riding in dusty areas.  
2. Service more frequently when riding in rain or at full throttle (USA ONLY).  
3. For higher odometer readings, repeat at the frequency interval established here.



## MAINTENANCE RECORD

Miles	Performed By	Odometer	Date
600			
4,000			
8,000			
12,000			
16,000			
20,000			

- Make sure that whoever performs the maintenance completes this record.  
All scheduled maintenance, including the 600 mile (1,000 km) break-in maintenance, is considered a normal owner operating cost and will be charged for by your dealer.
- Detailed receipts verifying the performance of required maintenance should be retained  
These receipts should be transferred with the motorcycle to the new owner if the motorcycle is sold.



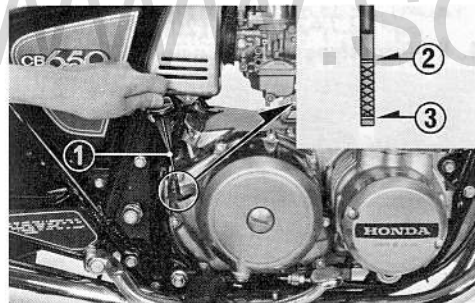
## Engine Oil

Engine oil quality is the chief factor affecting engine service life. Change the engine oil when specified by the maintenance schedule.

### NOTE:

\* Change engine oil with the engine warm and the motorcycle on its center stand to assure complete and rapid draining.

1. To drain the oil remove the oil filler cap (1), crankcase drain plug (4) and oil filter cover (7).



(1) Filler cap/dipstick (2) Upper level mark  
(3) Lower level mark

2. After the oil is completely drained check that the sealing washer (5) on the oil drain plug is in good condition and install the drain plug.

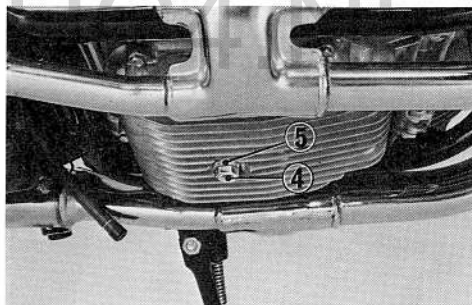
Drain Plug Torque:

2.5–3.5 kg-m (18–25 ft-lb)

3. Check that the oil filter bolt (6) and cover O-rings are in good condition and install the cover.

Oil Filter Bolt Torque:

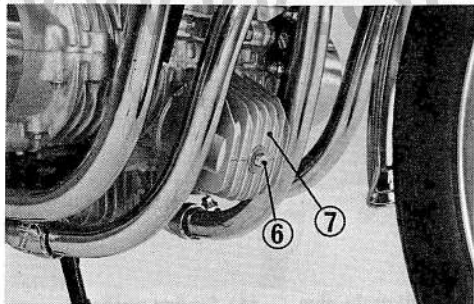
2.7–3.3 kg-m (20–24 ft-lb)



(4) Oil drain plug (5) Sealing washer



4. Fill the crankcase with approximately 3.0 ℓ (3.2 US qt) of the recommended oil.
5. Install the oil filler cap (1).
6. Start the engine and let it idle for 2–3 minutes.
7. Stop the engine and check that the oil level is at the upper level mark (2) on the dipstick. Make sure there are no oil leaks.



(6) Oil filter bolt (7) Oil filter cover

## Engine Oil Filter

### NOTE:

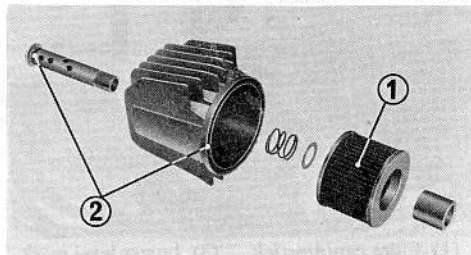
\* Change the filter after draining the engine oil.

1. Remove the oil filter element (1) from the cover.
2. Check that the O-rings (2) on the oil filter bolt and cover are in good condition.
3. Insert a new oil filter element. Check that all parts are installed as shown. Install the oil filter cover.

Oil Filter Bolt Torque:

2.7–3.3 kg-m (20–24 ft-lb)

4. Perform steps 4–7 of Engine Oil Change.



(1) Oil filter element (2) O-rings



## Spark Plugs

Recommended spark plugs:

### USA model

Standard:

X24ES-U (ND), D8EA (NGK)

For cold climate (Below 5°C, 41°F):

X22ES-U (ND), D7EA (NGK)

For extended high speed riding:

X27ES-U (ND), D9EA (NGK)

USA model: with an optional radio equipped:

Canadian model: Standard:

X24ESR-U (ND) or DR8ES-L (NGK)

For cold climate (Below 5°C, 41°F):

X22ESR-U (ND) or DR7ES (NGK)

For extended high speed riding:

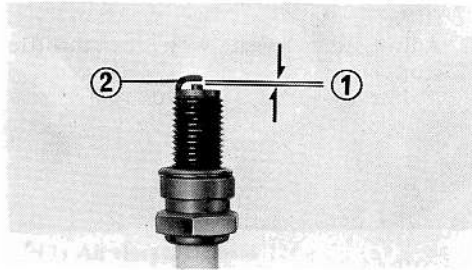
X27ESR-U (ND) or DR8ES (NGK)

1. Clean any dirt from around the spark plug base.
2. Disconnect the spark plug caps. Remove and discard the spark plugs.
3. Make sure the new spark plug gap (1) is 0.6–0.7 mm (0.024–0.028 in) using a wire type feeler gauge. If adjustment is necessary, bend the side electrode (2) carefully.

4. With the plug washers attached, thread the new spark plugs in by hand to prevent crossthreading.
5. Tighten the spark plugs 1/2 turn with a spark plug wrench to compress the washer.
6. Connect the spark plug caps.

### **CAUTION:**

- \* The spark plug must be securely tightened. An improperly tightened plug can become very hot and possibly damage the engine.
- \* Never use a spark plug with an improper heat range.



(1) Spark plug gap (2) Side electrode



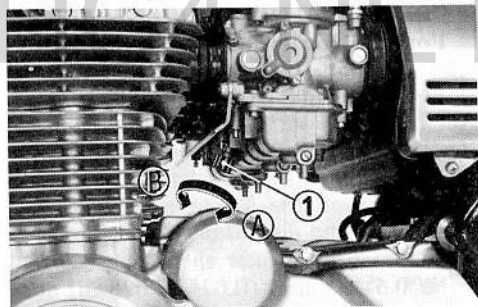
## Idle Speed

The idle speed adjustment procedure given here should only be used when changes in altitude affect normal idling speed as set by your dealer. See your authorized Honda dealer for regularly scheduled carburetor adjustment, including individual carburetor adjustment and synchronization.

### NOTE:

- \* The engine must be warm for accurate idle speed adjustment. Ten minutes of stop-and-go riding is sufficient.
- 1. Warm up the engine, shift to neutral and place the motorcycle on its center stand.
- 2. Adjust idle speed with the throttle stop screw.

Idle Speed:  $1,050 \pm 100$  rpm



(1) Throttle stop screw

(A) Increase rpm

(B) Decrease rpm

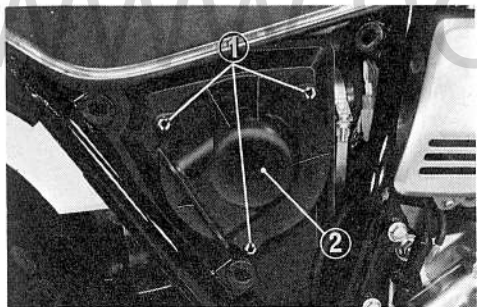


## Air Cleaner

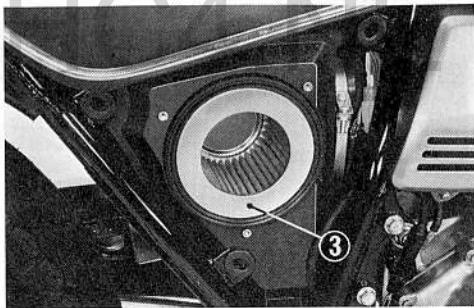
The air cleaner should be serviced at regular intervals (page 48). Service more frequently when riding in dusty areas.

1. Remove the right side cover.
2. Remove the three bolts (1) and the air cleaner cover (2). Pull out the element (3).

3. Clean the element by tapping it lightly to loosen dust. Blow away the remaining dust by applying compressed air from the outside of the element. Replace the element if it is excessively dirty, torn or damaged.
4. Reinstall the element, air cleaner cover and right side cover.



(1) Bolts  
(2) Air cleaner cover



(3) Air cleaner element

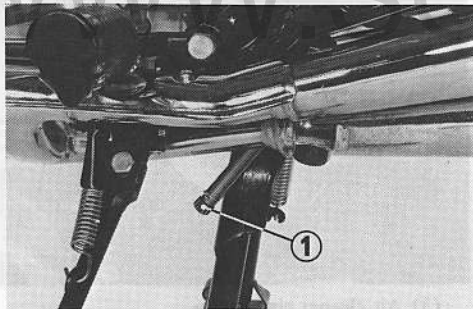


## Crankcase Breather (USA ONLY)

1. Remove the drain plug (1) from the tube, and drain the deposits.
2. Install the drain plug.

### NOTE:

- \* Service more frequently when riding in rain, at full throttle, or when deposits can be seen in the transparent section of the drain tube.



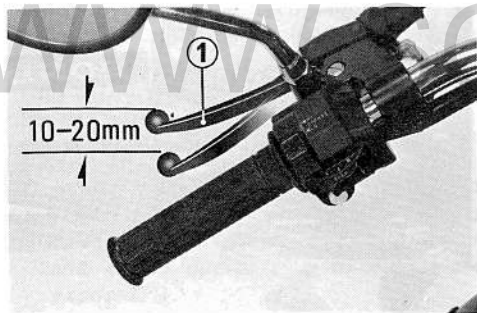
(1) Drain plug



## Clutch

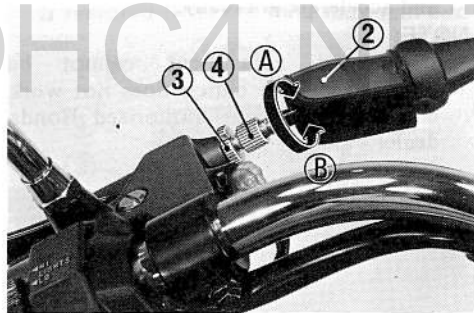
Clutch adjustment may be required if the motorcycle stalls when shifting into gear, or tends to creep; or if the clutch slips, causing acceleration to lag behind engine speed.

Normal clutch lever free play should be 10–20 mm ( $3/8$ – $3/4$  in) at the lever (1). Minor adjustments can be made with the clutch cable adjuster at the lever.



(1) Clutch lever

1. Pull off the dust cover (2). Loosen the lock nut (3) and turn the adjuster (4). Tighten the lock nut (3), and check adjustment.
2. If the adjuster is threaded out near its limit or if the correct free play cannot be obtained, loosen the lock nut (3) and turn in the adjuster (4) completely. Tighten the lock nut (3) and pull on the dust cover.



- (2) Dust cover  
(3) Lock nut  
(4) Clutch cable adjuster
- (A) Increase free play  
(B) Decrease free play



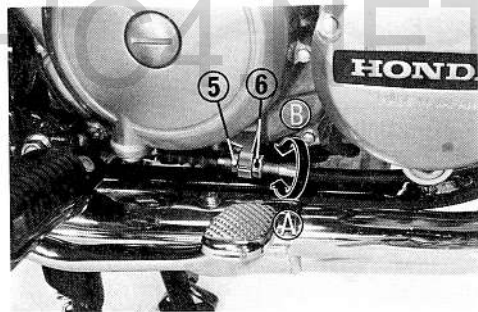
3. At the lower end of the cable, loosen the lock nut (5). Turn the adjusting nut (6) to obtain the specified free play. Tighten the lock nut (5), and check adjustment.
4. Start the engine, pull in the clutch lever and shift into gear. Make sure the engine does not stall, and the motorcycle does not creep. Gradually release the clutch lever and open the throttle. The motorcycle should start smoothly and accelerate gradually.

**NOTE:**

- \* If proper adjustment cannot be obtained or the clutch does not work correctly, see your authorized 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 free play
- (B) Decrease free play



## Front Brake

This model has a hydraulic disc front brake. As the brake pads wear, the brake fluid level drops in the reservoir.

There are no adjustments to perform, but fluid level and pad wear must be inspected periodically. The system must be inspected frequently to ensure there are no fluid leaks.

If the control lever free play becomes excessive and the friction pads are not worn beyond the recommended limit (page 60), there is probably air in the brake system and it must be bled. See your authorized Honda dealer.

### Brake Fluid Level:

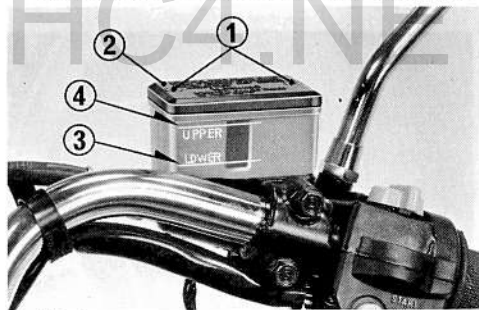
#### **WARNING**

- \* *Brake fluid may cause irritation. Avoid contact with skin or eyes. In case of contact, flush thoroughly with water and call a doctor if your eyes were exposed.*

Remove the screws (1), the reservoir cover (2) and diaphragm. Whenever the level is below the lower level mark (3) on the reservoir, fill the reservoir with DOT 3 BRAKE FLUID from a sealed container, up to the upper level mark (4). Reinstall the diaphragm, and reservoir cap. Tighten the screws (1) securely.

#### **CAUTION:**

- \* *When adding brake fluid be sure the reservoir is horizontal before the cover is removed or brake fluid may spill out.*



(1) Screws

(2) Reservoir cover

(3) Lower level mark

(4) Upper level mark



### CAUTION:

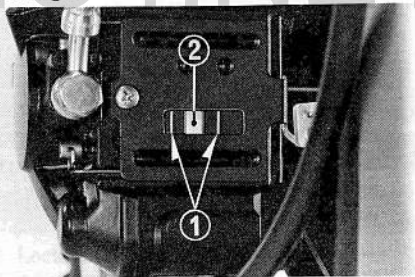
- \* Use only DOT 3 brake fluid from a sealed container.
- \* Handle brake fluid with care because it can damage paint and instrument lenses.
- \* Never allow contaminants (dirt, water, etc.) to enter the brake fluid reservoir.

### Brake Pads:

Brake pad wear will depend upon the severity of usage, type of driving, and condition of the roads. The pads will wear faster on dirty and wet roads. Inspect the pads visually during all regular service intervals to determine the pad wear. Remove the inspection hole cap. If the pads wear to the red line (1), both pads must be replaced.

### Other Checks:

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



(1) Red lines

(2) Brake disc



## Rear Brake

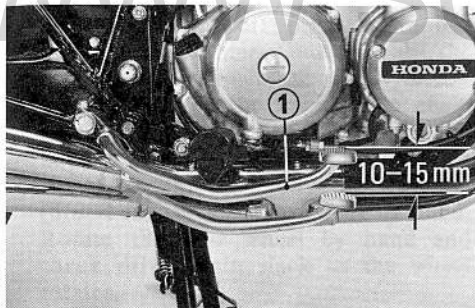
### Adjustment:

1. Measure the distance the rear brake pedal (1) moves before the brake starts to take hold.

Free play should be 10–15 mm (3/8–5/8 in). If adjustment is necessary, turn the rear brake adjusting nut (2).

### NOTE:

- \* Make sure that the cut-out on the adjusting nut is seated on the brake arm pin.



(1) Rear brake pedal

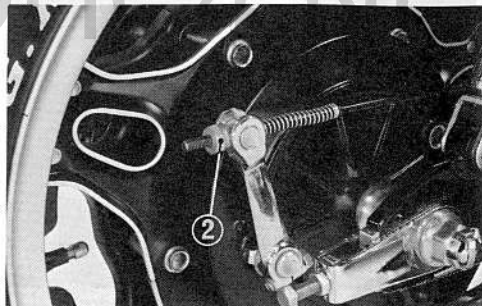
2. Apply the brake several times and check for free wheel rotation when released.

### NOTE:

- \* If proper adjustment cannot be obtained by this method, see your authorized Honda dealer.

### Other Checks:

Make sure the brake rod, brake arm, spring and fasteners are in good condition.



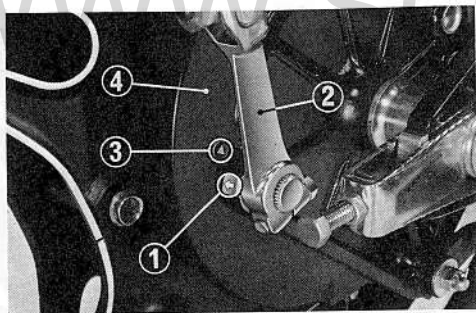
(2) Adjusting nut



### Wear Indicator:

When the brake is applied, an arrow (1), attached to the brake arm (2), moves toward a reference mark (3) on the brake panel (4).

If the arrow aligns with the reference mark on full application of the brake, the brake shoes must be replaced.



- (1) Arrow  
(2) Brake arm

- (3) Reference mark  
(4) Brake panel



## Drive Chain

The service life of the drive chain 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 and lubricated as part of the Pre-ride Inspection (page 28). Under severe usage, or when the motorcycle is ridden in unusually dusty areas, more frequent maintenance will be necessary.

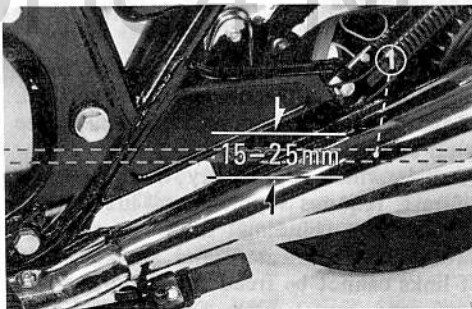
### Inspection:

1. Turn the engine off, place the motorcycle on the center stand 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 approximately 15–25 mm (5/8–1 in) vertical movement by hand. Rotate the rear wheel by hand and check drive chain slack as the wheel rotates.

Drive chain slack should remain constant as the wheel rotates. If the chain is slack in one section and taut in another, some links are kinked and binding. Binding can frequently be eliminated by lubrication.



(1) Drive chain



3. Turn the rear wheel slowly, and inspect the drive chain and sprockets for any of the following conditions:

#### DRIVE CHAIN

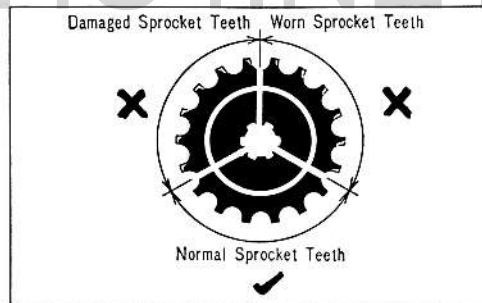
- \* Damaged Rollers
- \* Loose Pins
- \* Dry or Rusted Links
- \* Kinked or Binding Links
- \* Excessive Wear
- \* Improper Adjustment
- \* Missing O-rings

#### SPROCKETS

- \* Excessively Worn Teeth
- \* Broken or Damaged Teeth

A drive chain with damaged rollers, loose pins, or missing O-rings must be replaced. If the drive chain requires replacement, see your authorized Honda dealer.

A chain which appears dry, or shows signs of rust, requires supplemental lubrication. Kinked or binding links should be thoroughly lubricated and worked free. If links cannot be freed the chain must be replaced.

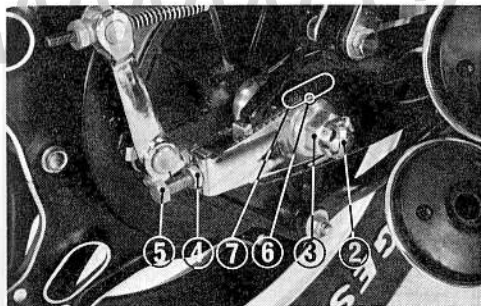




### Adjustment:

To adjust the drive chain:

1. Remove the cotter pin (2) and loosen the rear axle nut (3).
2. Loosen the lock nuts (4) and turn the adjusting bolts (5) on both the right and left chain adjusters to increase or decrease chain slack. Align the chain adjuster index marks (6) with corresponding scale (7) graduations on both sides of the swingarm.



- |                |                     |
|----------------|---------------------|
| (2) Cotter pin | (5) Adjusting bolt  |
| (3) Axle nut   | (6) Index mark      |
| (4) Lock nut   | (7) Graduated scale |

### **NOTE:**

- \* If 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.
- 3. Tighten the rear axle nut and secure the nut with new cotter pin.  
Rear axle nut torque:  
8.0–10.0 kg-m (58–72 ft-lb)
- 4. Tighten the lock nuts.
- 5. Check drive chain slack.
- 6. Brake pedal free play is affected when repositioning the rear wheel to adjust drive chain slack. Check free play and adjust as necessary (page 61).

### **CAUTION:**

- \* *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. However, special precautions must be taken when adjusting, lubricating, washing and replacing the chain.*
- \* *Always replace used cotter pins with new ones.*



### Wear inspection:

Check the chain wear label when adjusting the chain. If the red zone on the label aligns with the rear of the swingarm after the chain has been adjusted to 15–25 mm (5/8–1 in) slack, the chain is excessively worn and must be replaced.

### **CAUTION:**

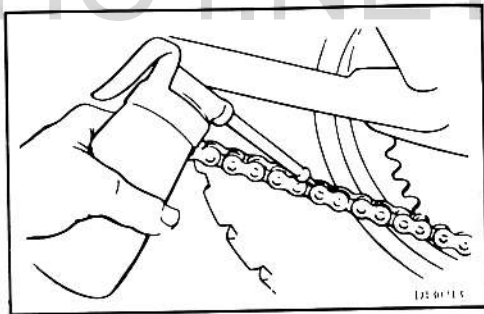
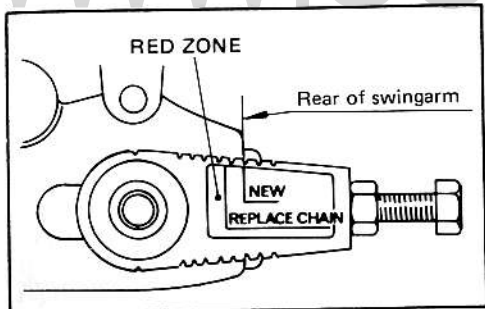
- \* *Excessive chain slack, 40 mm (1½ in) or more, may damage the bottom part of the frame.*

### Lubrication:

Lubricate the drive chain every 300 miles (500 km) or sooner if it appears dry. Lubricate with SAE 80 or 90 gear oil in preference to motor oil or other commercial chain lubricants.

Saturate each chain link joint so the lubricant penetrates between the link plates, pins, bushings, and rollers. For maximum penetration, lubricate when the chain is warm after riding.

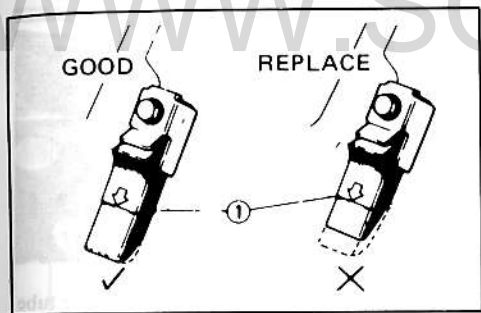
Replacement chain: D.I.D. 50V or RK50MO





## Side Stand

Check the rubber pad for deterioration and wear. Replace if wear extends to the wear line (1) as shown. Check the side stand spring for damage and loss of tension, and the side stand assembly for freedom of movement. See your authorized Honda dealer for replacement.



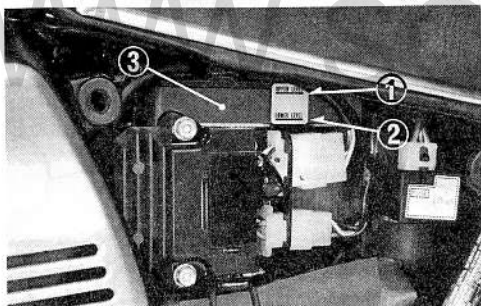
(1) Wear line



## Battery

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

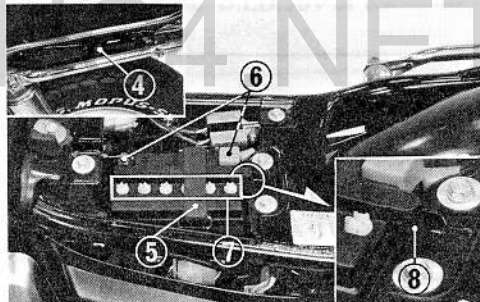
If rapid loss of electrolyte is experienced, or if your battery seems to be weak, causing slow starting or other electrical problems, see your authorized Honda dealer.



- (1) Upper level mark
- (2) Lower level mark
- (3) Battery

## Battery Electrolyte:

The electrolyte level must be maintained between the upper (1) and lower (2) level marks on the side of the battery (3). Remove the left side cover and the document container to inspect. If the electrolyte level is near the lower level mark (2), remove the seat bolt (4) and the seat. Remove the strap (5) and the terminal leads (6). Pull out the battery. Remove the battery filler caps (7).



- (4) Seat bolt
- (5) Strap
- (6) Terminal leads
- (7) Filler caps
- (8) Battery breather tube



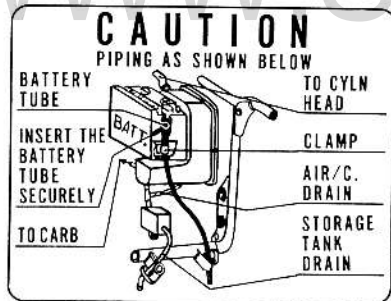
Carefully add distilled water up to the upper level mark, using a small syringe or plastic funnel.

**CAUTION:**

- \* When checking the battery electrolyte level or adding distilled water, make sure the breather tube is connected to the battery breather outlet (8).

**NOTE:**

- \* Use only distilled water in the battery. Tap water will shorten the service life of the battery.



460 730

**WARNING**

- \* The battery contains sulfuric acid. Avoid contact with skin, eyes or clothing. Antidote: EXTERNAL-Flush with water. INTERNAL-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately. Eyes: Flush with water and get prompt medical attention.
- \* Batteries produce explosive gases. Keep sparks, flames and cigarettes away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.
- \* KEEP OUT OF REACH OF CHILDREN.

**CAUTION:**

- \* The battery breather tube must be routed as shown on the label. Do not bend or twist the breather tube. A bent or kinked breather tube may pressurize the battery and damage its case.



## CLEANING

---

Clean your motorcycle regularly to protect the surface finishes and inspect for damage, wear, and oil or hydraulic fluid leakage.

### CAUTION:

- \* *Avoid spraying high pressure water (typical in coin-operated car washes) at the following areas:*

Wheel Hubs	Ignition Switch
Carburetors	Brake Master Cylinder
Instruments	Muffler Outlets
Drive Chain	Under Fuel Tank
Handlebar-Switches	Under Seat

1. After cleaning, rinse the motorcycle thoroughly with plenty of clean water. Strong detergent residue can corrode alloy parts.
2. Dry the motorcycle, start the engine, and let it run for several minutes.

3. Test the brakes before riding the motorcycle in traffic. Several applications may be necessary to restore normal braking performance.

### WARNING

- \* *Braking performance may be impaired immediately after washing the motorcycle.*
4. Lubricate the drive chain immediately after washing and drying the motorcycle.

## STORAGE

---

Storage for more than a month, or winter storage requires maintenance to prevent corrosion and deterioration of the fuel, tires and battery.

See your authorized Honda dealer for this service.



## **EMISSION CONTROL SYSTEM (USA ONLY)**

- **Source of Emissions**

The combustion process produces carbon monoxide and hydrocarbons. Control of hydrocarbons 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 lean carburetor settings and other systems to reduce carbon monoxide and hydrocarbons.

- **Exhaust Emission Control System**

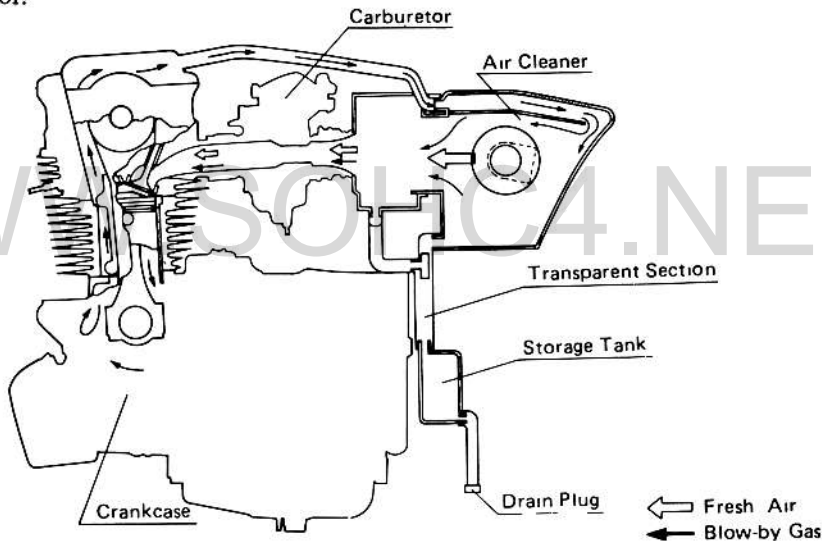
The exhaust emission control system is composed of lean carburetor settings, and no adjustments should be made except idle speed adjustment with the throttle stop screw. The exhaust emission control system is separate from the crankcase emission control system.



### ● 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 air cleaner and the carburetor.





## ● **Problems Which May Affect Motorcycle Emissions**

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

Symptoms:

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.

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## CONSUMER INFORMATION

### VEHICLE STOPPING DISTANCE

This table indicates braking performance that can be met or exceeded by the vehicles to which it applies, without locking the wheels under different conditions of loading.

The information presented represents results obtained by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.

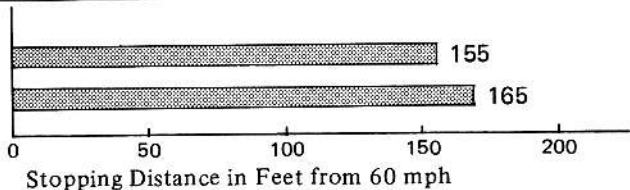
Description of vehicles to which this table applies. **HONDA CB650 CUSTOM**

#### Full Operational Service Brake

Load

Light

Maximum





## SPECIFICATIONS

Item	
<b>DIMENSIONS</b>	
Overall length	2215 mm (87.2 in)
Overall width	870 mm (34.3 in)
Overall height	1160 mm (45.7 in)
Wheelbase	1470 mm (57.9 in)
<b>WEIGHT</b>	
Dry weight	204 kg (450 lbs)
<b>CAPACITIES</b>	
Engine oil	3.0 l (3.2 US qt) After draining
Fuel tank	13.5 l (3.6 US gal)
Fuel reserve tank	2.5 l (0.7 US gal)
Passenger capacity	Operator and one passenger
Vehicle capacity load	215 kg (475 lbs)
Front suspension air pressure	0.7–1.1 kg/cm <sup>2</sup> (10–16 psi)



Item									
<b>ENGINE</b> Bore and stroke Compression ratio Displacement Spark plug	59.8 x 55.8 mm (2.354 x 2.197 in) 9.0 : 1 627 cc (38.2 cu. in)								
<div></div> <div>Standard</div> <div>For cold climate (Below 5°C, 41°F)</div> <div>For extended high speed riding</div>	<table> <tr> <th data-bbox="540 350 875 430">USA model</th><th data-bbox="875 350 1407 430">USA model (with an optional radio equipped), Canadian model</th></tr> <tr> <td data-bbox="540 430 875 511">X24ES-U (ND) or D8EA (NGK)</td><td data-bbox="875 430 1407 511">X24ESR-U (ND) DR8ES-L (NGK)</td></tr> <tr> <td data-bbox="540 511 875 592">X22ES-U (ND) or D7EA (NGK)</td><td data-bbox="875 511 1407 592">X22ESR-U (ND) DR7ES (NGK)</td></tr> <tr> <td data-bbox="540 592 875 684">X27ES-U (ND) or D9EA (NGK)</td><td data-bbox="875 592 1407 684">X27ESR-U (ND) DR8ES (NGK)</td></tr> </table>	USA model	USA model (with an optional radio equipped), Canadian model	X24ES-U (ND) or D8EA (NGK)	X24ESR-U (ND) DR8ES-L (NGK)	X22ES-U (ND) or D7EA (NGK)	X22ESR-U (ND) DR7ES (NGK)	X27ES-U (ND) or D9EA (NGK)	X27ESR-U (ND) DR8ES (NGK)
USA model	USA model (with an optional radio equipped), Canadian model								
X24ES-U (ND) or D8EA (NGK)	X24ESR-U (ND) DR8ES-L (NGK)								
X22ES-U (ND) or D7EA (NGK)	X22ESR-U (ND) DR7ES (NGK)								
X27ES-U (ND) or D9EA (NGK)	X27ESR-U (ND) DR8ES (NGK)								
Spark plug gap Valve clearance	0.6–0.7 mm (0.024–0.028 in) INTAKE: 0.05 mm (0.002 in) EXHAUST: 0.08 mm (0.003 in)								
Idle speed	1,050 ± 100 rpm in neutral								



Item	
<b>CHASSIS AND SUSPENSION</b> Caster Trail Tire size, front Tire size, rear	59° 50' 131 mm (5.2 in) 3.50S19-4PR 130/90-16 67S
<b>POWER TRANSMISSION</b> Primary reduction Final reduction Gear ratio, 1st 2nd 3rd 4th 5th	2.737 : 1 2.438 : 1 2.500 : 1 1.722 : 1 1.333 : 1 1.074 : 1 0.885 : 1



Item	
<b>ELECTRICAL</b> Battery Generator	12V-12AH A.C. generator 0.26 kW/5,000 rpm
<b>LIGHTS</b> Headlight (HIGH/LOW) Tail/stoplight Turn signal  Meter lights Neutral indicator Turn signal indicator High beam indicator Oil pressure warning indicator	12V-60/55W 12V-3/32 cp SAE NO. 1157 12V-32 cp SAE NO.: FRONT 1034 REAR 1073  12V-2 cp SAE NO. 57 12V-2 cp SAE NO. 57 12V-2 cp SAE NO. 57 12V-2 cp SAE NO. 57 12V-2 cp SAE NO. 57
<b>FUSES</b>	15A (Headlight, taillight and meterlight) 30A (Main fuse)



## OWNER SATISFACTION

Your satisfaction and goodwill are important to your dealer and to us. Normally, any problems with the operation of your vehicle will be handled by your dealer's Service Department. Sometimes, however, despite the best intentions of all concerned, misunderstandings can occur. If your problem has not been handled to your satisfaction, we suggest you take the following action:

- \* Discuss your problem with a member of dealership management. Often complaints can be quickly resolved at that level. If the problem has already been reviewed with the Service Manager, contact the owner of the dealership or the General Manager.
- \* If your problem still has not been resolved to your satisfaction, contact the Motorcycle Customer Service Department, AMERICAN HONDA MOTOR CO., INC. 100 West Alondra Boulevard, Gardena, California 90247 (213) 327-8280, and provide them with:
  - Your name, address and telephone number
  - Vehicle frame number
  - Dealer's name and location
  - Vehicle delivery date and present mileage
  - Nature of problem

After reviewing all the facts involved, you will be advised of what action can be taken.

Please bear in mind that your problem will likely be resolved in the dealership, using the dealer's facilities, equipment and personnel. So it is very important that your initial contact be with the dealer.

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





HONDA MOTOR CO., LTD.

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