



**KLR 250**

**Motorcycle**

**OWNER'S MANUAL**

Whenever you see the symbols shown below, heed their instructions! Always follow safe operating and maintenance practices.

**⚠ WARNING**

**This warning symbol identifies special instructions or procedures which, if not correctly followed, could result in personal injury, or loss of life.**

**CAUTION**

**This caution symbol identifies special instructions or procedures which, if not strictly observed, could result in damage to or destruction of equipment.**

**NOTE**

*○ This note symbol indicates points of particular interest for more efficient and convenient operation.*

**NOTICE**

**THIS PRODUCT HAS BEEN MANUFACTURED FOR USE IN A REASONABLE AND PRUDENT MANNER BY A QUALIFIED OPERATOR AND AS A VEHICLE ONLY.**

**(Australian model only)**

**TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED**

**Owners are warned that the law may prohibit**

- (a) The removal or rendering inoperative by any person other than for purposes of maintenance, repair or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use;  
and
- (b) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

# FOREWORD

We wish to thank you for choosing this fine Kawasaki Motorcycle. Your new motorcycle is the product of Kawasaki's advanced engineering, exhaustive testing, and continuous striving for superior reliability, safety, and performance.

Read this Owner's Manual before riding so you will be thoroughly familiar with the proper operation of your motorcycle's controls, its features, capabilities and limitations. This manual offers many safe riding tips, but its purpose is not to provide instruction in all the techniques and skills required to ride a motorcycle safely. Kawasaki strongly recommends that all operators of this vehicle enroll in a motorcycle rider training program to attain awareness of the mental and physical requirements necessary for safe motorcycle operation.

To ensure a long, trouble-free life for your motorcycle, give it the proper care and maintenance described in this manual. For those who would like more detailed information on their Kawasaki Motorcycle, a Service Manual is available for purchase from any Kawasaki dealer. The Service Manual contains detailed disassembly and maintenance information.

Due to improvements in design and performance during production, in some cases there may be minor discrepancies between the actual vehicle and the illustrations and text in this manual.

**KAWASAKI HEAVY INDUSTRIES, LTD.**

**Consumer Products & Machinery Company**



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Lubrication System Forced lubrication (wet sump)  
Engine Oil SE, SF or SG class SAE 10W40, 10W50,  
20W40, or 20W50

Engine Oil Type: API SE, SF or SG  
:  
API SH or SJ with JASO MA  
SAE 10W-40

Capacity: 2.0 L (2.1 US qt)  
1.5 L (1.6 US qt)

Coolant Capacity

## TRANSMISSION

Transmission Type 6-speed, constant mesh, return shift

Clutch Type Wet, multi disc

Driving System Chain drive

Primary Reduction Ratio 2.913 (67/23)

Final Reduction Ratio 2.800 (42/15)

Overall Drive Ratio 7.379 (Top gear)

Gear Ratio: 1st 3.000 (30/10)

2nd 2.000 (30/15)

3rd 1.500 (27/18)

4th 1.250 (25/20)

5th 1.050 (21/20)

6th 0.904 (19/21)

## FRAME

Castor 28.5°

Trail 117 mm (4.61 in.)

Tire Size: Front 3.00-21 4PR

Rear 4.60-17 4PR

Fuel Tank Capacity 11 L (2.9 US gal)

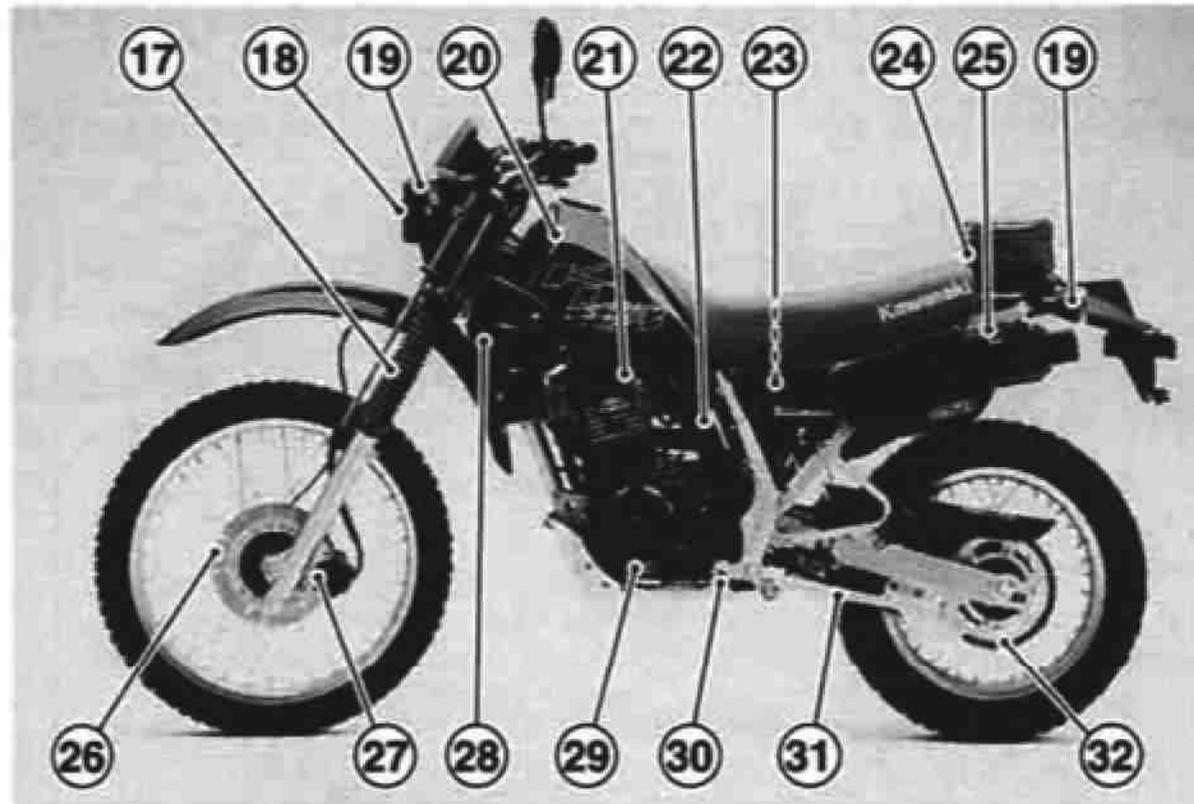
## **ELECTRICAL EQUIPMENT**

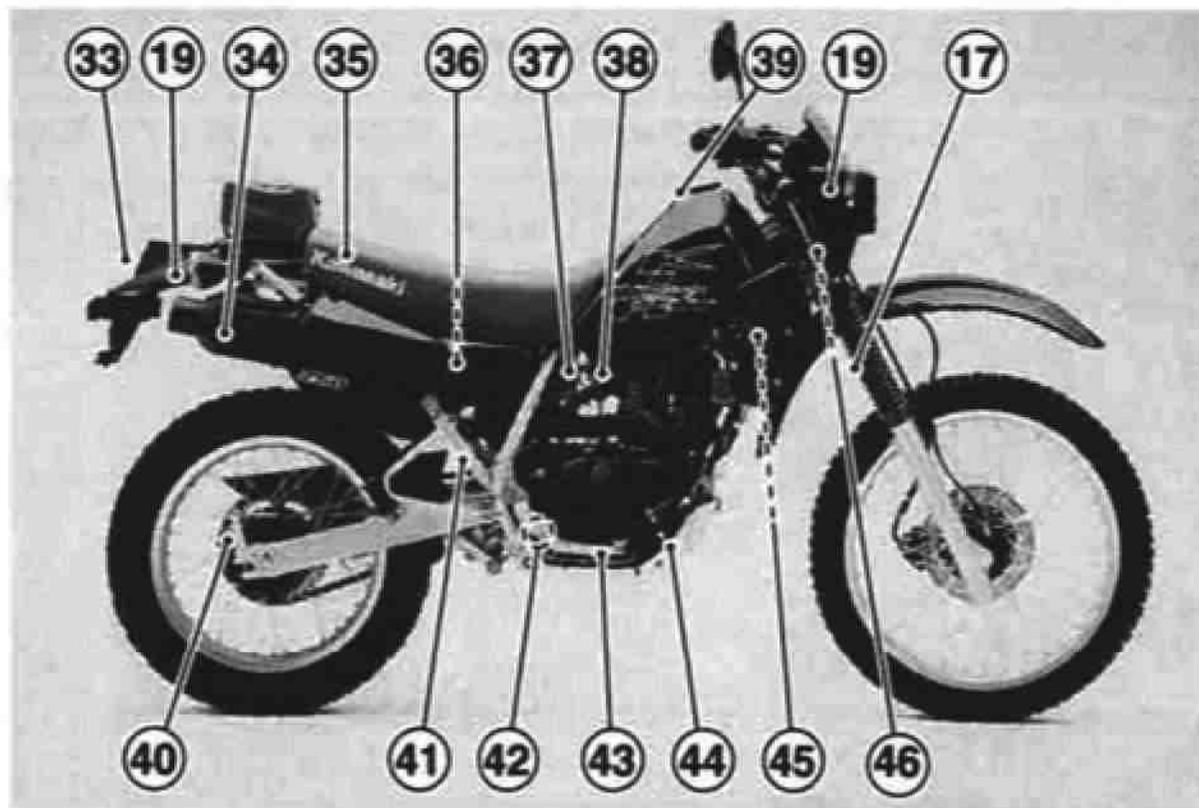
Battery	12 V 4 Ah
Headlight	12 V 60/55 W
Tail/Brake Light	12 V 5/21 W
Turn Signal Light	12 V 21 W

Specifications subject to change without notice, and may not apply to every country.



- 17. Front Fork
- 18. Headlight
- 19. Turn Signal Light
- 20. Fuel Tank
- 21. Fuel Tap
- 22. Coolant Reserve Tank
- 23. Battery
- 24. Document/Tool Kit bag
- 25. Helmet Hook
- 26. Brake Disc
- 27. Brake Caliper
- 28. Air Scoop
- 29. Shift Pedal
- 30. Side Stand Switch
- 31. Side Stand
- 32. Drive Chain





- 33. Tail/Brake Light
- 34. Muffler
- 35. Seat
- 36. Air Cleaner
- 37. Carburetor
- 38. Kick Pedal
- 39. Fuel Tank Cap
- 40. Brake Lining Wear Indicator
- 41. Rear Brake Light Switch
- 42. Oil Level Gauge
- 43. Rear Brake Pedal
- 44. Skid Plate
- 45. Radiator
- 46. Horn



### **Speedometer and Tachometer**

The speedometer shows the speed of the vehicle. In the speedometer face are the odometer and trip meter. The odometer shows the total distance that the vehicle has been ridden. The trip meter shows the distance traveled since it was last reset to zero. The trip meter can be reset to zero by turning the reset knob counterclockwise.

The tachometer shows the engine speed in the revolutions per minute (r/min, rpm). On the right side of the tachometer face is a portion called the "red zone." Engine r/min (rpm) in the red zone is above maximum recommended engine speed and is also above the range for good performance.

### **CAUTION**

**Engine r/min (rpm) should not be allowed to enter the red zone; operation in the red zone will overstress the engine and may cause serious engine damage.**

### **Coolant Temperature Gauge**

This gauge shows the temperature of coolant. Ordinarily, the needle should stay within the white scales. If the needle reaches the red mark, stop the engine and check the coolant level in the reserve tank after the engine cools down.

### **CAUTION**

**Do not let the engine continue running when the gauge needle reaches the red mark. Prolonged engine operation will result in severe damage from overheating.**

## Indicator Lights

**NEUTRAL:** When the transmission is in neutral, the neutral indicator light is lit.

**TURN:** When the turn signal switch is turned to left or right, the corresponding turn signal indicator light flashes on and off.

**HIGH BEAM :**When the headlight is on high beam, the high beam indicator light is lit.

## Key

This motorcycle has a combination key, which is used for the ignition switch/steering lock, fuel tank cap, and helmet hook.

Blank keys are available at your Kawasaki dealers. Ask your dealer to make any additional spare keys you may need, using your original key as a master.

## Ignition Switch/Steering Lock

This is a four-position, key-operated switch. The key can be removed from the switch when it is in the OFF, LOCK, or P(Park) position.

## NOTE

- *Australian models only: The head, tail and license plate lights are on whenever the ignition key is in the ON position. The headlight goes on when the starter button is released after starting the engine. To avoid battery discharge, always start the engine immediately after turning the ignition key to "ON".*
- *If you leave the P (Park) position on for a long time (one hour), the battery may become totally discharged.*

<b>ON</b>	Engine on. All electrical equipment can be used.
<b>OFF</b>	Engine off. All electrical circuits off.
<b>LOCK</b>	Steering locked. Engine off. All electrical circuits off.
<b>P(Park)</b>	Steering locked. Engine off. Tail and city lights on. All other electrical circuits cut off.

### To lock the steering:

1. Turn the handlebar fully to the left.
2. With the ignition key in the OFF position, push down and release the key.
3. Turn the key to LOCK or P(Park).
4. Pull the key out.

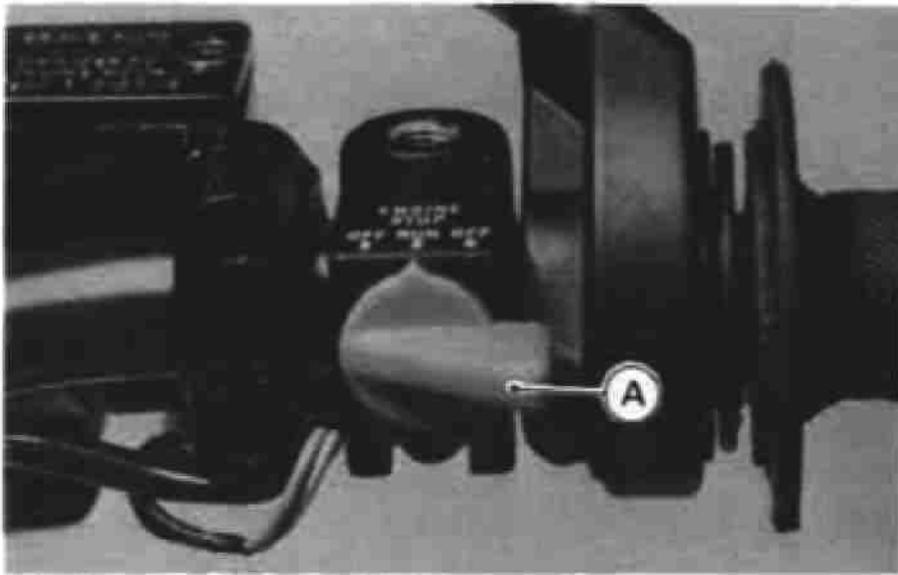
### Engine Stop Switch

In addition to the ignition switch, the engine stop switch must be in the “” (RUN) position for the motorcycle to operate.

The engine stop switch is for emergency use. If some emergency requires stopping the engine, move the engine stop switch to either of the “” (OFF) positions.

### NOTE

*○ Although the engine stop switch stops the engine, it does not turn off all the electrical circuits. Ordinarily, the ignition switch should be used to stop the engine.*

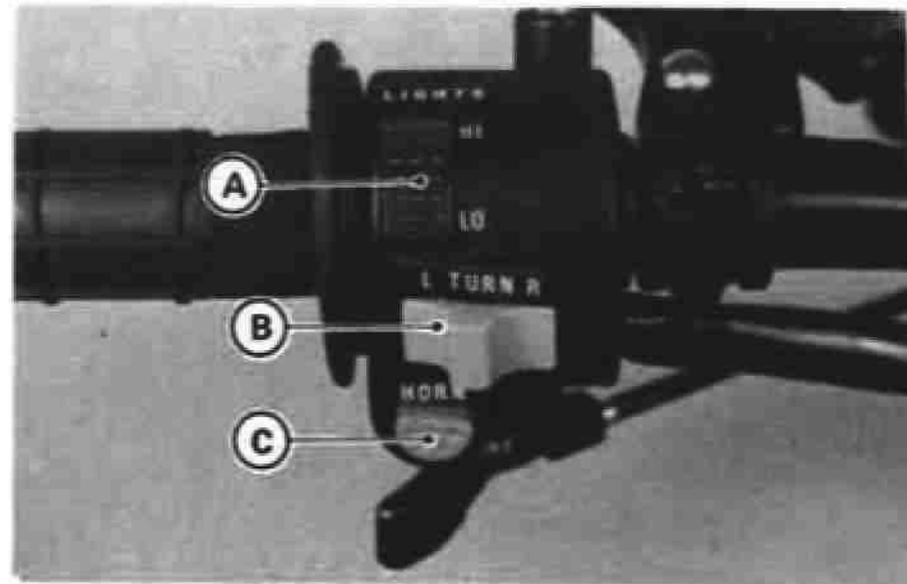


**A. Engine Stop Switch**

## **Left Handlebar Switches**

### **Dimmer Switch**

High or low beam can be selected with the dimmer switch. When the headlight is on high beam (☰☉), the high beam indicator light is lit.



**A. Dimmer Switch**  
**B. Turn Signal Switch**  
**C. Horn Button**

### **Turn Signal Switch**

When the turn signal switch is turned to the left (←) or right (→), the corresponding turn signals flash on and off.

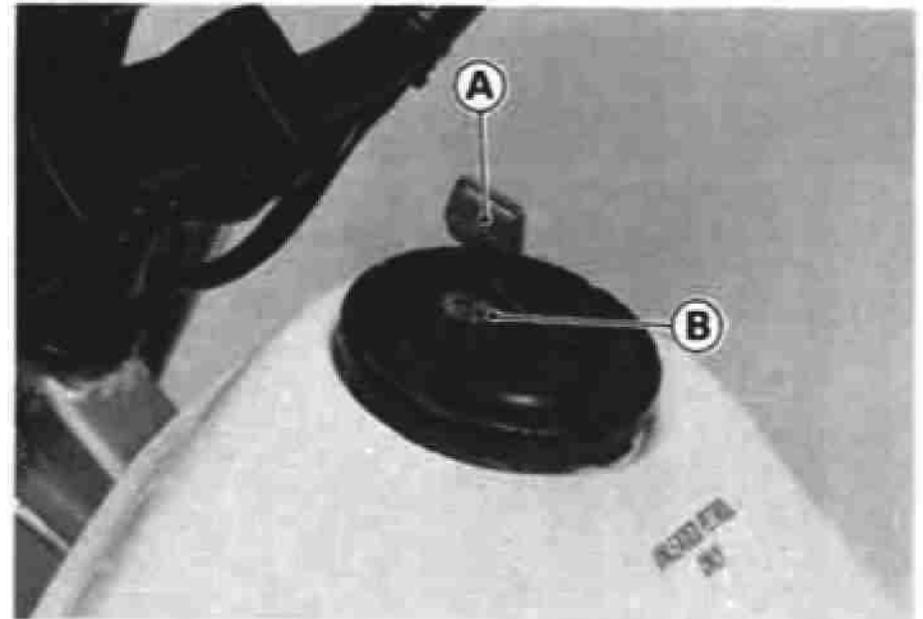
### **Horn Button**

When the horn button is pushed, the horn sounds.

### **Fuel Tank Cap**

To open the fuel tank cap, insert the ignition key into the fuel tank cap and turn the key to the right.

To close the cap, push it down into place with the key inserted. The key can be removed by turning it to the left to the original position.



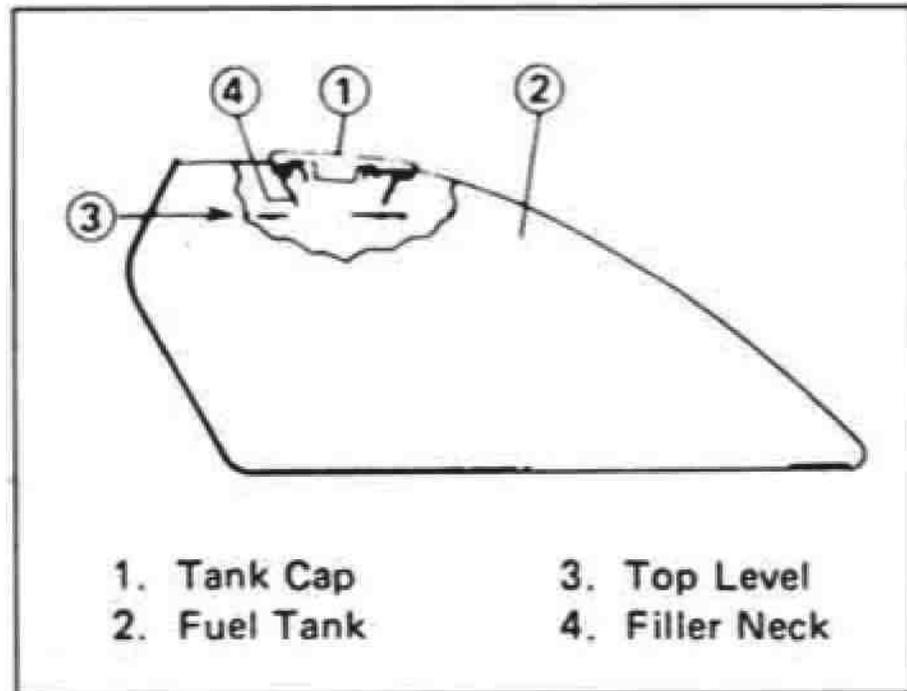
**A. Ignition Key**  
**B. Fuel Tank Cap**

## NOTE

- *The fuel tank cap cannot be closed without the key inserted, and the key cannot be removed unless the cap is locked properly.*
- *Do not push on the key to close the cap, or the cap cannot be locked.*

## Fuel Tank

Avoid filling the tank in the rain or where heavy dust is blowing so that the fuel does not get contaminated.



## **▲WARNING**

**Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition key to "OFF". Do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light. Never fill the tank so the fuel level rises into the filler neck. If the tank is overfilled, heat may cause the fuel to expand and overflow through the vents in the tank cap. After refueling, make sure the fuel tank cap is closed securely. If gasoline is spilled on the fuel tank, wipe it off immediately.**

## **Fuel Requirement:**

Your Kawasaki engine is designed to use unleaded gasoline.

## *Octane Rating*

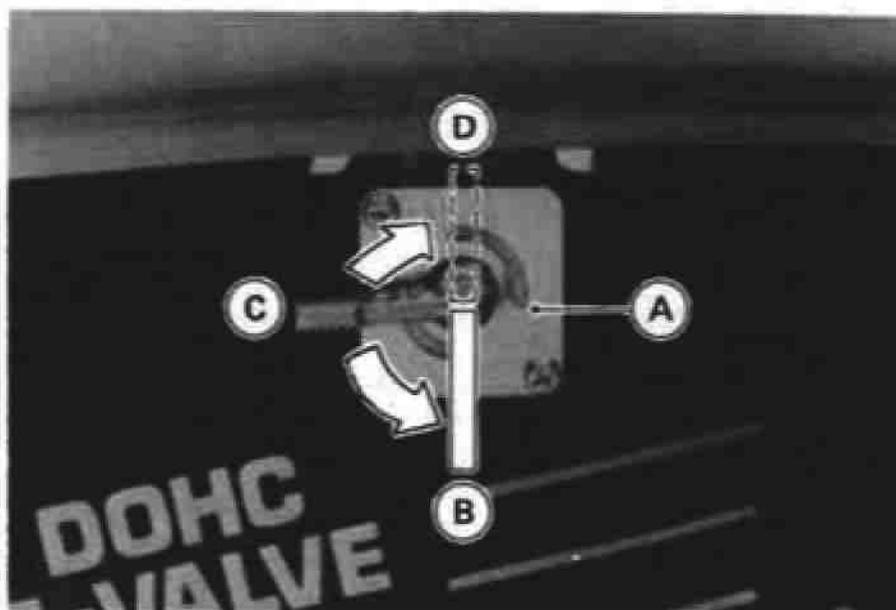
The octane rating of a gasoline is a measure of its resistance to detonation or "knocking." The term commonly used to describe a gasoline's octane rating is the Research Octane Number (RON). Always use a gasoline with an octane rating equal to, or higher than, Ron 91.

## NOTE

- If "knocking" or "pinging" occurs, use a different brand of gasoline or higher octane rating.

## Fuel Tap

The fuel tap has three positions: OFF, ON, and RES (Reserve). If the fuel runs out with the tap in the ON position, the last 2.0 L (0.54 US gal) of fuel can be used by turning the fuel tap lever to RES.



A. Fuel Tap  
B. ON position

C. OFF position  
D. RES position

## NOTE

- *Since riding distance is limited when on RES, refuel at the earliest opportunity.*
- *Make certain that the fuel tap lever is turned to "ON" (Not RES) after filling up the fuel tank.*

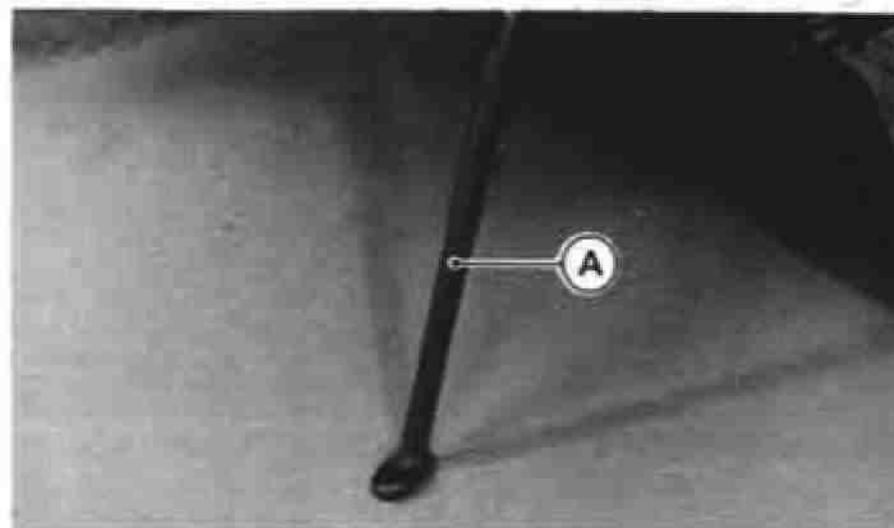
### ▲ WARNING

**Practice operating the fuel tap with the motorcycle stopped. To prevent an accident you should be able to operate the fuel tap while riding without taking your eyes off the road.**

**Be careful not to touch the hot engine while operating the fuel tap.**

## Side Stand

The motorcycle is equipped with a side stand.



A. Side Stand

## NOTE

- *When using the side stand, turn the handlebar to the left.*

Whenever the side stand is used, make it a practice to kick the stand fully up before sitting on the motorcycle.

## NOTE

- *The motorcycle is equipped with a side stand switch and a clutch switch. These switches are designed so that the engine stops if the clutch is engaged with the transmission in gear when the side stand is left down*

## Helmet Hook

Helmet can be secured to the motorcycle using the helmet hook.

The helmet hook can be unlocked by inserting the ignition key into the lock, and turning the key to the right.

### **▲ WARNING**

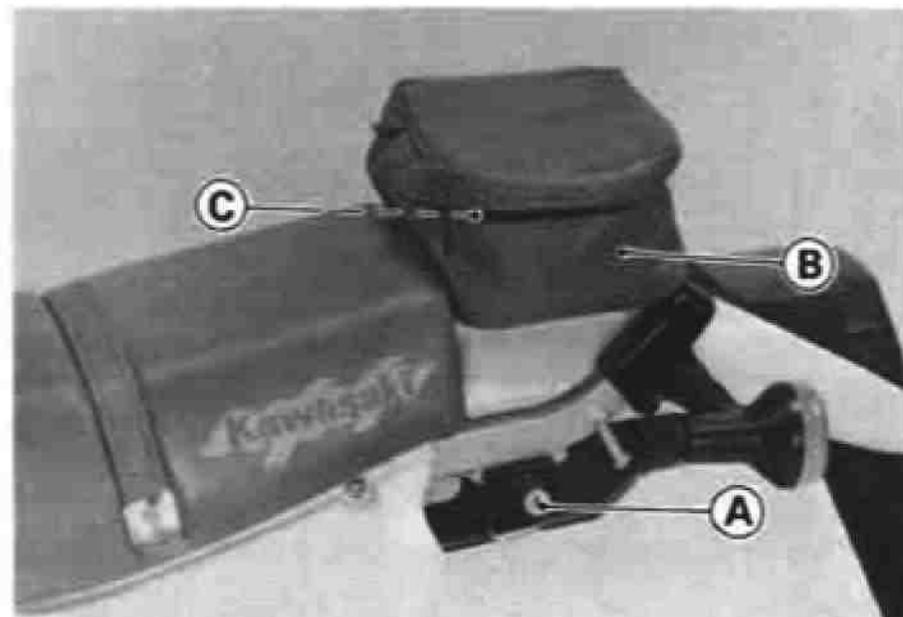
**Do not ride the motorcycle with a helmet attached to the hook. The helmet could cause an accident by distracting the operator or interfering with normal vehicle operation.**

## Document/Tool Kit Bag

Use this bag to keep the owner's manual, any papers or documents, and tool kit that should be kept with the motorcycle.

## Tool Kit

The minor adjustments and replacement of parts explained in this manual can be performed with the tools in the kit.



- A. Helmet Hook
- B. Document/Tool Kit Bag
- C. Tool Kit



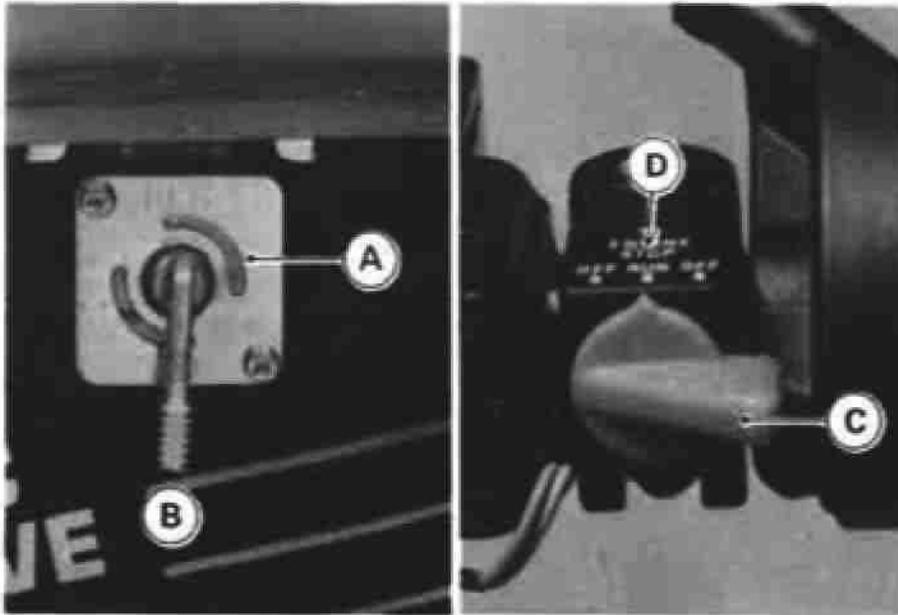
In addition to the above, at 1,000 km (600 mi) it is extremely important that the owner have the initial maintenance service performed by an authorized Kawasaki dealer.

»»»»»»»»»»»»»»»»»»»» **HOW TO RIDE THE MOTORCYCLE** ««««««««««««««««««««

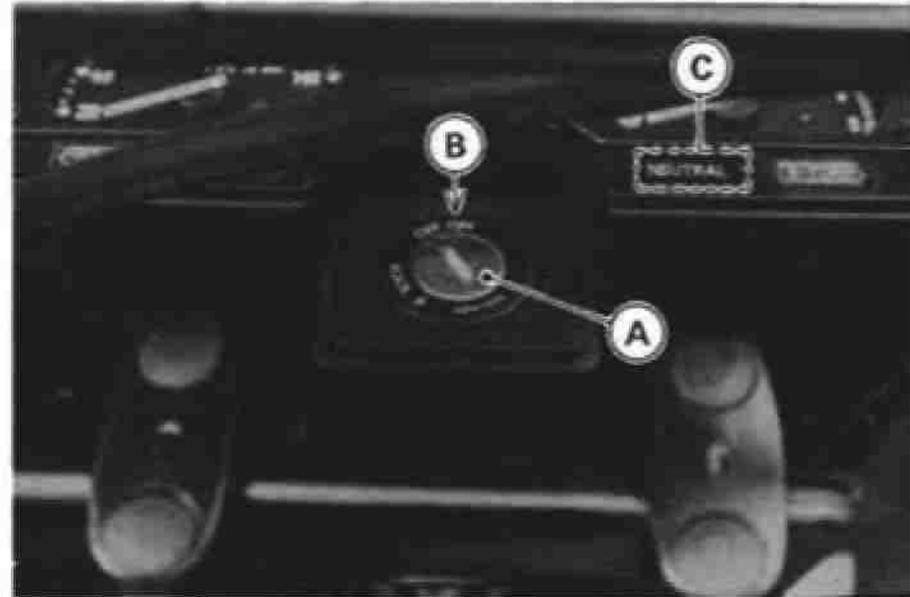
**Starting the Engine**

- Turn the fuel tap lever to the "ON".
- Check that the engine stop switch is in the "O" (RUN) position.

- Turn the ignition key to "ON".
- Make certain the transmission is in neutral or the clutch is disengaged.



- A. Fuel Tap
- B. ON position
- C. Engine Stop Switch
- D. "O" (RUN) position



- A. Ignition Switch
- B. ON position
- C. Neutral Indicator Light

- If the engine is cold, push the choke lever all the way to the left.

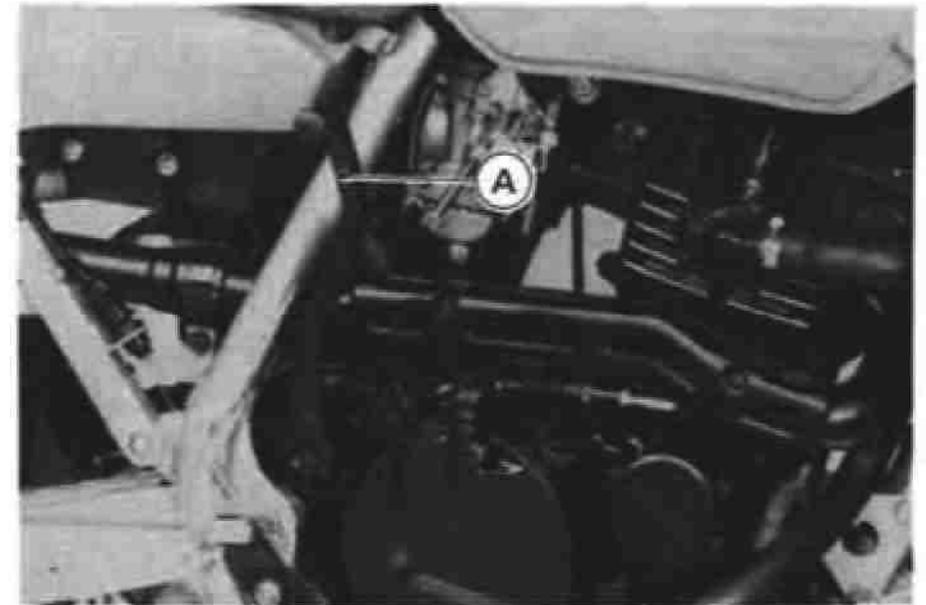


A. Choke Lever

### NOTE

- *When the engine is already warm or on hot days (35°C, 95°F or more), open the throttle part way instead of using the choke, and then start the engine.*

- Leaving the throttle completely closed, kick the engine over until the engine starts.



A. Kick Pedal

### NOTE

- *If the engine is flooded, kick the engine over with the throttle fully open until the engine starts.*

- Gradually return the choke lever back a little at a time as necessary to keep the engine speed below 2,000 r/min (rpm) during warm-up.
- When the engine is warmed up enough to idle without using the choke, return the choke lever all the way back.

### NOTE

○ *If you drive the motorcycle before the engine is warmed up, return the choke lever all the way back after you have driven the motorcycle for the length of time shown in the table.*

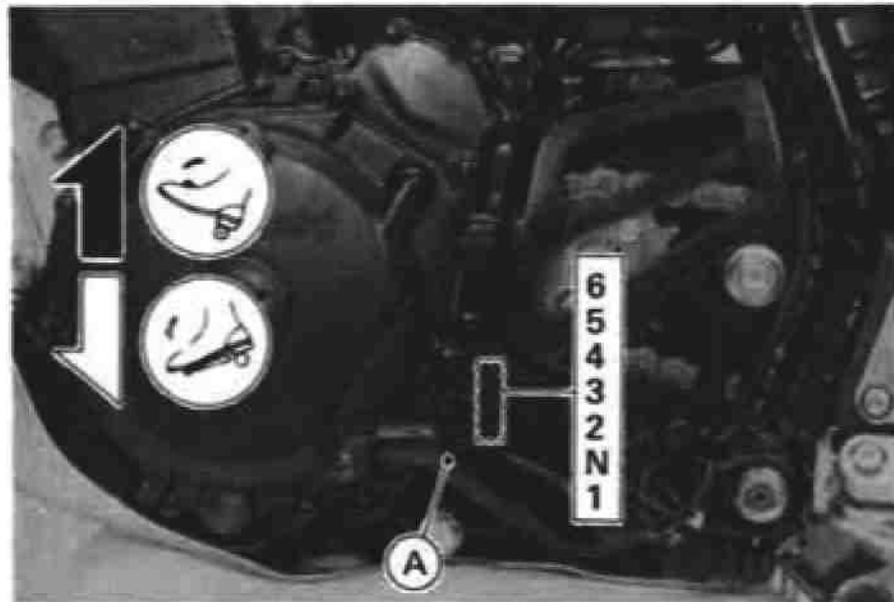
Ambient temperature	choke off after running for
20°C (68°F) ~ 35°C (95°F)	15 seconds
Below 20°C (68°F)	1.5 minutes
Below 5°C (40°F)	2 minutes

### CAUTION

**Do not let the engine idle longer than five minutes, or engine overheating and damage may occur.**

## Moving Off

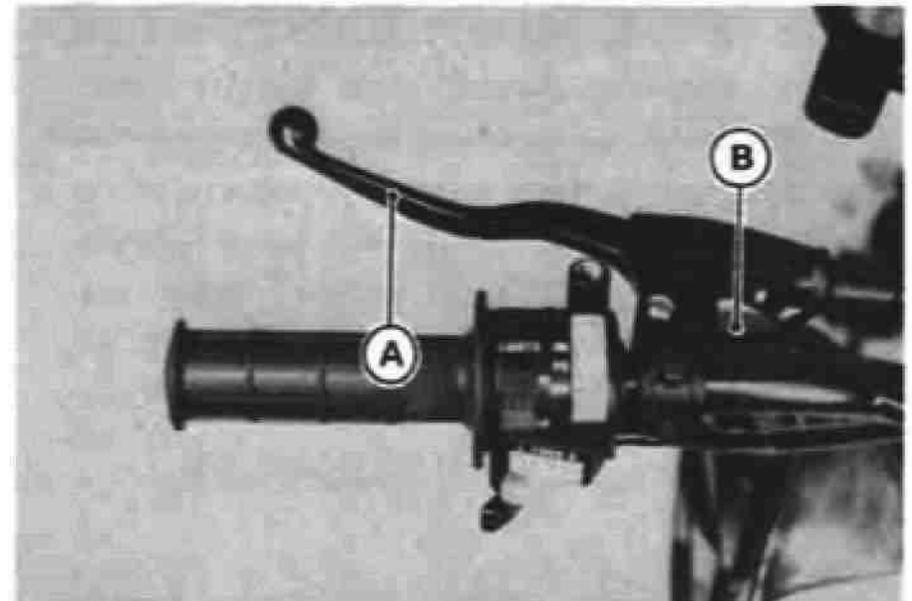
- Check that the side stand is up.
- Pull in the clutch lever.
- Shift into 1st gear.
- Open the throttle a little, and start to let out the clutch lever very slowly.
- As the clutch starts to engage, open the throttle a little more, giving the engine just enough fuel to keep it from stalling.



A. Shift Pedal

## NOTE

- *The motorcycle is equipped with a side stand switch and a clutch switch. These switches are designed so that the engine stops if the clutch is engaged with the transmission in gear when the side stand is left down.*



A. Clutch Lever

B. Clutch Switch

## Shifting Gears

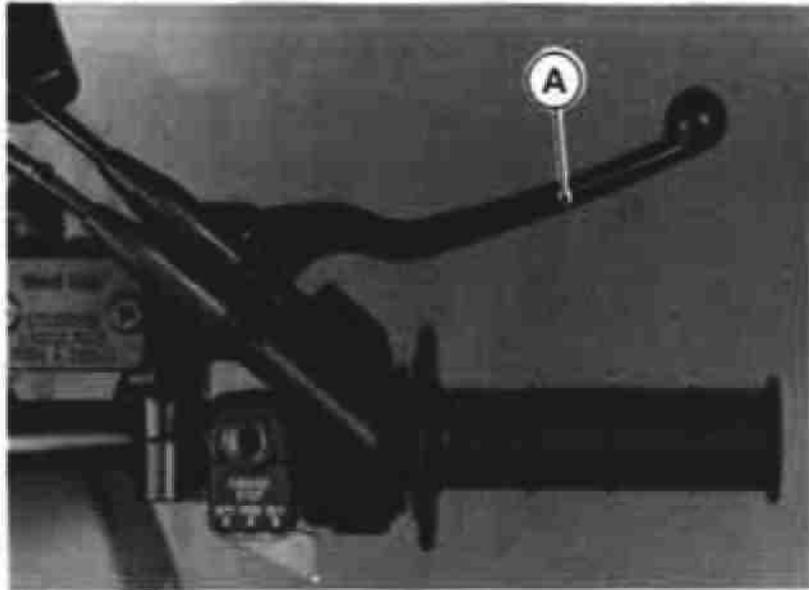
- Close the throttle while pulling in the clutch lever.
- Shift into the next higher or lower gear.
- Open the throttle part way, while releasing the clutch lever.

### **▲WARNING**

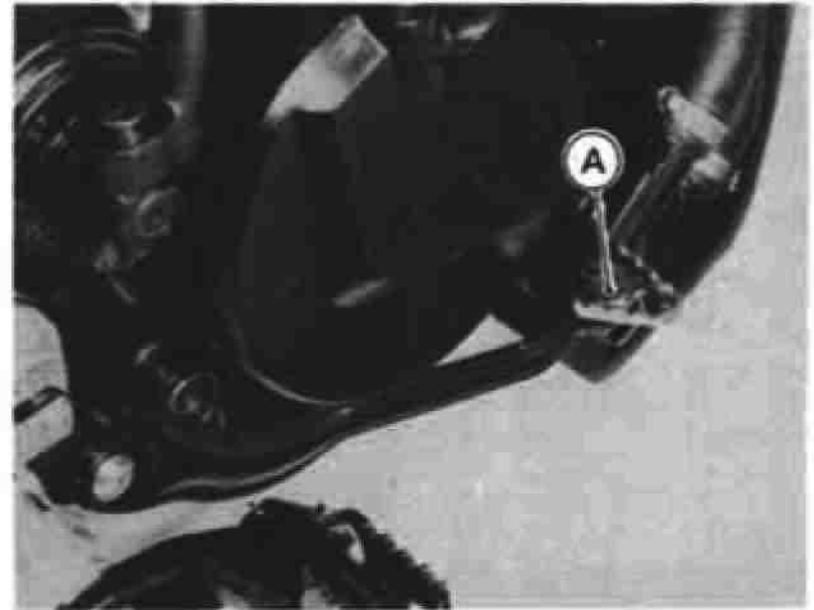
**When shifting down to a lower gear, do not shift at such a high speed that the engine r/min (rpm) jumps excessively. Not only can this cause engine damage, but the rear wheel may skid and cause an accident. Downshifting should be done below 5,000 r/min (rpm) for each gear.**

## Braking

- Close the throttle completely, leaving the clutch engaged (except when shifting gears) so that the engine will help slow down the motorcycle.
- Shift down one gear at a time so that you are in 1st gear when you come to a complete stop.
- When stopping, always apply both brakes at the same time. Normally the front brake should be applied a little more than the rear. Shift down or fully disengage the clutch as necessary to keep the engine from stalling.
- Never lock the brakes, or it will cause the tires to skid. When turning a corner, it is better not to brake at all. Reduce your speed before you get into the corner.
- For emergency braking, disregard downshifting, and concentrate on applying the brakes as hard as possible without skidding.



**A. Front Brake Lever**



**A. Rear Brake Pedal**

## **Stopping the Engine**

- Close the throttle completely.
- Shift the transmission into neutral.
- Turn the ignition key to "OFF".
- Support the motorcycle on a firm, level surface with the side stand.
- Lock the steering.
- Turn the fuel tap lever to the "OFF".

## **Stopping the Motorcycle in an Emergency**

Your Kawasaki Motorcycle has been designed and manufactured to provide you optimum safety and convenience. However, in order to fully benefit from Kawasaki's safety engineering and craftsmanship, it is essential that you, the owner and operator, properly maintain your motorcycle and become thoroughly familiar with its operation. Improper maintenance can create a dangerous situation known as throttle failure. Two of the most common causes of throttle failure are:

1. An improperly serviced or clogged air cleaner may allow dirt and dust to enter the carburetor and stick the throttle open.
2. During removal of the air cleaner, dirt is allowed to enter and jam the carburetor.

In an emergency situation such as throttle failure, your vehicle may be stopped by applying the brakes and disengaging the clutch. Once this stop-

ping procedure is initiated, the engine stop switch may be used to stop the engine. If the engine stop switch is used, turn off the ignition switch after stopping the motorcycle.

## **Parking**

- Shift the transmission into neutral and turn the ignition key to "OFF".
- Support the motorcycle on a firm, level surface with the side stand.

### **CAUTION**

**Do not park on a soft or steeply inclined surface or the motorcycle may fall over.**

- If parking inside a garage or other structure, be sure it is well ventilated and the motorcycle is not close to any source of flame or sparks; this includes any appliance with a pilot light.

### **▲WARNING**

**Gasoline is extremely flammable and can be explosive under certain conditions.**

- Lock the steering to help prevent theft.

## NOTE

- *When stopping near traffic at night, you can leave the city light (except for Australian model) and taillight on for greater visibility by turning the ignition key to the P (park) position.*
- *Do not leave the ignition switch at P position too long, or the battery will discharge.*



Drive chain .....	Slack 20 ~ 35 mm (0.8 ~ 1.4 in).
Nuts, bolts, fasteners .....	Check that steering and suspension components, axles, and all controls are properly tightened or fastened.
Steering .....	Action smooth but not loose from lock to lock. No binding of control cables.
Brakes .....	Brake pad wear: Lining thickness more than 1 mm (0.04 in.) left. No brake fluid leakage. Brake pedal play 20 ~ 30 mm (0.8 ~ 1.2 in.) Brake lining wear: Indicator within "USABLE RANGE."
Throttle .....	Throttle grip play 2 ~ 3 mm (0.08 ~ 0.12 in.).
Clutch .....	Clutch lever play 2 ~ 3 mm (0.08 ~ 0.12 in.). Clutch lever operates smoothly.
Coolant .....	No coolant leakage. Coolant level between level lines (when engine is cold).
Electrical equipment.....	All lights and horn work.
Engine stop switch.....	Stops engine.
Side stand .....	Return to its fully up position by spring tension. Return spring not weak or not damaged.

## **Additional Considerations for Off Road Operation**

**Brakes:** The importance of reliable brakes is obvious. Check to see that they are correctly adjusted and functioning properly.

**Steering:** Looseness in the steering can cause loss of control. Check to see that the handlebar turns freely but has no play.

**Tires:** Due to the extra stress to the tire on rough roads, be sure to examine their overall condition, and inflate to the proper pressure.

**Drive Chain:** When not adjusted properly, the severe stress on rough roads can cause damage to the sprockets and cause the chain to be thrown. Examine the chain slack and alignment, and lubricate if necessary.

**Fuel:** Have sufficient fuel for the high fuel consumption on rough roads.

**Engine Oil:** To avoid engine seizure and resulting loss of control, make certain that the oil level is at the upper level line.

**Coolant:** To avoid overheating, check that the coolant level is at the upper level line.

**Miscellaneous:** Check to see that the electrical equipment is functioning properly, all nuts and bolts are tight, and all safety related parts are in good condition.



## Periodic Maintenance Chart

Operation	Frequency	Whichever comes first ↓ Every	*Odometer Reading -km(mi)							See Page
			1,000 (600)	6,000 (4,000)	12,000 (7,500)	18,000 (12,000)	24,000 (15,000)	30,000 (20,000)	36,000 (24,000)	
Idle speed-check †			●		●		●		●	59
Throttle grip play-check †			●		●		●		●	55
Spark plug-clean and gap †				●	●	●	●	●	●	50
K Valve clearance-check †							●			52
Air cleaner element-clean † #					●		●		●	52
Battery electrolyte level-check †	6 months			●	●	●	●	●	●	81
K Brake hose, connections-check †				●	●	●	●	●	●	-
Brake light switch-check †			●	●	●	●	●	●	●	73
Brake pad wear-check † #				●	●	●	●	●	●	68
Brake fluid level-check †	month		●	●	●	●	●	●	●	70
K Brake fluid-change	2 years						●			70
K Fuel hose, connections-check †				●	●	●	●	●	●	-
Clutch-adjust			●	●	●	●	●	●	●	60
K Steering play-check †			●	●	●	●	●	●	●	-
Drive chain wear-check † #				●	●	●	●	●	●	65

Operation	Frequency	Whichever comes first ↓ Every	*Odometer Reading km(mi)							See Page
			1,000 (600)	6,000 (4,000)	12,000 (7,500)	18,000 (12,000)	24,000 (15,000)	30,000 (20,000)	36,000 (24,000)	
KSpoke tightness and rim runout -check †			●	●	●	●	●	●	●	-
Nuts, bolts, fasteners tightness -check †			●		●		●		●	-
Tire wear-check †				●	●	●	●	●	●	79
Engine oil-change #	6months		●	●	●	●	●	●	●	43
Oil filter-replace			●		●		●		●	43
General lubrication-perform					●		●		●	-
KFront fork oil-change	2 years						●			-
Front fork oil leak-check †					●		●		●	-
Rear shock absorber oil leak-check †					●		●		●	-
KSwingarm pivot, uni-trak linkage-lubricate					●		●		●	-
KCoolant-change	2 years						●			50
KCoolant filter-clean	year									50

Operation	Frequency	Whichever comes first ↓	*Odometer Reading km(mi)							See Page
			1,000 (600)	6,000 (4,000)	12,000 (7,500)	18,000 (12,500)	24,000 (15,000)	30,000 (20,000)	36,000 (24,000)	
Radiator hoses, connections check †			●							47
K Steering stem bearing-lubricate	2 years						●			—
K Master cylinder cup and dust seal-replace	4 years									—
K Caliper piston seal and dust seal-replace	4 years									—
Drive chain-lubricate #	Every 600 km (400 mi)									67
Drive chain slack-check	Every 1,000 km (600 mi)									62

**K** : Should be serviced by an authorized Kawasaki dealer.

**\*** : For higher odometer readings, repeat at the frequency interval established here.

**†** : Replace, add, adjust, or torque if necessary.

**#** : Service more frequently when operating in severe conditions: dusty, wet, muddy, high speed, or frequent starting/stopping.

## Engine Oil

In order for the engine, transmission, and clutch to function properly, maintain the engine oil at the proper level, and change the oil and replace the oil filter in accordance with the Periodic Maintenance Chart. Not only do dirt and metal particles collect in the oil, but the oil itself loses its lubricative quality if used too long.

### **▲WARNING**

**Motorcycle operation with insufficient, deteriorated, or contaminated engine oil will cause accelerated wear and may result in engine or transmission seizure, accident, and injury.**

### *Oil Level Inspection*

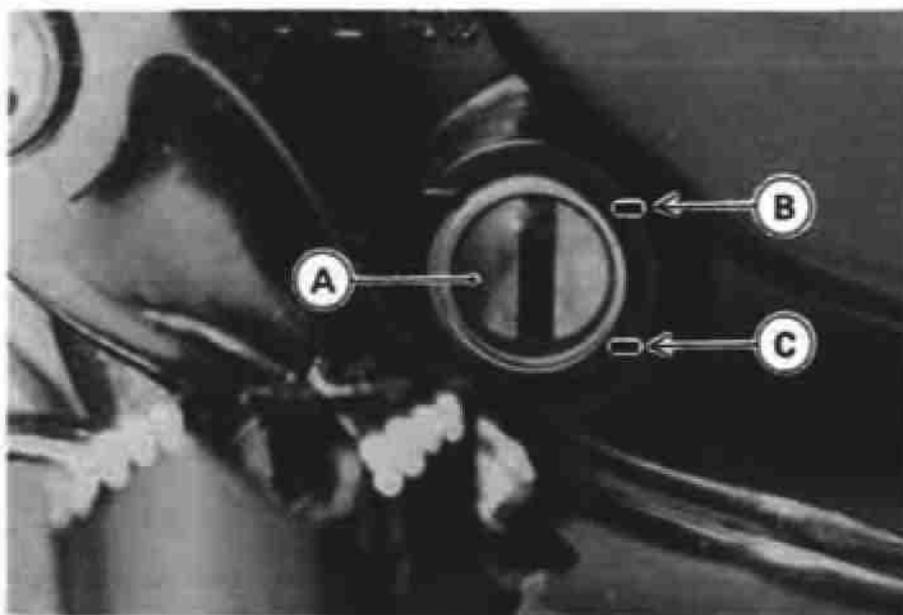
- If the oil has just been changed, start the engine and run it for several minutes at idle speed. This fills the oil filter with oil. Stop the engine, then

wait several minutes until the oil settles.

### **CAUTION**

**Racing the engine before the oil reaches every part can cause engine seizure.**

- If the motorcycle has just been used, wait several minutes for all the oil to drain down.
- Check the engine oil level through the oil level gauge. With the motorcycle held level, the oil level should come up between the upper and lower level lines next to the gauge.

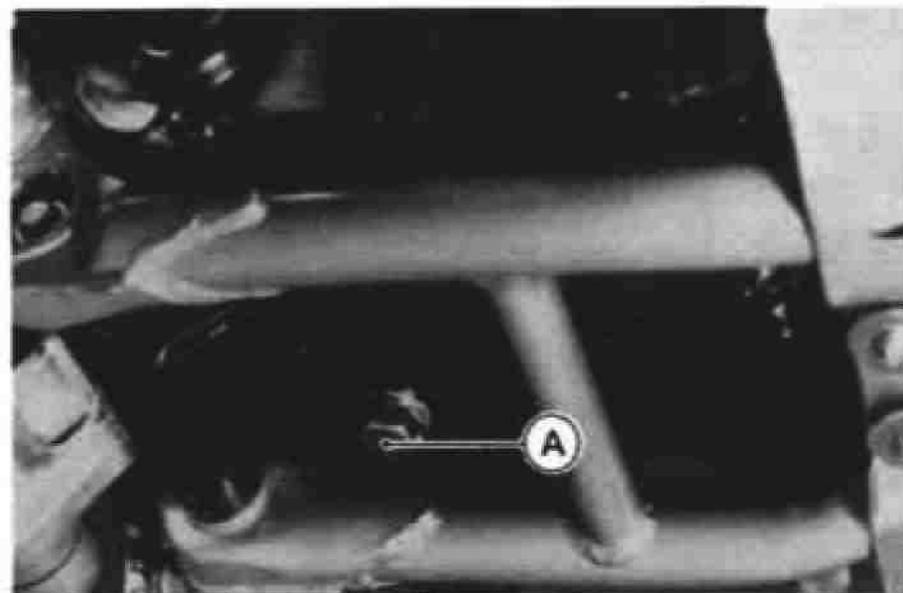


**A. Oil Level Gauge**  
**B. Upper Level Line**  
**C. Lower Level Line**

- If the oil level is too high, remove the excess oil through the oil filler opening using a syringe or some other suitable device.
- If the oil level is too low, add the oil to reach the correct level. Use the same type and brand of oil that is already in the engine.

### *Oil and/or Oil Filter Change*

- Warm up the engine thoroughly, and then stop it.
- Place an oil pan beneath the engine.
- Remove the engine oil drain plug.



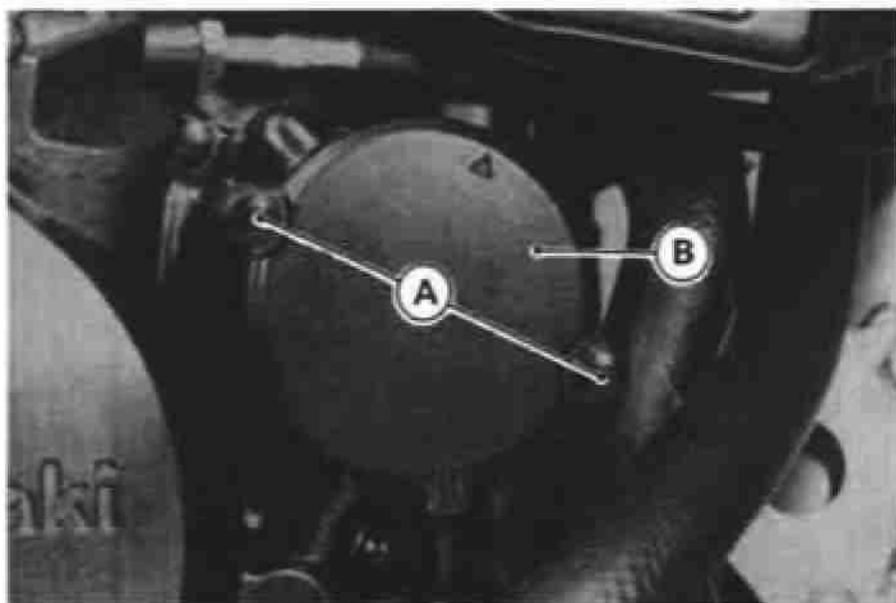
**A. Drain Plug**

- Let the oil completely drain with the motorcycle perpendicular to the ground.

## ⚠ WARNING

**Motor oil is a toxic substance. Dispose of used oil properly. Contact your local authorities for approved disposal methods or possible recycling.**

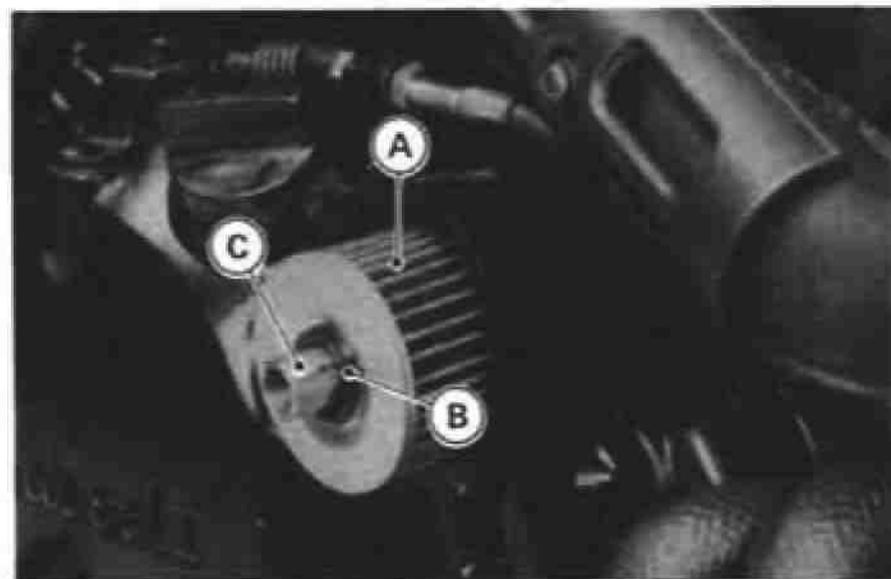
- If the oil filter is to be changed, remove the oil filter cover bolts and take off the cover with O-ring.



**A. Bolts**

**B. Oil Filter Cover**

- Pull off the element with the element mounting pin.
- Pull the mounting pin off the element.
- Replace the element with a new one.
- Apply a little engine oil to the grommets on both side of the element, and push the mounting pin into the element. Be careful that the grommets do not slip out of place.
- Install them with the smaller end of the pin inside.



**A. Element  
B. Grommet**

**C. Mounting Pin**

## NOTE

- *Check for O-ring damage. If necessary, replace them with new ones.*
- *When installing the oil filter, make sure the O-rings are in place.*
- Install the oil filter cover and tighten its bolts.
- After the oil has completely drained out, install the engine oil drain plug with its gasket. Proper torque for it is shown in the table.

## NOTE

- *Replace the damaged gasket with a new one.*
- Fill the engine up to the upper level line with a good quality motor oil specified in the table.

- Start the engine.
- Check the oil level and for oil leakage.

### Tightening Torque

Engine Drain Plug: 23 N-m (2.3 kg-m, 16.5 ft-lb)
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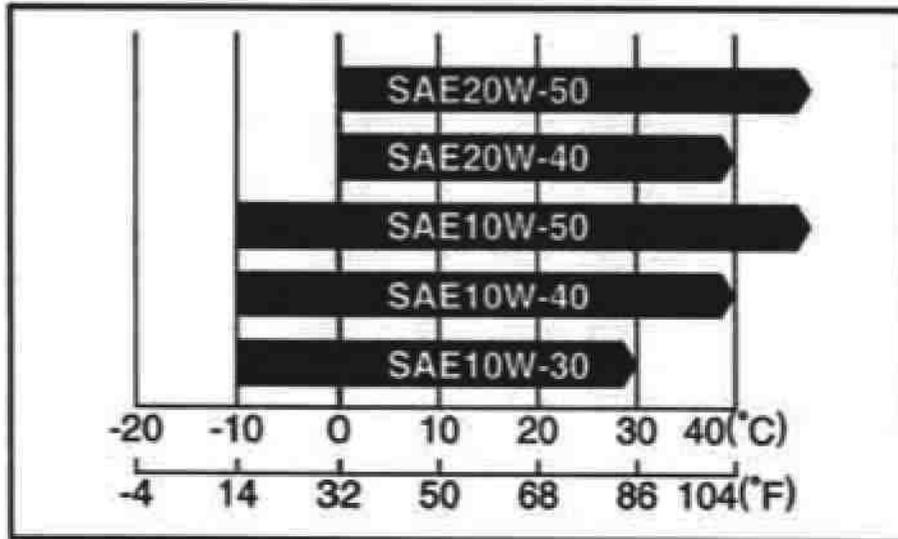
### Recommended Engine Oil

Type:	API SE, SF or SG
:	API SH or SJ with JASO MA
Viscosity:	SAE 10W-40

### Engine Oil Capacity

Capacity:	1.7 L (1.8 US qt)
	[when filter is not removed]
	2.0 L (2.1 US qt)
	[when filter is removed]

Depending on the atmospheric temperature of your riding area, the engine oil viscosity should be changed according to the following chart:



## Cooling System

### Radiator and Cooling Fan:

Check the radiator fins for obstruction by insects or mud. Clean off any obstructions with a stream of low-pressure water.

#### **▲ WARNING**

**The cooling fan turns on automatically, even with the ignition switch off. Keep your hands and clothing away from the fan blades at all times.**

## CAUTION

Using high-pressure water, as from a car wash facility, could damage the radiator fins and impair the radiator's effectiveness.

Do not obstruct or deflect airflow through the radiator by installing unauthorized accessories in front of the radiator or behind the cooling fan.

Interference with the radiator airflow can lead to overheating and consequent engine damage.

### **Radiator Hoses:**

Check the radiator hoses for cracks or deterioration, and connections for looseness in accordance with the periodic Maintenance Chart.

### **Coolant:**

Coolant absorbs excessive heat from the engine and transfers it to the air at the radiator. If the coolant level becomes low, the engine overheats and may suffer severe damage. Check the coolant level each day before riding the motorcycle, and replenish coolant if the level is low. Change the coolant in accordance with the Periodic Maintenance Chart.

### *Information for Coolant*

To protect the cooling system (consisting of the aluminum engine and radiator) from rust and corrosion, the use of corrosion and rust inhibitor chemicals in the coolant is essential. If coolant containing corrosion and rust inhibitor chemicals is not used, over a period of time, the cooling system accumulates rust and scale in the water jacket and radiator. This will clog up the coolant

passages, and considerably reduce the efficiency of the cooling system.

**▲WARNING**

**Use coolant containing corrosion inhibitors made specifically for aluminum engines and radiators in accordance with the instructions of the manufacturer. Chemicals are harmful to the human body.**

Soft or distilled water must be used with the antifreeze (see below for antifreeze) in the cooling system.

**CAUTION**

**If hard water is used in the system, it causes scale accumulation in the water passages, and considerably reduces the efficiency of the cooling system.**

If the lowest ambient temperature encountered falls below the freezing point of water, use permanent antifreeze in the coolant to protect the cooling system against engine and radiator freeze-up, as well as from rust and corrosion.

Use a permanent type of antifreeze (soft water and ethylene glycol plus corrosion and rust inhibitor chemicals for aluminum engines and radiators) in the cooling system. On the mixture ratio of coolant, choose the suitable one referring to the relation between freezing point and strength directed on the container.

**CAUTION**

**Permanent types of antifreeze on the market have anti-corrosion and anti-rust properties. When it is diluted excessively, it loses its anti-corrosion property. Dilute a permanent type of antifreeze in accordance with the instructions of the manufacturer.**

## NOTE

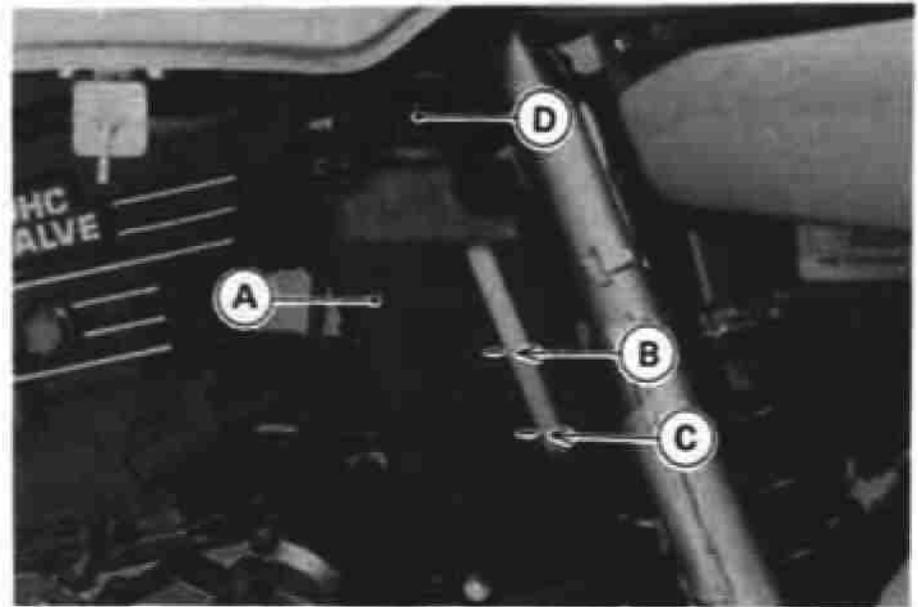
- A permanent type of antifreeze is installed in the cooling system when shipped. It is colored green and contains ethylene glycol. It is mixed at 50% and has the freezing point of  $-35^{\circ}\text{C}$  ( $-31^{\circ}\text{F}$ ).

### Coolant Level Inspection

- Situate the motorcycle so that it is perpendicular to the ground.
- Check the coolant level through the coolant level gauge on the reserve tank cover. The coolant level should be between the FULL and LOW level marks.

## NOTE

- Check the level when the engine is cold (room or atmospheric temperature).



- A. Reserve Tank Cover
- B. FULL Mark
- C. LOW Mark
- D. Reserve Tank Cap

- If the amount of coolant is insufficient, unscrew the cap from the reserve tank, and add coolant through the filler opening to the FULL mark.
- Install the cap.

## NOTE

○ *In an emergency you can add water alone to the coolant reserve tank, however it must be returned to the correct mixture ratio by the addition of antifreeze concentrate as soon as possible.*

## CAUTION

**If coolant must be added often, or the reserve tank completely runs dry, there is probably leakage in the system. Have the cooling system inspected by your authorized Kawasaki dealer.**

### *Coolant Change*

Have the coolant changed by an authorized Kawasaki dealer.

### *Coolant Filter Clean*

Before winter season starts, have the coolant filter cleaned by an authorized Kawasaki dealer.

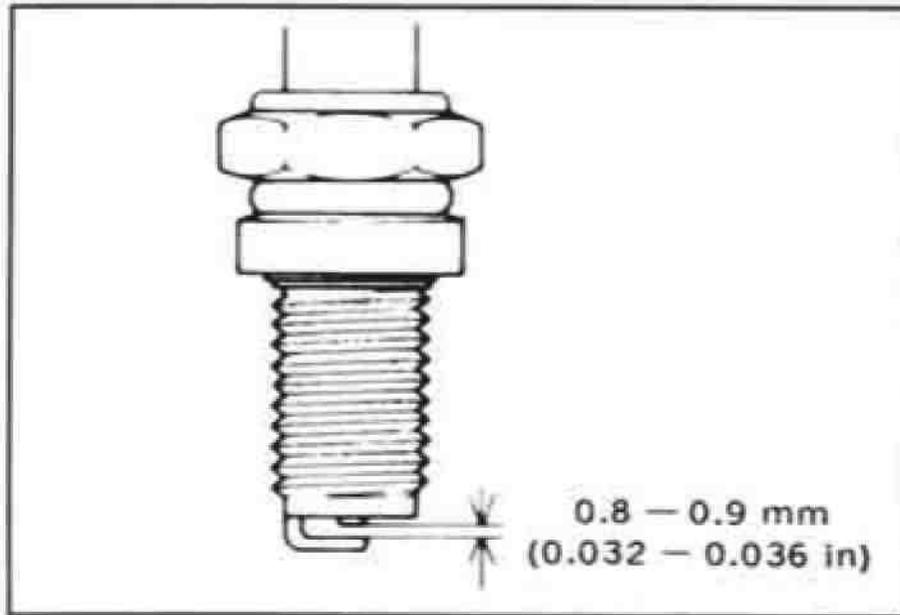
## Spark Plug

Remove the fuel tank and unscrew the spark plug.

The standard spark plug is shown in the table. The spark plug should be taken out in accordance with the Periodic Maintenance Chart for cleaning, inspection, and resetting of the plug gap.

### *Maintenance*

If the plug is oily or has carbon built up on it, have it cleaned, preferably in a sand-blasting device, and then clean off any abrasive particles. The plug may also be cleaned using a high flash-point solvent and a wire brush or other suitable tool. Measure the gap with a wire-type thickness gauge, and adjust the gap if incorrect by bending the outer electrode. If the spark plug electrodes are corroded or damaged, or if the insulator is cracked, replace the plug. Use the standard plug.



### Spark Plug

Standard Plug	NGK DPR9EA-9 or ND X27EPR-U9
Plug Gap	0.8 ~ 0.9 mm (0.032 ~ 0.036 in)
Tightening Torque	14 N-m (1.4 kg-m, 10.0 ft-lb)

### NOTE

- Fit the plug cap securely onto the spark plug, and pull the cap lightly to make sure that it is properly installed.

### CAUTION

For cold weather and/or low speed riding, a hotter spark plug – NGK DPR8EA-9 or ND X24EPR-U9 – may be used for quicker warm-ups and more efficient engine operation. However, for normal temperatures and/or high speed use, the standard spark plug must be used to prevent engine damage.

## Valve Clearance

Valve and valve seat wear decreases valve clearance, upsetting valve timing.

### CAUTION

**If valve clearance is left unadjusted, wear will eventually cause the valves to remain partly open; which lowers performance, burns the valves and valve seats, and may cause serious engine damage.**

Valve clearance for each valve should be checked and adjusted in accordance with the Periodic Maintenance Chart.

Inspection and adjustment should be done by your authorized Kawasaki Dealer.

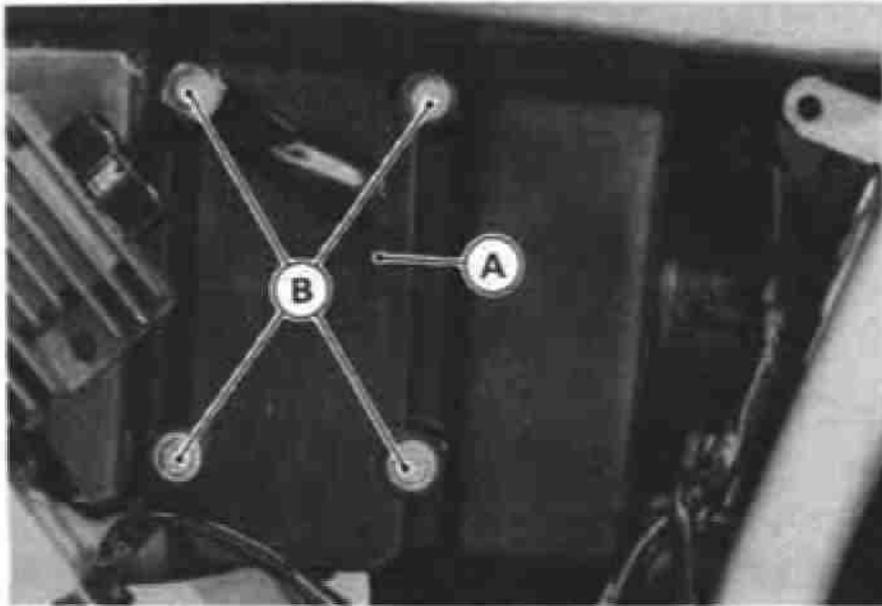
## Air Cleaner

A clogged air cleaner restricts the engine's air intake, increasing fuel consumption, reducing engine power, and causing spark plug fouling.

The air cleaner element must be cleaned in accordance with the Periodic Maintenance Chart. In dusty areas, the element should be cleaned more frequently than the recommended interval. After riding through rain or on muddy roads, the element should be cleaned immediately. The element should be replaced if it is damaged.

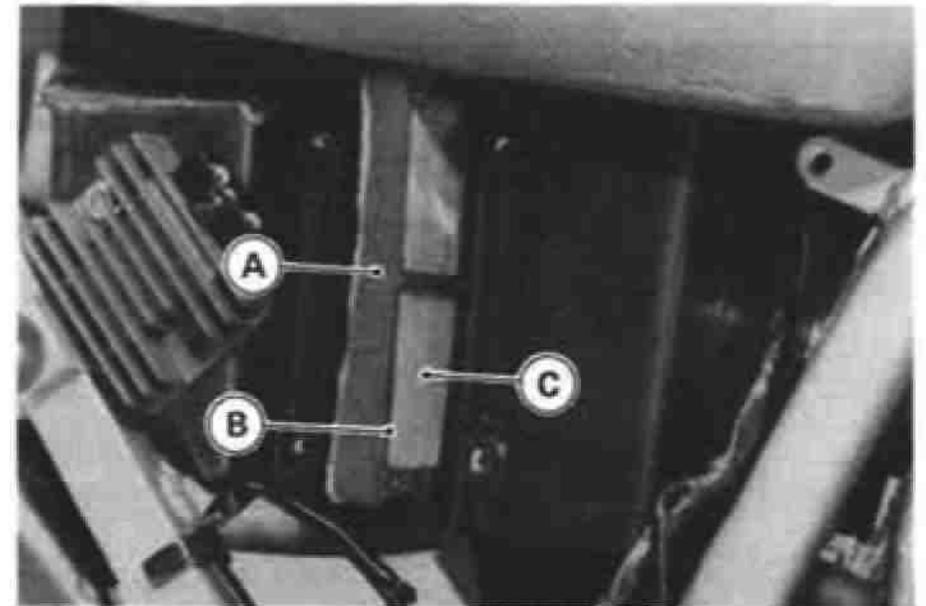
### *Element Removal*

- Remove the right side cover.
- Unscrew the air cleaner cover screw and remove the air cleaner cover.



**A. Air Cleaner Cover**  
**B. Screws**

- Pull out the air cleaner element with metal frame.
- Remove the element from the metal frame.



**A. Element**                      **C. Wire Net**  
**B. Metal Frame**

- Put a clean, lint-free towel over the air cleaner housing to keep dirt or other foreign material from entering.
- Inspect the element material for damage. If any part of the element is damaged, the element must be replaced.

**▲WARNING**

If dirt or dust is allowed to pass through into the carburetor, the throttle may become stuck, possibly causing accident.

**CAUTION**

If dirt gets through into the engine, excessive engine wear and possibly engine damage will occur.

**NOTE**

- *Element installation is performed in the reverse order of removal.*
- *Be sure to install the element with the wire net facing front.*

*Element Cleaning*

- Clean the element in a bath of a high flash-point solvent.
- Dry the element with compressed air or by shaking it.
- After cleaning, saturate the element with SE, SF or SG class SAE 10W-40 motor oil.
- Press the element against a work-bench to squeeze out the excess oil, then wrap it in a clean rag and squeeze it as dry as possible. Be careful not to tear the element.

**▲WARNING**

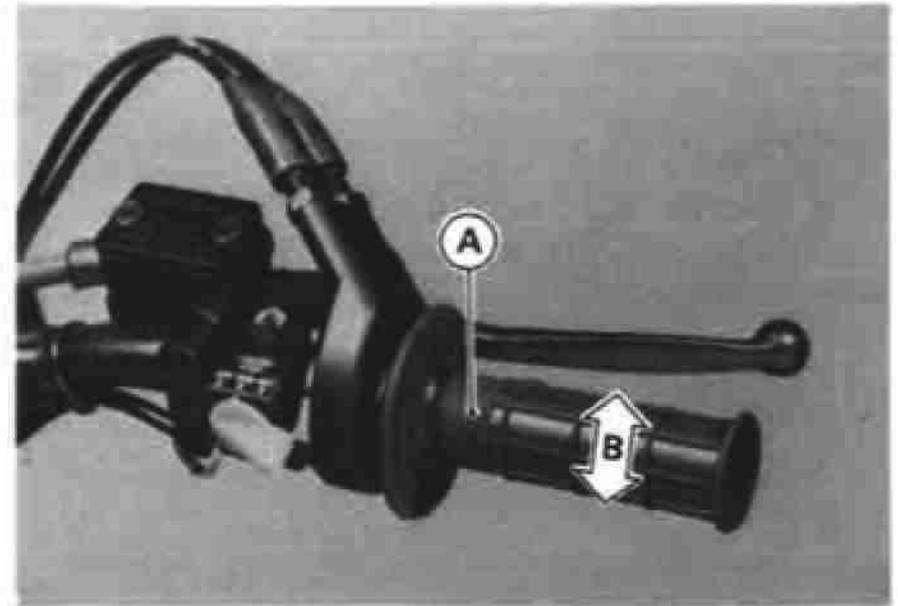
Clean the element in a well ventilated area, and take care that there are no sparks or flame anywhere near the working area; this includes any appliance with a pilot light. Do not use gasoline or a low flash-point solvent to clean the element. A fire or explosion could result.

## Throttle Grip

The throttle grip controls the throttle valves. If the throttle grip has excessive play due to either cable stretch or maladjustment, it will cause a delay in throttle response, especially at low engine speed. Also, the throttle valves may not open fully at full throttle. On the other hand, if the throttle grip has no play, the throttle will be hard to control, and the idle speed will be erratic. Check the throttle grip play in accordance with the Periodic Maintenance Chart, and adjust the play if necessary.

### *Inspection*

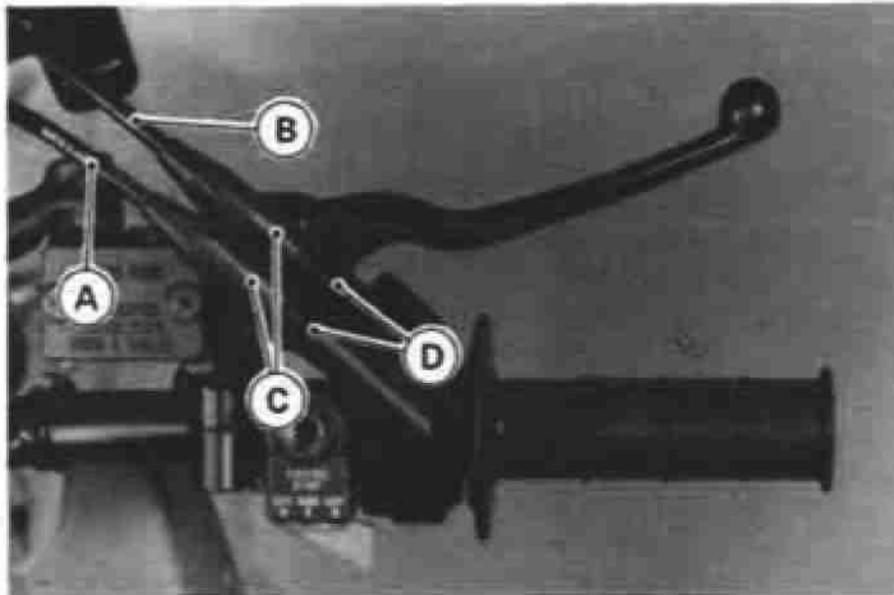
- Check that there is 2 ~ 3 mm (0.08 ~ 0.12 in.) throttle grip play when lightly turning the throttle grip back and forth.
- If there is improper play, adjust it.



**A. Throttle Grip**  
**B. 2 ~ 3 mm (0.08 ~ 0.12 in)**

### *Adjustment*

- Loosen the locknuts at the upper end of the throttle cables, and screw both throttle cable adjusting nuts in completely so as to give the throttle grip plenty of play.
- Turn out the decelerator cable adjusting nut until there is no play when the throttle grip is completely closed. Tighten the locknut.

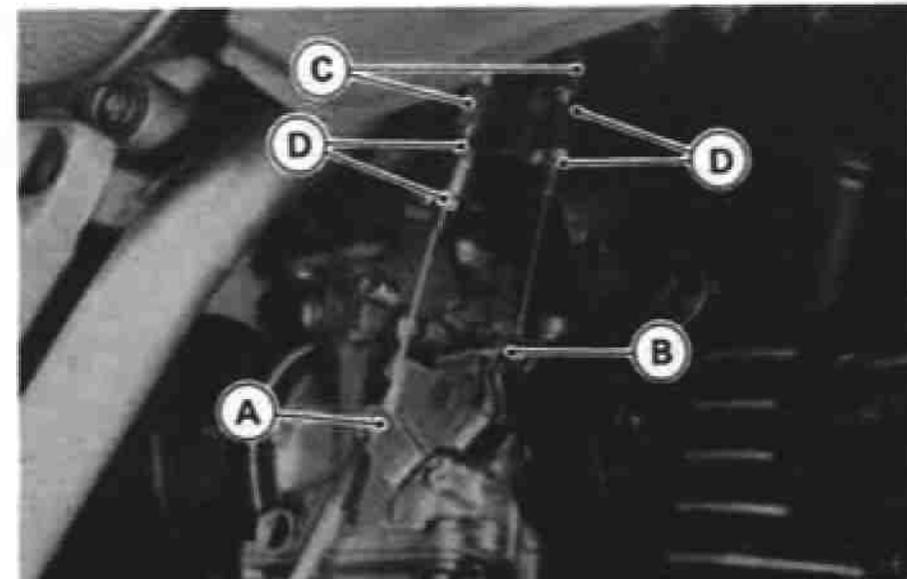


- A. Accelerator Cable
- B. Decelerator Cable
- C. Adjusting Nuts
- D. Locknuts

● Turn the accelerator cable adjusting nut until 2 ~ 3 mm (0.08 ~ 0.12 in) of throttle grip play is obtained. Tighten the locknut.

## NOTE

○ If the throttle cables cannot be adjusted by using the cable adjusting nuts at the upper end of the throttle cables, use the cable adjusters at the lower end of the throttle cables (at the carburetor). Do not forget to securely tighten the adjuster locknuts.



- A. Accelerator Cable
- B. Decelerator Cable
- C. Adjusting Nuts
- D. Locknuts

### **▲WARNING**

**Be sure the upper ends of the outer cables are fully seated in their adjusting nuts, or they could slip into place later, creating enough grip play to prevent throttle operation, resulting in a hazardous riding condition.**

- Start the engine.
- Turn the handlebar from side to side while idling the engine.
- ★ If idle speed varies, the throttle cables may be poorly routed or they may be damaged.
- Correct any problem before operating the motorcycle.

### **▲WARNING**

**Operation with an improperly adjusted, incorrectly routed, or damaged cable could result in an unsafe riding condition.**

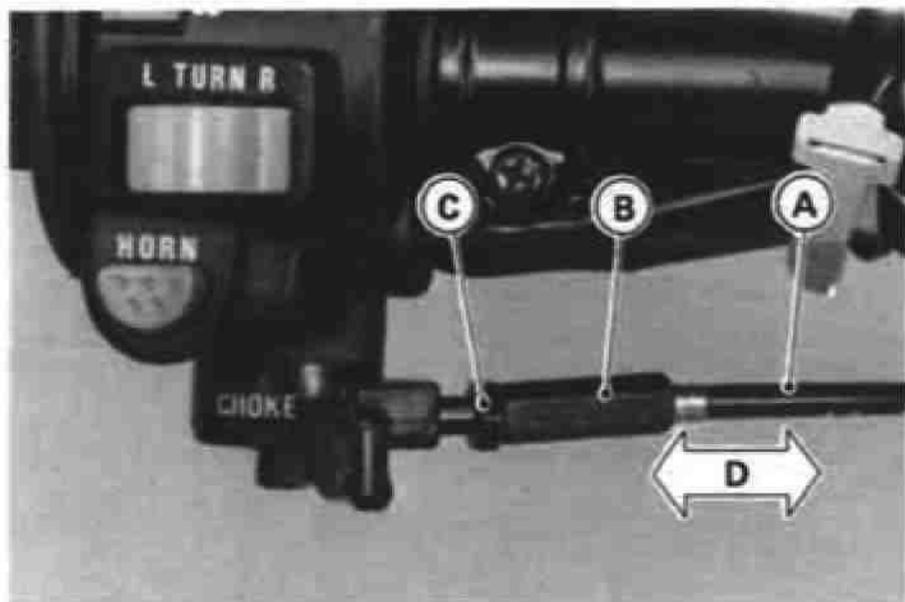
## **Choke Lever**

By pushing the choke lever, the carburetor provides a rich starting mixture that is necessary to enable easy starting when the engine is cold.

If starting difficulty or rich fuel mixture trouble occurs, inspect the choke lever, and adjust if necessary.

### *Inspection*

- Check that the choke lever returns properly and that the inner cable slides smoothly. If there is any irregularity, have the choke cable checked by an authorized Kawasaki dealer.
- Push the choke lever back all the way to its released position.
- Determine the amount of choke cable play at the upper end of the choke cable. Pull out and push in the outer cable; the amount of cable travel is the amount of cable play.



- A. Choke Lever
- B. Adjusting Nut
- C. Locknut
- D. 2 ~ 3 mm (0.08 ~ 0.12 in.)

●The proper amount of play is 2 ~ 3 mm (0.08 ~ 0.12 in.). If there is too much or too little play, adjust the choke cable.

### *Adjustment*

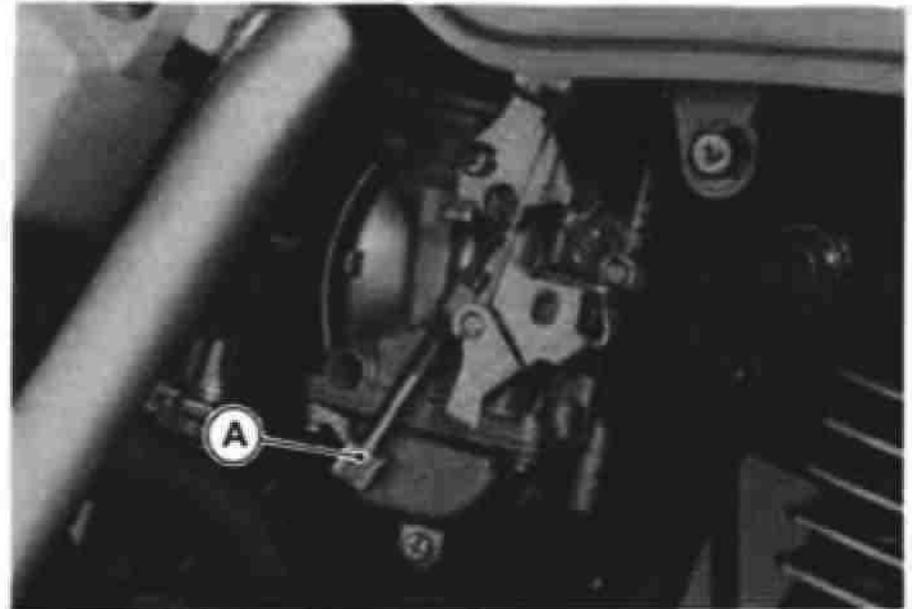
- Loosen the locknut at the upper end of the choke cable, and turn the adjusting nut until the cable has the proper amount of play.
- Tighten the locknut after adjustment.

## Carburetor

The following procedure covers the idle speed adjustment, which should be performed in accordance with the Periodic Maintenance Chart or whenever the idle speed is disturbed.

### *Adjustment*

- Start the engine, and warm it up thoroughly.
- Adjust the idle speed to 1,200 ~ 1,400 r/min (rpm) by turning the idle adjusting screw.



**A. Idle Adjusting Screw**

- Open and close the throttle a few times to make sure that the idle speed does not change. Readjust if necessary.
- With the engine idling, turn the handlebar to each side. If handlebar movement changes the idle speed, the throttle cables may be improperly adjusted or incorrectly routed, or they may be damaged. Be sure to correct any of these conditions before riding.

**⚠ WARNING**

**Operation with damaged cables could result in an unsafe riding condition.**

## Clutch

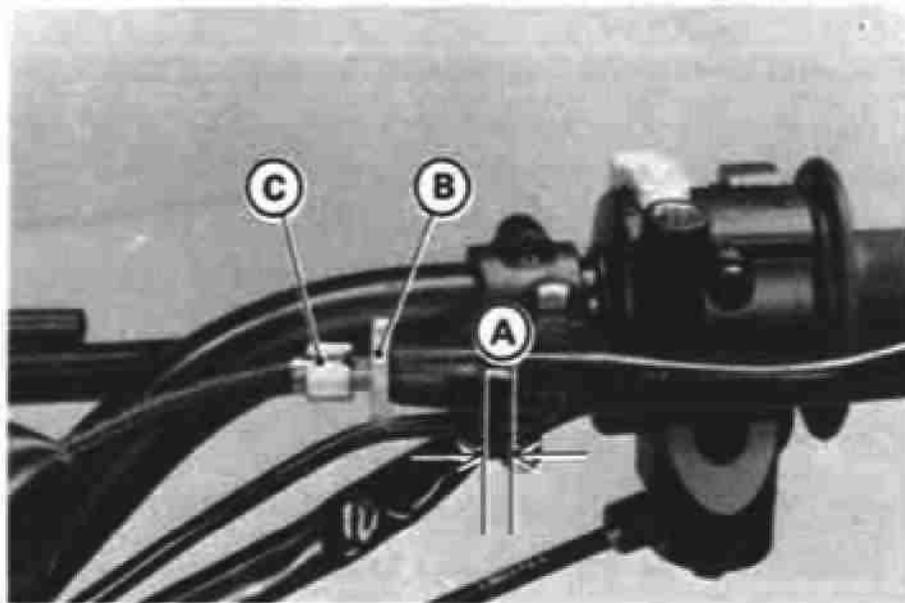
Due to friction plate wear and clutch cable stretch over a long period of use, the clutch must be adjusted in accordance with the Periodic Maintenance Chart.

**⚠ WARNING**

**To avoid a serious burn, never touch a hot engine or exhaust pipe during clutch adjustment.**

### *Inspection*

- Check that the clutch lever has 2 ~ 3 mm (0.08 ~ 0.12 in) of play as shown in the figure.



- A. 2 ~ 3 mm (0.08 ~ 0.12 in)
- B. Locknut
- C. Adjuster

If the play is incorrect, adjust the lever play as follows.

#### *Adjustment*

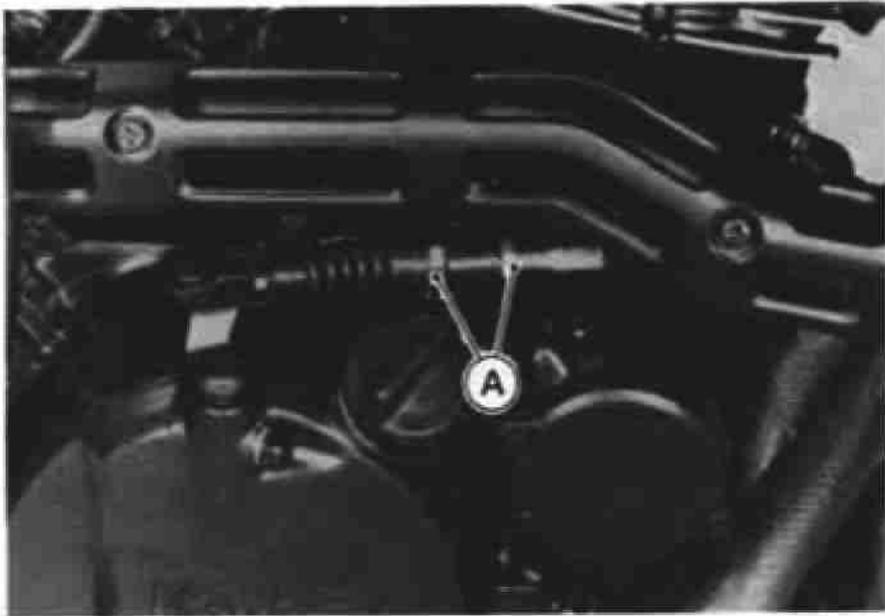
- Slide the dust cover at the clutch lever out of place.
- Loosen the locknut at the clutch lever.

- Turn the adjuster so that the clutch lever will have 2 ~ 3 mm (0.08 ~ 0.12 in) of play.

#### **▲ WARNING**

Be sure the upper end of the clutch outer cable is fully seated in its fitting, or it could slip into place later, creating enough cable play to prevent clutch disengagement, resulting in a hazardous riding condition.

- Tighten the locknut.
- If it cannot be done, use the mounting nuts at the lower end of the cable.



A. Mounting Nuts

## NOTE

- *After the adjustment is made, start the engine and check that the clutch does not slip and that it releases properly.*
- *For minor corrections, use the adjuster at the clutch lever.*

## Drive Chain

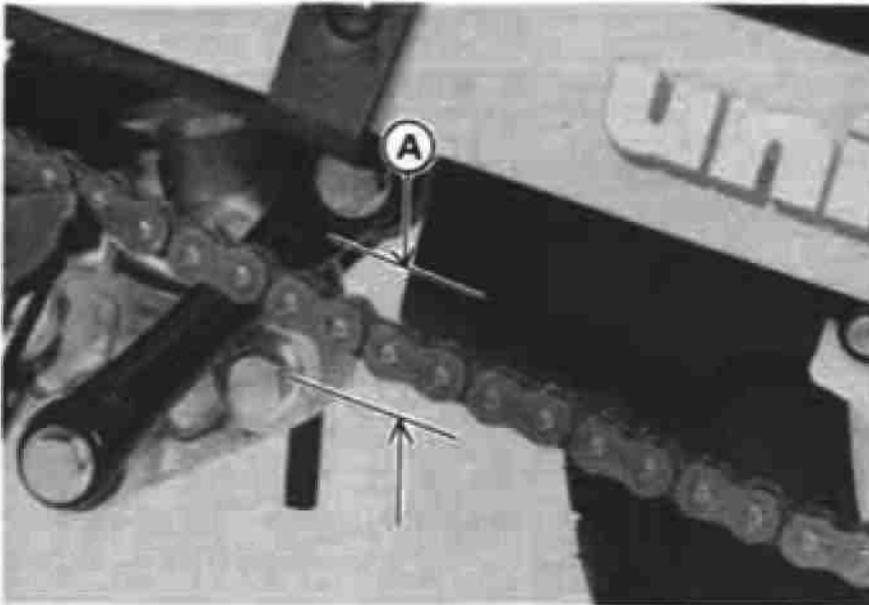
The drive chain must be checked, adjusted, and lubricated in accordance with the Periodic Maintenance Chart for safety and to prevent excessive wear. If the chain becomes badly worn or maladjusted – either too loose or too tight – the chain could jump off the sprockets or break.

### ▲ WARNING

**A chain that breaks or jumps off the sprockets could snag on the engine sprocket or lock the rear wheel, severely damaging the motorcycle and causing it to go out of control.**

### *Chain Slack Inspection*

- Set the motorcycle up on its side stand.
- Rotate the rear wheel to find the position where the chain is tightest and measure the maximum chain slack by pulling up and pushing down the chain midway between the engine sprocket and rear wheel sprocket.



**A. 20 ~ 35 mm (0.8 ~ 1.4 in.)**

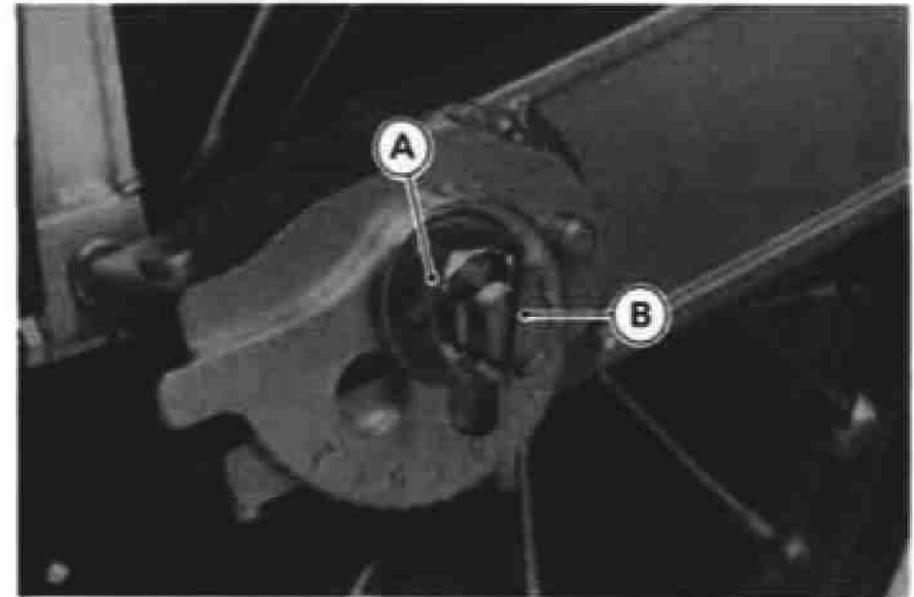
- If the drive chain is too tight or too loose, adjust it so that the chain slack will be within the standard value.

## Drive Chain Slack

Standard	20 ~ 35 mm (0.8 ~ 1.4 in.)
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### *Chain Slack Adjustment*

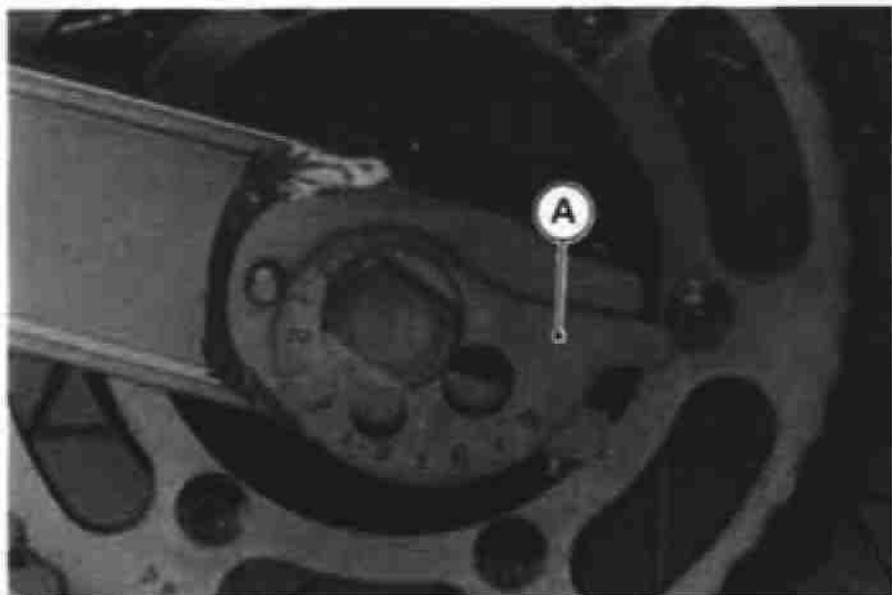
- Remove the cotter pin, and loosen the axle nut.



**A. Axle Nut**

**B. Cotter Pin**

- Rotate the chain adjuster at each end of the swingarm to obtain the specified chain slack.



**A. Chain Adjuster**

- Make sure both adjuster are set to the same position for correct wheel alignment.

## NOTE

- *Wheel alignment can also be checked using the straightedge or string method.*

## ▲WARNING

**Misalignment of the wheel will result in abnormal wear, and may result in an unsafe riding condition.**

- Center the brake panel assembly in the brake drum. This is done by tightening the axle lightly, spinning the wheel, and depressing the brake pedal forcefully. The partially tightened axle allows the brake panel assembly to center itself in the brake drum.

## NOTE

- *This procedure can prevent a soft, or "spongy feeling" brake.*

- Tighten the axle nut to the specified torque.

### Tightening Torque

Axle Nut :	93 N-m (9.5 kg-m, 69 ft-lb)
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- Rotate the wheel, measure the chain slack again at the tightest position, and readjust if necessary.
- Insert a new cotter pin through the axle nut and axle, and spread its ends.

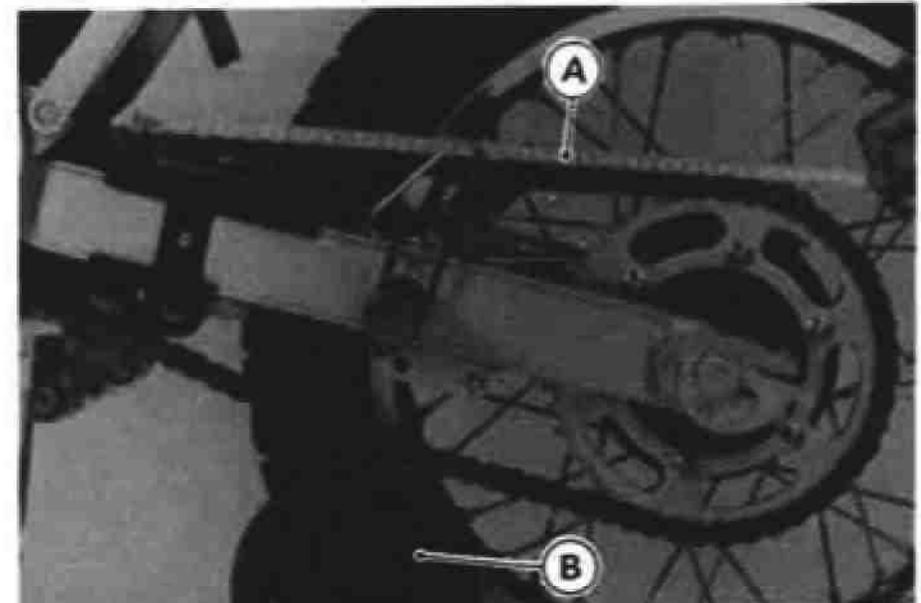
### ▲ WARNING

**If the axle nut is not securely tightened or the cotter pin is not installed, an unsafe riding condition may result.**

- Check the rear brake (see the Brakes section).

### Wear Inspection

- Stretch the chain taut either by using the chain adjusters, or by hanging a 10 kg (20 lb) weight on the chain.
- Measure the length of 20 links on the straight part of the chain from pin center of the 1st pin to pin center of the 21st pin. Since the chain may wear unevenly, take measurements at several places.



**A. Measure**

**B. Weight**

- If the length exceeds the service limit, the chain should be replaced.

### Drive Chain 20-Link Length

Service Limit: 323 mm (12.7 in).

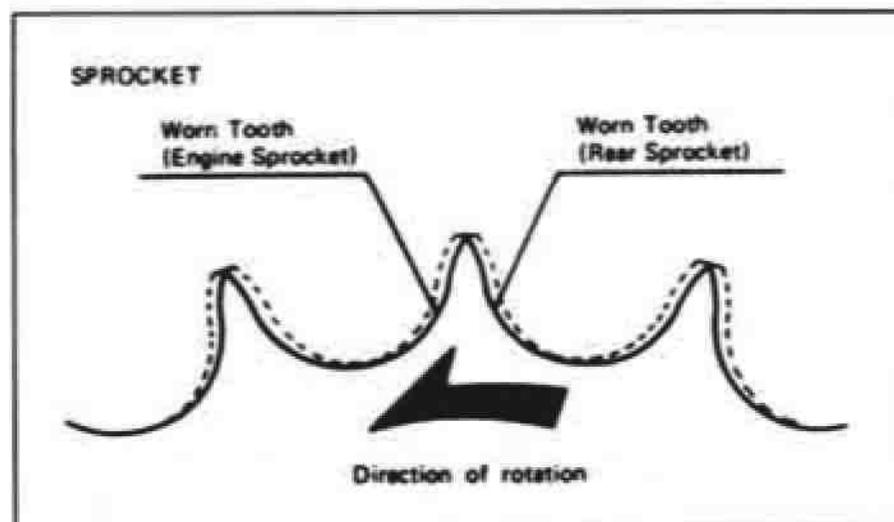
### **⚠ WARNING**

**For safety, use only the standard chain. It is an endless type and should not be cut for installation; have it installed by an authorized Kawasaki dealer.**

- Rotate the rear wheel to inspect the drive chain for damaged rollers, and loose pins and links.
- Also inspect the sprockets for unevenly or excessively worn teeth, and damaged teeth.

### NOTE

- *Sprocket wear is exaggerated for illustration. See Service Manual for wear limits.*



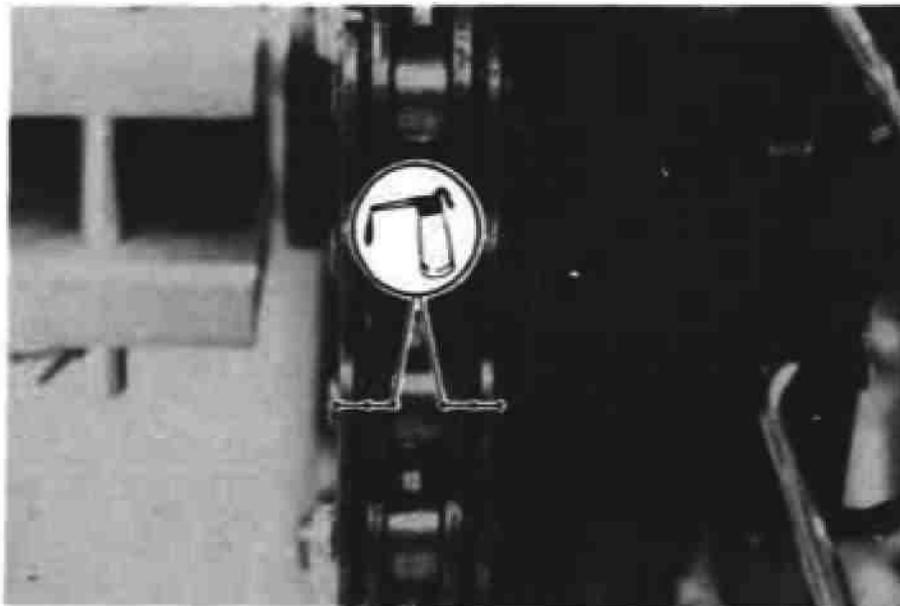
- If there is any irregularity, have the drive chain and/or the sprockets replaced by an authorized Kawasaki dealer.

### *Lubrication*

Lubrication is also necessary after riding through rain or on wet roads, or any time that the chain appears dry. A heavy oil such as SAE 90 is preferred to a lighter oil because it will stay on the chain longer and provide better lubrication.

- Apply oil to the sides of the rollers so that it will penetrate to the rollers and bushings. Apply oil to the O-rings so that the O-rings will be coated with oil. Wipe off any excess oil.

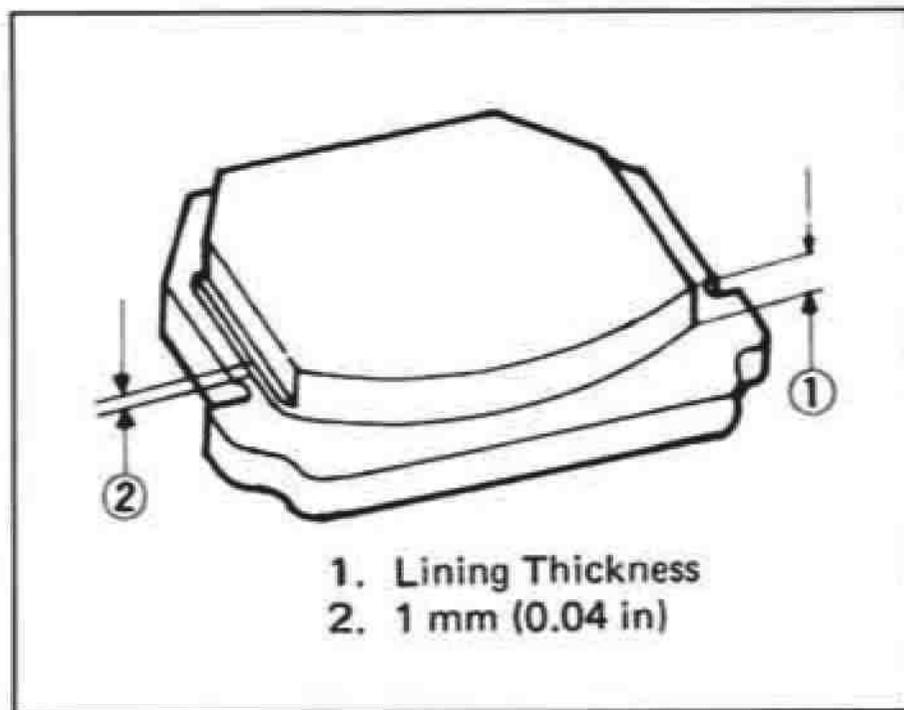
- If the chain is especially dirty, clean it using diesel oil or kerosine and then apply oil as described above.



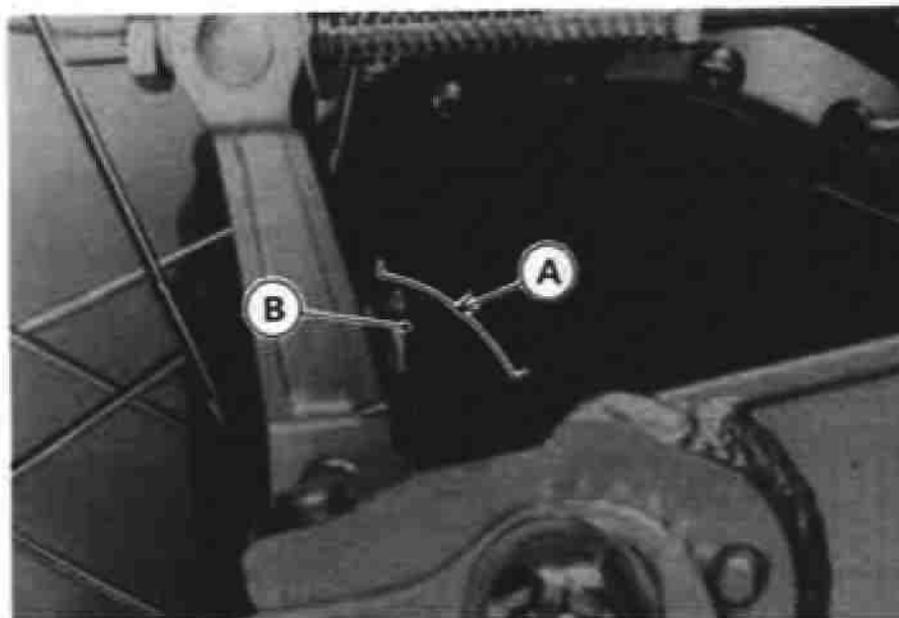
## Brakes

### Brake Wear Inspection

In accordance with the Periodic Maintenance Chart, inspect the brakes for wear. For each front and rear disc brake caliper, if the thickness of either pad is less than 1 mm (0.04 in), replace both pads in the caliper as a set. Pad replacement should be done by an authorized Kawasaki dealer.



On the rear brake panel is a brake lining wear indicator. If the brake lining wear indicator does not point within the **USABLE RANGE** when the brake is fully applied, the brake shoe linings have worn past the service limit. In this case, the brake shoes must be replaced and the drum and other brake parts examined by an authorized Kawasaki dealer.



**A. USABLE RANGE**  
**B. Brake Lining Wear Indicator**

### *Lubrication*

In accordance with the Periodic Maintenance Chart, the brake camshaft should be lubricated by an authorized Kawasaki dealer.

### **Disc Brake Fluid:**

In accordance with the Periodic Maintenance Chart, inspect the brake fluid level in both the front and rear brake fluid reservoirs and change the brake fluid. The brake fluid should also be changed if it becomes contaminated with dirt or water.

### *Fluid Requirement*

Use only heavy-duty brake fluid from a container marked DOT3 or DOT4.

### **CAUTION**

**Do not spill brake fluid onto any painted surface.**

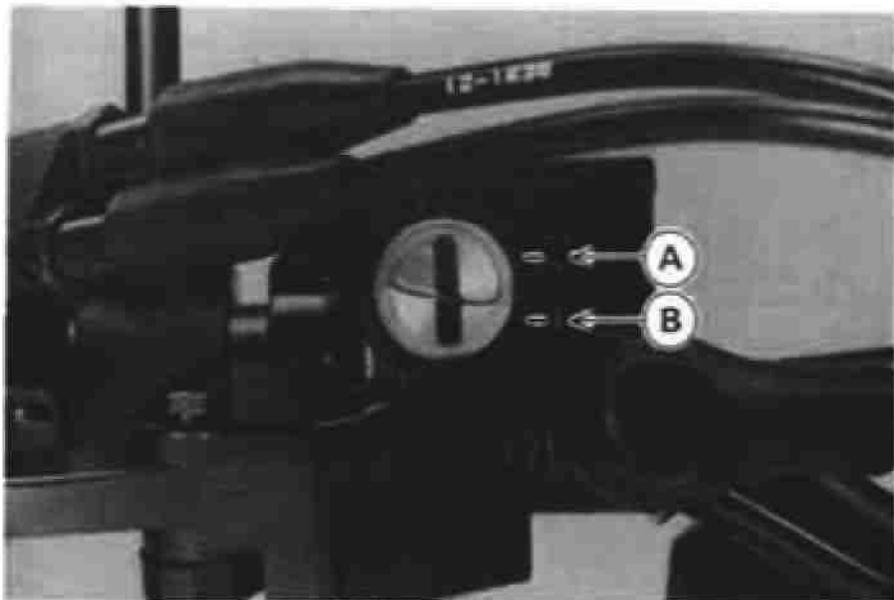
**Do not use fluid from a container that has been left open or that has been unsealed for a long time.**

**Check for fluid leakage around the fittings.**

**Check brake hoses for damage.**

### *Fluid Level Inspection*

- The brake fluid level in the front brake fluid reservoir must be kept between the upper and lower level lines (reservoir held horizontal).



- A. Upper Level
- B. Lower Level

- If the fluid level in the reservoir is lower than the lower level line, check for fluid leaks in the brake lines, and fill the reservoir to the upper level line.

### **⚠ WARNING**

**Do not mix two brands of brake fluid. Change the brake fluid in the brake line completely if the brake fluid must be refilled but the type and brand of the brake fluid that is already in the reservoir are unidentified.**

### *Fluid Change*

Have the brake fluid changed by an authorized Kawasaki dealer.

### **Front Brake:**

Disc and disc pad wear is automatically compensated for and has no effect on the brake lever action. So there are no parts that require adjustment on the front brake.

## ⚠ WARNING

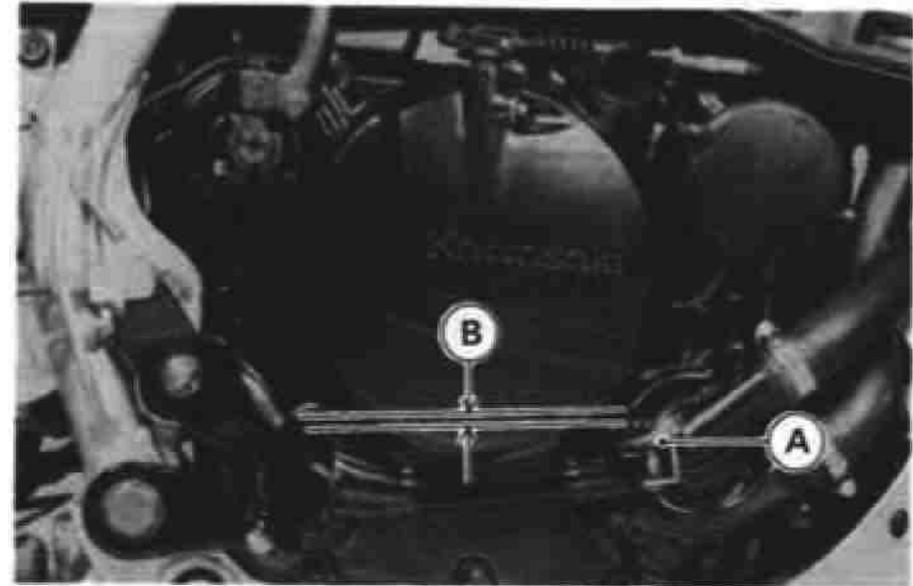
If the brake lever feels mushy when it is applied, there might be air in the brake line or the brake may be defective. Since it is dangerous to operate the motorcycle under such conditions, have the brake checked immediately by an authorized Kawasaki dealer.

### Rear Brake:

Brake pedal position can be adjusted to suit you. In accordance with the Periodic Maintenance Chart, inspect the brake pedal play.

#### *Pedal Position Inspection*

- When the brake pedal is in its rest position, it should be 0 ~ 30 mm (0. ~ 1.2 in) lower than the top of the foot-peg.



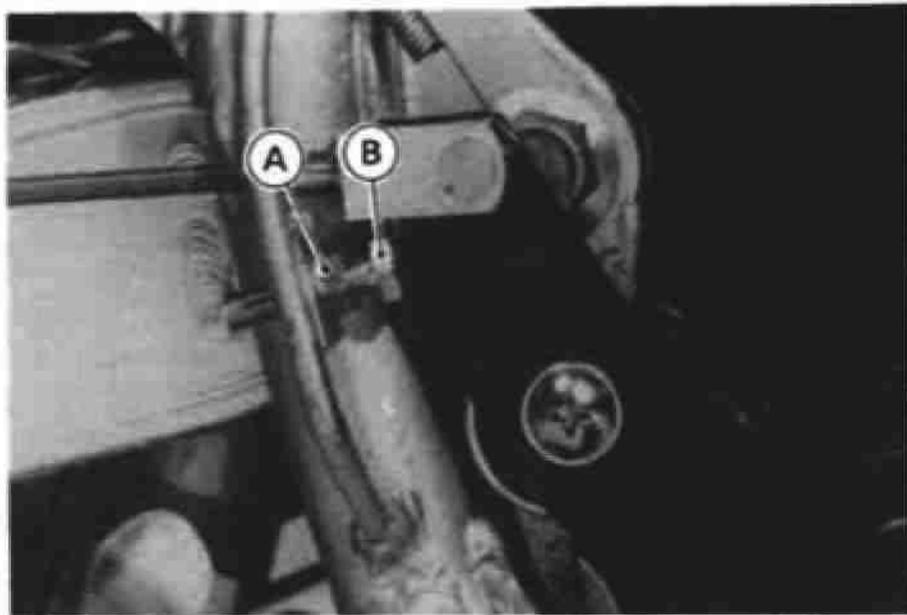
A. Brake Pedal

B. 0 ~ 30 mm (0 ~ 1.2 in)

- If it is not, adjust the pedal position.

#### *Pedal Position Adjustment*

- Loosen the locknut, and turn the adjusting bolt to adjust the pedal position.
- Tighten the locknut.



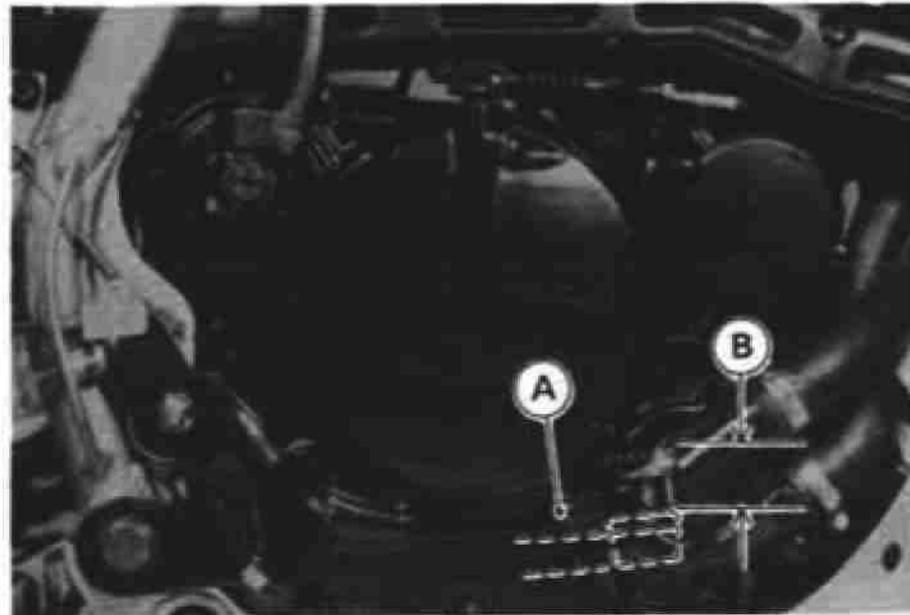
**A. Locknut**

**B. Adjusting Bolt**

- Check the brake pedal play and operation of the rear brake light switch.

#### *Pedal Play Inspection*

- The brake pedal should have 20 ~ 30 mm (0.8 ~ 1.2 in) of play when the pedal is pushed down lightly by hand.



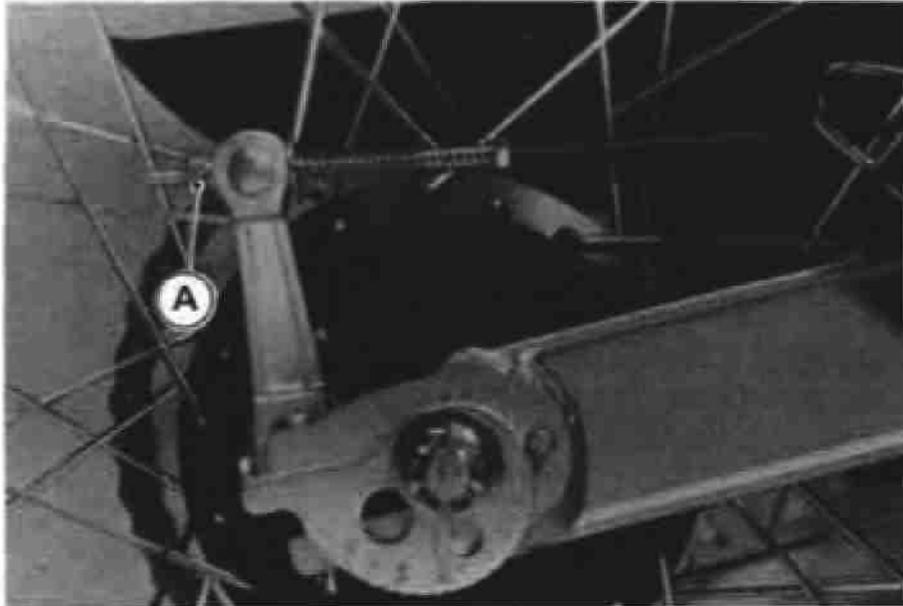
**A. Brake Pedal**

**B. 20 ~ 30 mm (0.8 ~ 1.2 in)**

- Rotate wheel to check for brake drag.
- Operate the pedal a few times to see that it returns to its rest position immediately upon release.
- Check braking effectiveness.
- If the pedal has improper play, adjust it.

### *Pedal Play Adjustment*

- Turn the adjusting nut at the brake cam lever so that the pedal has 20 ~ 30 mm (0.8 ~ 1.2 in) of play.



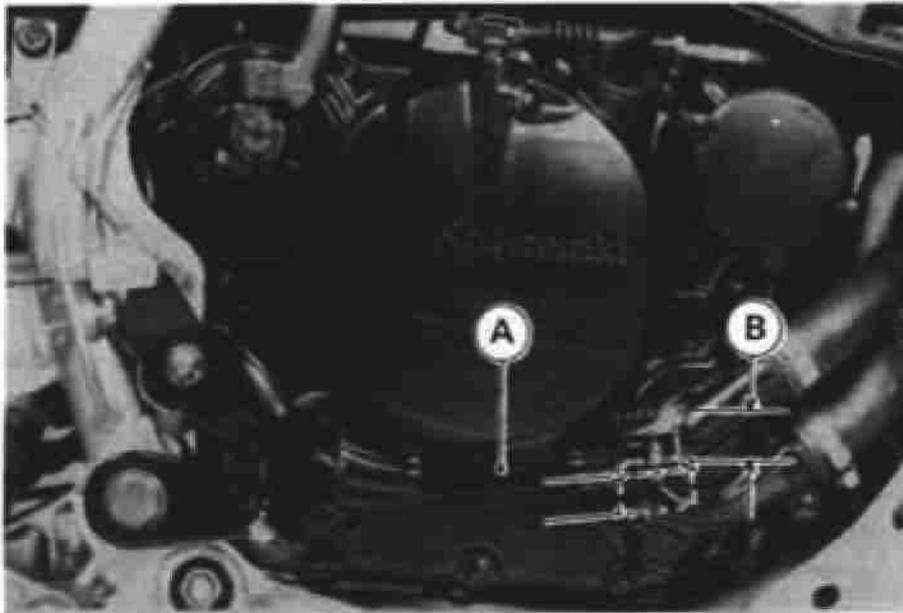
**A. Adjusting Nut**

### **Brake Light Switches**

When either the front or rear brake is applied, the brake light goes on. The front brake light switch requires no adjustment, but the rear brake light switch should be adjusted in accordance with the Periodic Maintenance Chart.

### *Inspection*

- Turn the ignition key to "ON".
- The brake light should go on when the front brake is applied.
- If it does not, ask your authorized Kawasaki dealer to inspect the front brake light switch.
- Check the operation of the rear brake light switch by depressing the brake pedal. The brake light should go on after about 15 mm (0.6 in) of pedal travel.



**A. Brake Pedal**      **B. 15 mm (0.6 in)**

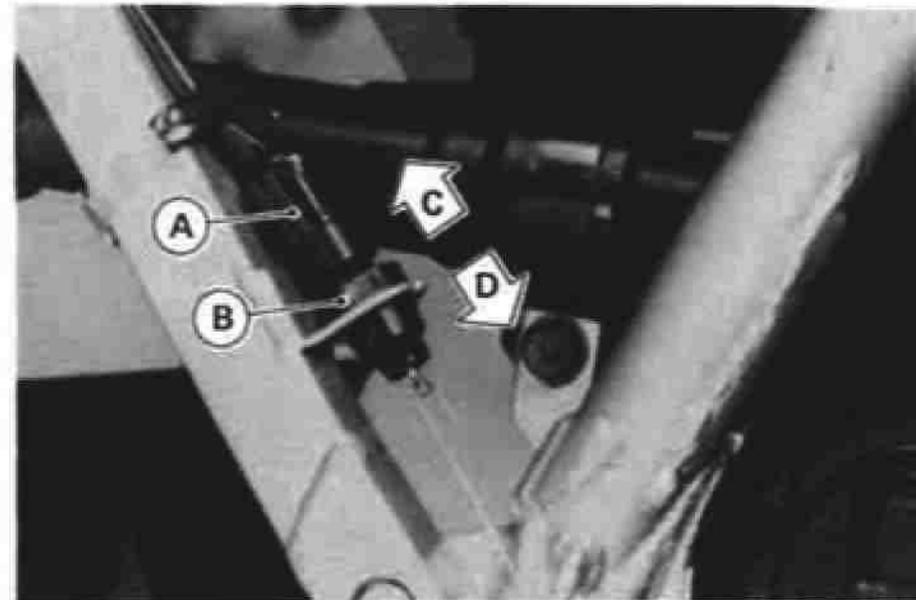
- If it does not, adjust the rear brake light switch.

*Adjustment*

- To adjust the rear brake light switch, move the switch up or down by turning the adjusting nut.

**CAUTION**

To avoid damaging the electrical connections inside the switch, be sure that the switch body does not turn during adjustment.



**A. Rear Brake Light Switch**  
**B. Adjusting Nut**  
**C. Lights sooner.**  
**D. Lights later.**

## Front Fork

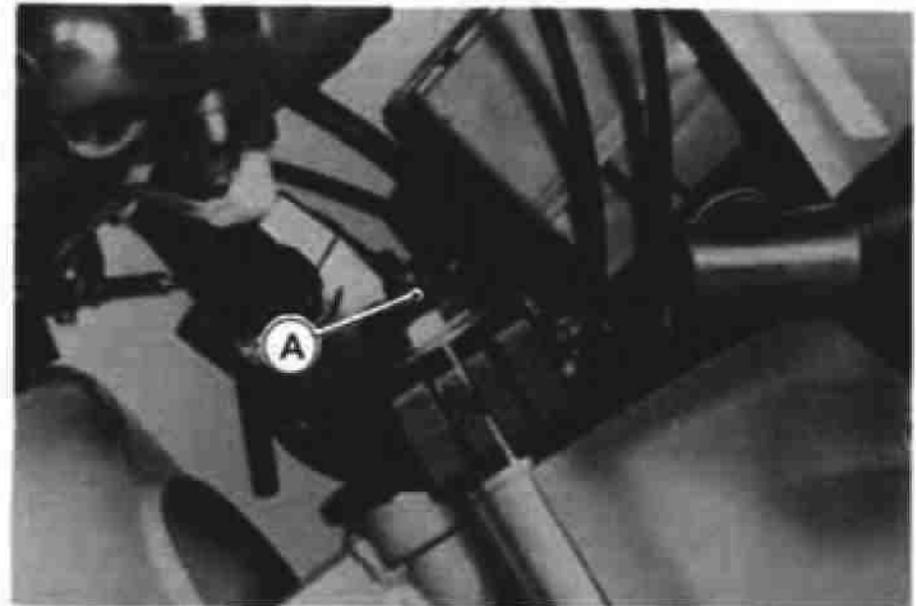
The condition of the front fork is very important for steering stability, and front fork performance is dependent on front fork oil viscosity, quantity, quality, and front fork air pressure.

Alteration of the stiffness or softness of the shock absorption can be achieved by using fork oil of a different viscosity or changing the fork air pressure. When altering the shock absorption by changing the fork air pressure, carry out the following steps:

- Raise the front wheel off the ground by using a jack.
- The standard air pressure is a atmospheric pressure.
- For rough roads riding following air pressure is recommended.

### Air Pressure

20 ~ 30 kPa (0.2 ~ 0.3 kg/cm <sup>2</sup> , 2.8 ~ 4.3 psi)
---



A. Air Valve

- Take the air valve caps off the tops of the fork legs.
- Pump air through the valve to raise the pressure.

### NOTE

○ A normal tire pump can be used.

## CAUTION

The maximum air pressure is 250 kPa (2.5 kg/cm<sup>2</sup>, 36 psi). Higher pressure will damage the seals. The left and right fork legs must have the same air pressure.

## ⚠ WARNING

Only air or nitrogen gas can be used. Never inject oxygen or any kind of explosive gas. Do not incinerate the front fork.

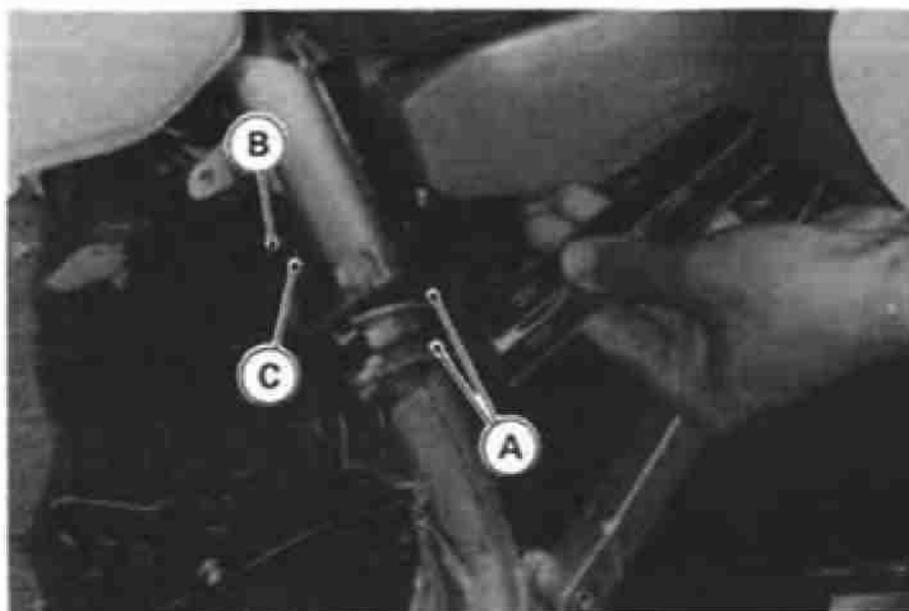
## Rear Shock Absorber

The rear shock absorber can be adjusted by changing the spring preload and rebound damping force for various riding and loading conditions.

Before making any adjustments, however, read the following procedures:

### *Spring Preload Adjustment*

- Remove the coolant reserve tank from the motorcycle.
- Fasten the breather hose of the reserve tank so that the coolant doesn't overflow.
- Using the hook wrenches, loosen the locknut and turn the adjusting nut as required.
- Adjust the spring preload by turning the adjusting nut counterclockwise to get softer or clockwise to get harder.

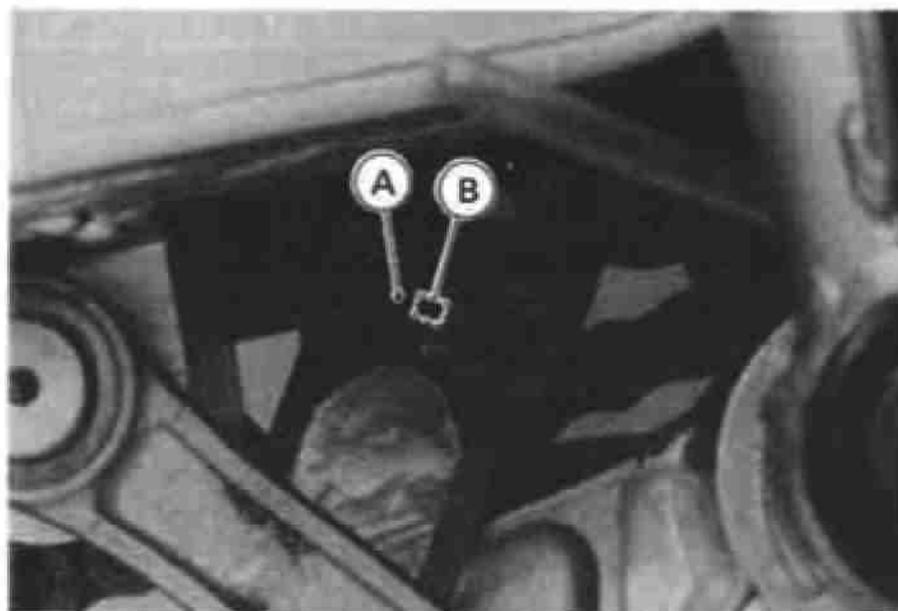


- A. Hook Wrenches
- B. Locknut
- C. Adjusting Nut

- Tighten the locknut.
- Install the reserve tank.

#### *Rebound Damping Force Adjustment*

The rebound damping force adjuster on the bottom of the rear shock absorber has 4 positions. The numbers on the adjuster show the setting position.



- A. Rebound Damping Force Adjuster
- B. Number

- Turn the adjuster until the desired number faces outward with a click in accordance with the following table:

Position	I	II	III	IIII
Rebound Damping Force	→ Larger			

## NOTE

- *When adjusting the rebound damping force, remove the cover and turn the adjuster to the desired number until you feel a click.*

### *Rear Shock Absorber Setting*

To obtain stable handling and a suitable ride, adjust the spring preload or rebound damping force for different road and loading conditions as indicated. For instance, the initial setting (spring position is the softest; rebound damping force adjuster position is 1) is softest and designed for an average-build rider of 68 kg (150 lb) with no passenger and no accessories. Ordinarily, the heavier the total load becomes, the harder the suspension should be set.

## Wheels

### Tires:

#### *Payload and Tire Pressure*

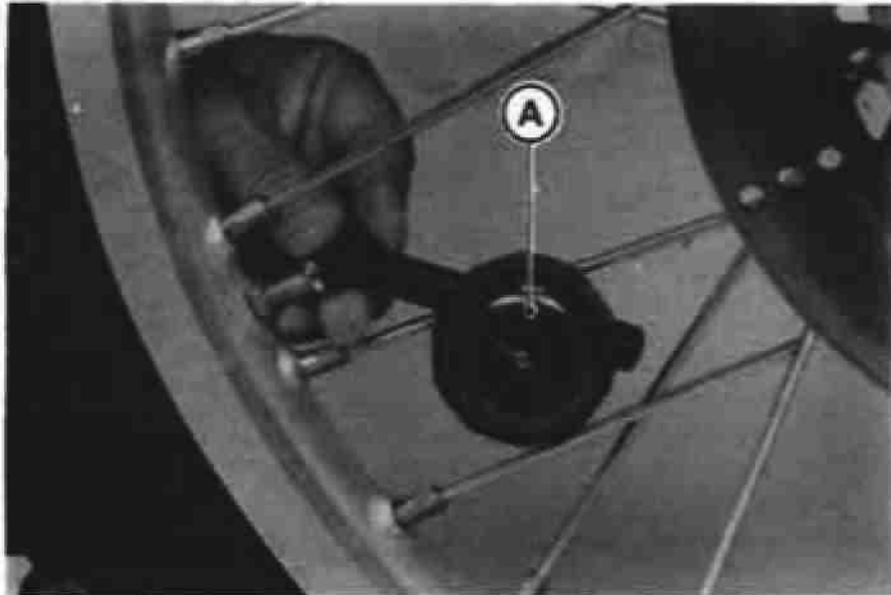
Failure to maintain proper inflation pressures or observe payload limits for your tires may adversely affect handling and performance of your motorcycle and can result in loss of control. The maximum recommended load in addition to vehicle weight is 150 kg (330 lb), including rider, passenger, baggage, and accessories.

- Check the tire pressure often, using an accurate gauge.

## NOTE

- *Measure the tire pressure when the tires are cold (that is, when the motorcycle has not been ridden more than a mile during the past 3 hours).*
- *Tire pressure is affected by changes in ambient temperature and altitude, and so the tire pressure should be checked and adjusted when your riding in-*

*volves wide variations in temperature or altitude.*



**A. Tire Pressure Gauge**

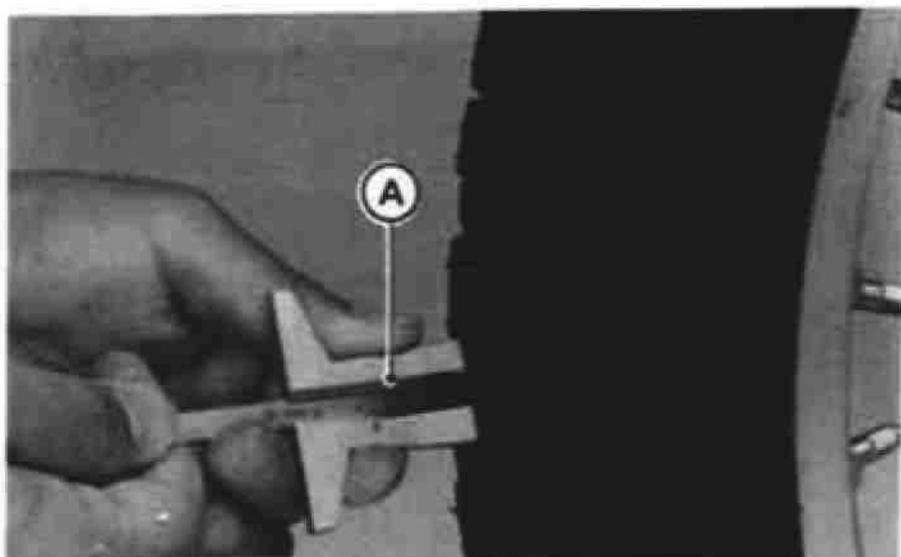
### Tire Air Pressure (when cold)

Front	150 kPa (1.5 kg/cm <sup>2</sup> , 21 psi)	
Rear	Up to 97.5 kg (215 lb) load	150 kPa (1.5 kg/cm <sup>2</sup> , 21 psi)
	97.5 ~ 150 kg (215 ~ 330 lb) load	175 kPa (1.75 kg/cm <sup>2</sup> , 25 psi)

### *Tire Wear, Damage*

As the tire tread wears down, the tire becomes more susceptible to puncture and failure. An accepted estimate is that 90% of all tire failures occur during the last 10% of tread life (90% worn). So it is false economy and unsafe to use the tires until they are bald.

- In accordance with the Periodic Maintenance Chart, measure the depth of the tread with a depth gauge, and replace any tire that has worn down to the minimum allowable tread depth.



**A. Tire Depth Gauge**

### Minimum Tread Depth

Front and Rear	2 mm (0.08 in)
----------------	----------------

- Visually inspect the tire for cracks and cuts, replacing the tire in case of bad damage. Swelling or high spots indicate internal damage, requiring tire replacement.
- Remove any imbedded stones or other foreign particles from the tread.

## NOTE

- Most countries may have their own regulations requiring a minimum tire tread depth; be sure to follow them.
- Have the wheel balance inspected whenever a new tire is installed.

### ⚠ WARNING

**To ensure safe handling and stability, use only the recommended standard tires for replacement, inflated to the standard pressure.**

### Standard Tire

Front	3.00-21 4PR
	○ DUNLOP K750A ○ DUNLOP TRAIL MAX
Rear	4.60-17 4PR
	○ DUNLOP K750A ○ DUNLOP TRAIL MAX

## **⚠ WARNING**

**New tires are slippery and may cause loss of control and injury.**

**A break-in period of 160 km (100 miles) is necessary to establish normal tire traction. During break-in, avoid sudden and maximum braking and acceleration, and hard cornering.**

## **Battery**

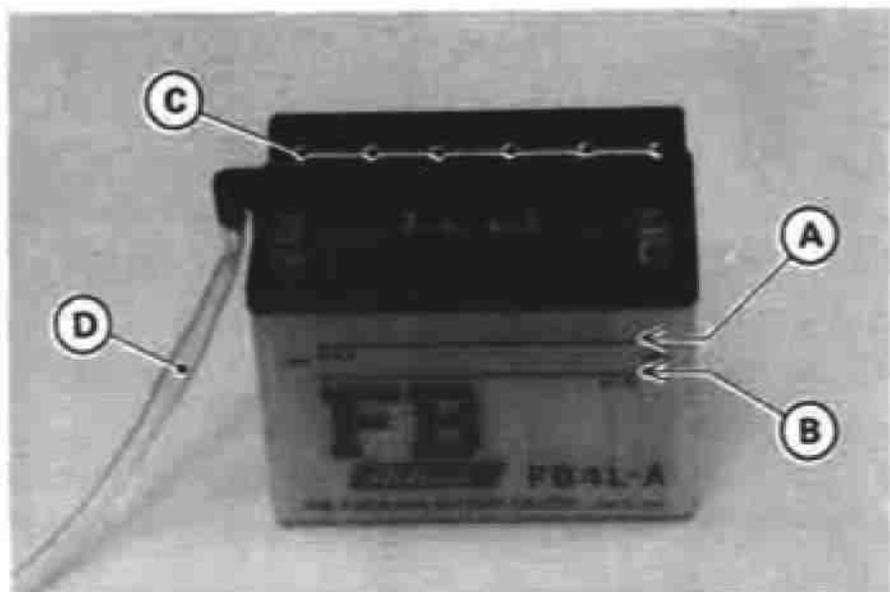
### *Battery Electrolyte Level Inspection*

The battery electrolyte level must be kept between the upper and lower level lines. Check the electrolyte level in each cell in accordance with the Periodic Maintenance Chart.

- Remove the battery from the motorcycle (see Battery Removal).
- Check that the electrolyte level in each cell is between the upper and lower level lines.
- If the electrolyte level is low in any cell, fill with distilled water as follows.
- Remove the battery filler caps and fill with distilled water until the electrolyte level in each cell reaches the upper level line.

## **CAUTION**

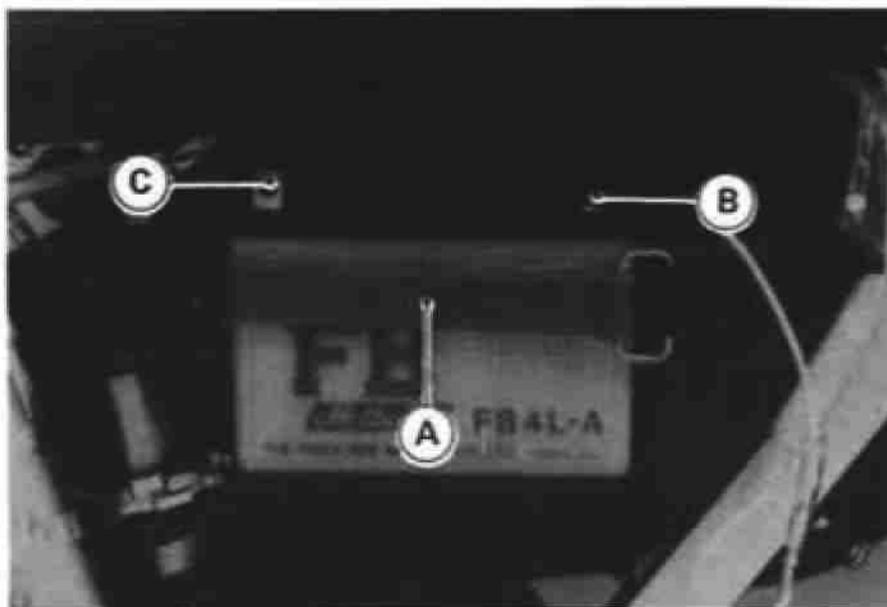
**Add only distilled water to the battery. Ordinary tap water is not a substitute for distilled water and will shorten the life of the battery.**



- A. Upper Level Line
- B. Lower Level Line
- C. Filler Caps
- D. Battery Vent Hose

#### *Battery Removal*

- Remove the left side cover.
- Unhook the rubber band.



- A. Rubber Band
- B. (+) Terminal
- C. (-) Terminal

- Disconnect the leads from the battery, first from the (-) terminal and then the (+) terminal.
- Take the battery out of the case.
- Clean the battery using a solution of baking soda and water. Be sure that the lead connections are clean.

### *Battery Installation*

- Put the battery in the battery case, and route the battery vent hose as shown on the caution label.
- Hook the rubber band.
- Connect the capped lead to the (+) terminal, and then connect the black/yellow lead to the (-) terminal.
- Put a light coat of grease on the terminals to prevent corrosion.
- Cover the (+) terminal with its protective cap.

### **CAUTION**

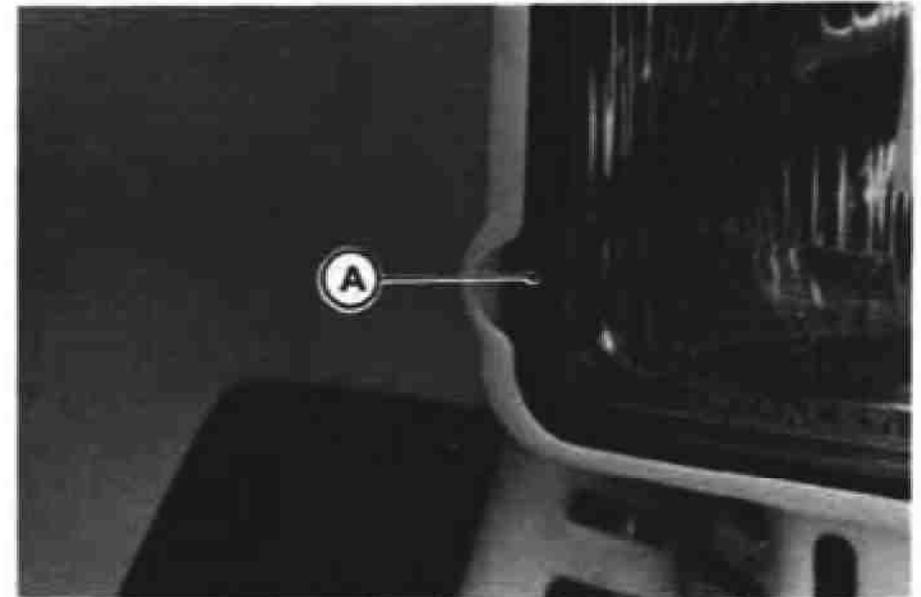
**Make sure the battery vent hose is kept away from the drive system and exhaust system. Battery electrolyte can corrode and dangerously weaken the drive system. Do not let the vent hose become folded, pinched, or melted by the exhaust system. An unvented battery will not keep a charge and it may crack from built-up gas pressure.**

### **Headlight Beam**

#### *Horizontal Adjustment*

The headlight beam is adjustable horizontally. If not properly adjusted horizontally, the beam will point to one side rather than straight ahead.

- Turn the adjusting screw on the headlight rim in or out until the beam points straight ahead. Turning the adjusting screw clockwise makes the headlight beam point to the right.



**A. Adjusting Screw**

### *Vertical Adjustment*

The headlight beam is adjustable vertically. If adjusted too low, neither low nor high beam will illuminate the road far enough ahead. If adjusted too high, the high beam will fail to illuminate the road close ahead, and the low beam will blind oncoming drivers.

- Loosen the lower headlight bolt through the leftmost vertical slit in the headlight cover.
- Adjust the headlight vertically.



**A. Slit**

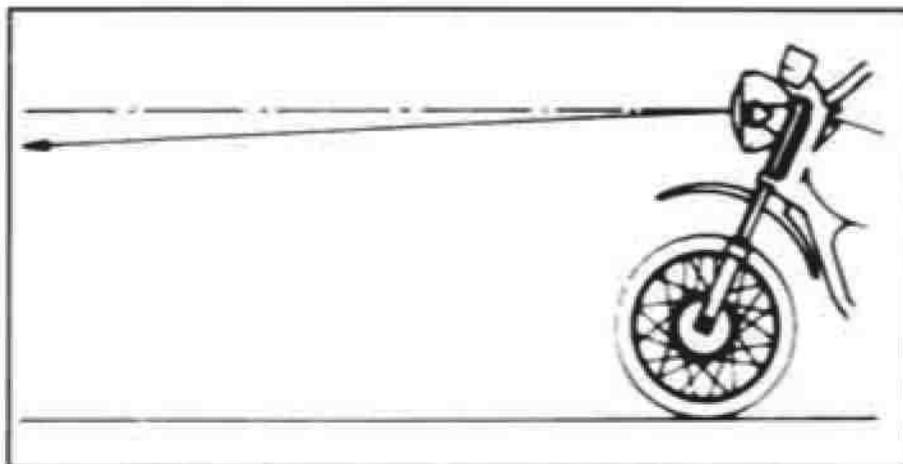


**A. Headlight Bolt**

- Tighten the lower headlight bolt.

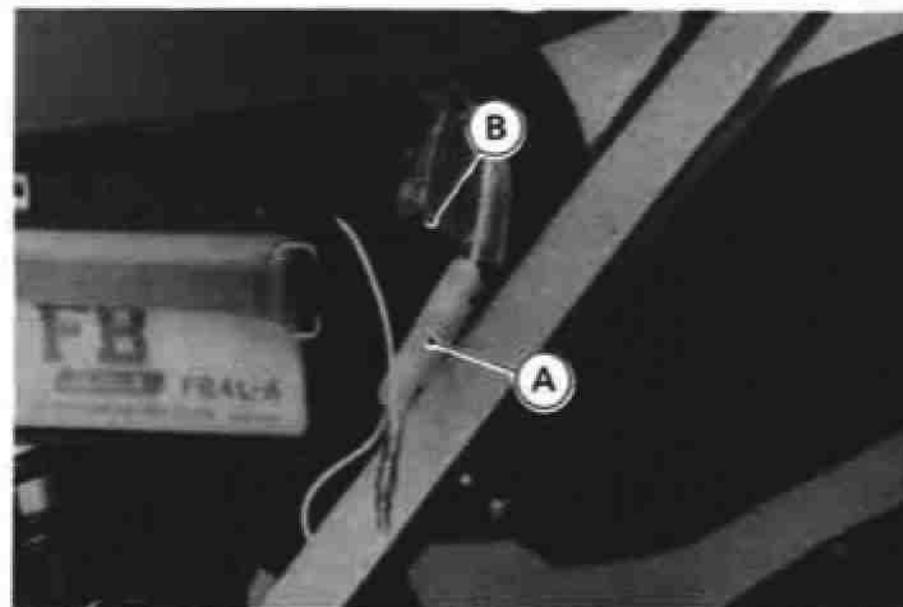
### **NOTE**

- *On high beam, the brightest point should be slightly below horizontal with the motorcycle on its wheels and rider seated. Adjust the headlight to the proper angle according to local regulations.*



## Fuses

The fuse case is located behind the left side cover. If a fuse fails during operation, inspect the electrical system to determine the cause, and then replace it with a new fuse of proper amperage.



A. Fuse Case

B. Spare Fuse

**⚠ WARNING**

**Do not use any substitute for the standard fuse.**

**Replace the blown fuse with a new one of the correct capacity.**

## **Fuel System**

Accumulation of moisture or sediment in the fuel system will restrict the flow of fuel and cause carburetor malfunction.

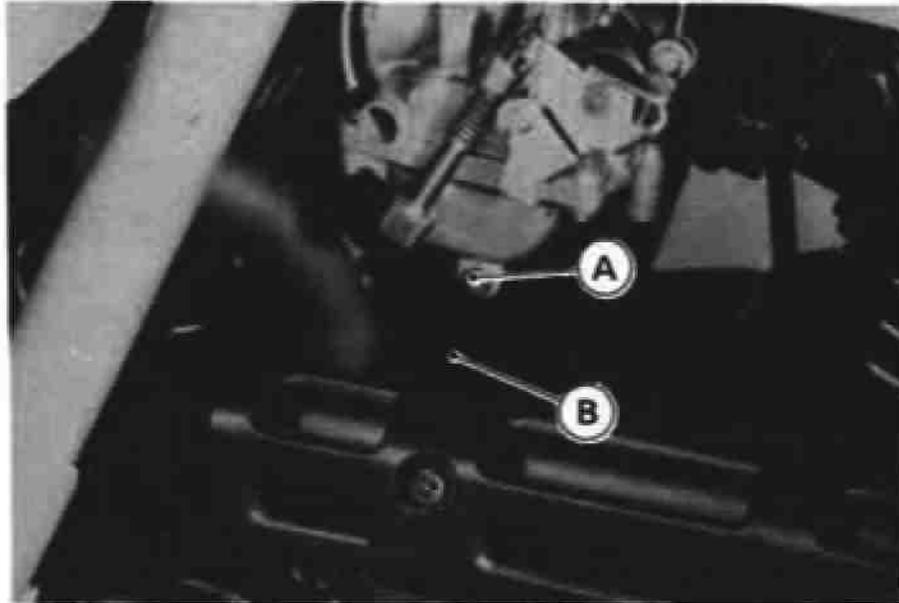
**⚠ WARNING**

**Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition key to "OFF". Do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light. Make sure the engine is cold before working. Wipe any fuel off the engine before starting it.**

### *Inspection*

- Turn the fuel tap lever to the ON position.

- Run the lower end of the drain hose into a suitable container.
- Turn out the drain screw a few turns to drain the carburetor, and check to see if water or dirt has accumulated in the carburetor.



**A. Drain Screw      B. Overflow Hose**

- Tighten the drain screw.

## **NOTE**

- *If any water or dirt appears during the above operation, have the fuel system checked by an authorized Kawasaki dealer.*

## **Cleaning Your Motorcycle**

### *General Precautions*

Frequent and proper care of your Kawasaki motorcycle will enhance its appearance, optimize overall performance, and extend its useful life. Covering your motorcycle with a high quality, breathable motorcycle cover will help protect its finish from harmful UV rays, pollutants, and reduce the amount of dust reaching its surfaces.

- Be sure the engine and exhaust are cool before washing.
- Avoid applying degreaser to seals, brake pads, and tires.
- Always use non-abrasive wax and cleaner/polisher.
- Avoid all harsh chemicals, solvents, detergents, and household cleaning products such as ammonia-based window cleaners.
- Gasoline, brake fluid, and coolant will damage the finish of painted and plastic surfaces: wash them off immediately.

- Avoid wire brushes, steel wool, and all other abrasive pads or brushes.
- Use care when washing the plastic parts as they can easily be scratched.
- Avoid using pressure washers; water can penetrate seals and electrical components and damage your motorcycle.
- Avoid spraying water in delicate areas such as in air intakes, carburetors, brake components, electrical components, muffler outlets, and fuel tank openings.

### *Washing Your Motorcycle*

- Rinse your bike with cold water from a garden hose to remove any loose dirt.
- Mix a mild neutral detergent (designed for motorcycles or automobiles) and water in bucket. Use a soft cloth or sponge to wash your motorcycle. If needed, use a mild degreaser to remove any oil or grease build up.
- After washing, rinse your motorcycle thoroughly with clean water to remove

any residue (residue from the detergent can damage parts of your motorcycle).

- Use a soft cloth to dry your motorcycle. As you dry, inspect your motorcycle for chips and scratches. Do not let the water air dry as this can damage the painted surfaces.
- Start the engine and let it idle for several minutes. The heat from the engine will help dry moist areas.
- Carefully ride your motorcycle at a slow speed and apply the brakes several times. This helps dry the brakes and restores them to normal operating performance.
- Lubricate the drive chain to prevent rusting.

### **NOTE**

- *After riding in an area where the roads are salted or near the ocean, immediately wash your motorcycle with cold water. Do not use warm water as it accelerates the chemical reaction of the salt. After*

*drying, apply a corrosion protection spray on all metal and chrome surfaces to prevent corrosion.*

### *Painted Surfaces*

After washing your motorcycle, coat painted surfaces, both metal and plastic, with a commercially available motorcycle/automotive wax. Wax should be applied once every three months or as conditions require. Avoid surfaces with “satin” or “flat” finishes. Always use nonabrasive products and apply them according to the instructions on the container.

### *Plastic Parts*

After washing use a soft cloth to gently dry plastic parts. When dry, treat the non-painted plastic parts with an approved plastic cleaner/polisher product.

## CAUTION

Plastic parts may deteriorate and break if they come in contact with chemical substances or household cleaning products such as gasoline, brake fluid, window cleaners, thread-locking agents, or other harsh chemicals. If a plastic part comes in contact with any harsh chemical substance, wash it off immediately with water and a mild neutral detergent, and then inspect for damage. Avoid using abrasive pads or brushes to clean plastic parts, as they will damage the part's finish.

### *Chrome and Aluminum*

Chrome and uncoated aluminum parts can be treated with a chrome/aluminum polish. Coated aluminum should be washed with a mild neutral detergent and finished with a spray polish. Aluminum wheels, both painted and unpainted can be cleaned with special non-acid based wheel spray cleaners.

### *Leather, Vinyl, and Rubber*

If your motorcycle has leather accessories, special care must be taken. Use a leather cleaner/treatment to clean and care for leather accessories. Washing leather parts with detergent and water will damage them, shortening their life.

Vinyl parts should be washed with the rest of the motorcycle, then treated with a vinyl treatment.

The sidewalls of tires and other rubber components should be treated with a rubber protectant to help prolong their useful life.

## ▲WARNING

Special care must be taken not to get any rubber protectant on the tire's tread surface when treating tires. This may decrease the tire's ability to maintain contact with the road surface causing the rider to lose control.



- Remove the empty fuel tank, pour about 250 mL (½ pint) of motor oil into the tank, roll the tank around to coat the inner surfaces thoroughly, and pour out the excess oil.
- Remove the spark plug and spray fogging oil directly into the cylinder. Kick the engine over slowly a few times to coat the cylinder walls. Install the spark plug.

**▲WARNING**

**Do not lean over the engine when performing this procedure. An air/oil mist may be forcibly ejected from the spark plug holes and could get into your eyes. If you do get some in your eyes, wash your eyes immediately with liberal amounts of clean, fresh water. Consult a physician as soon as possible.**

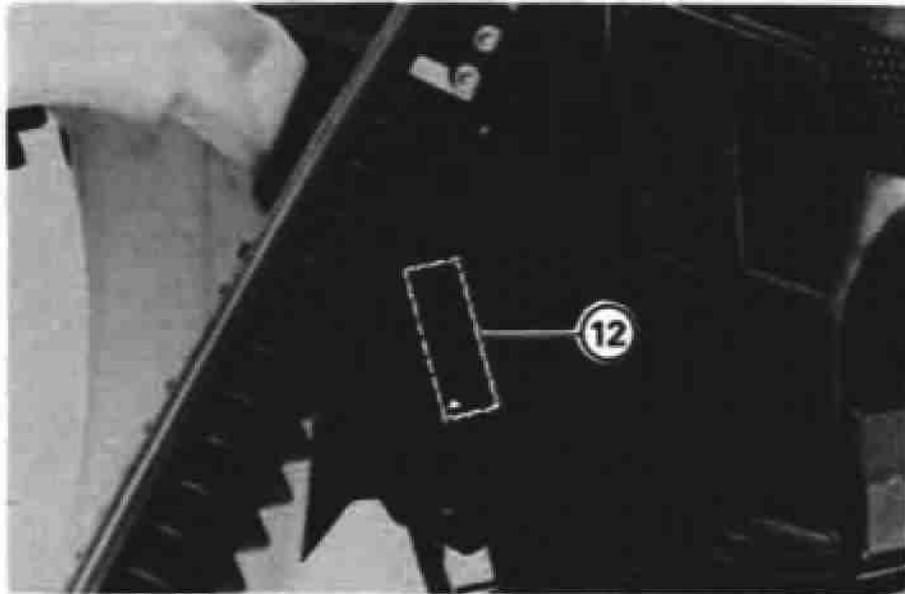
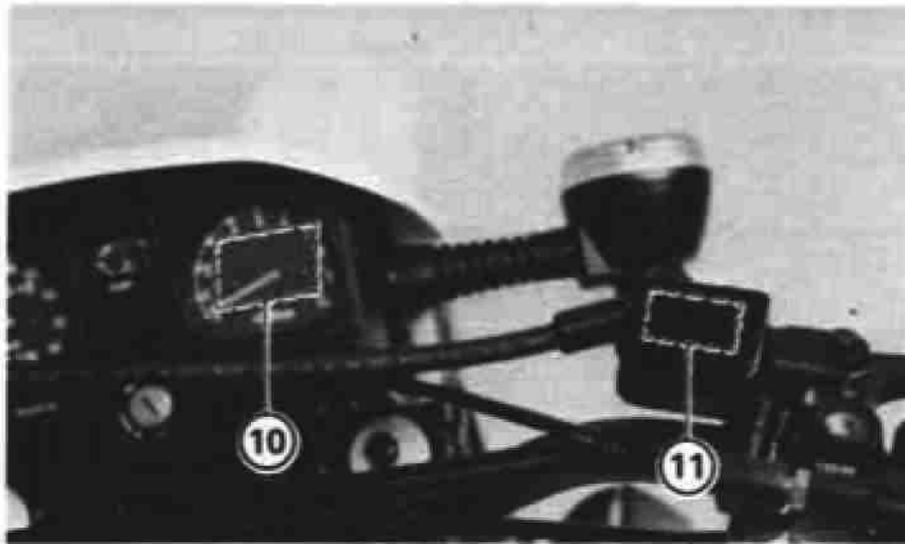
- Reduce tire pressure by about 20%.
- Set the motorcycle on a box or stand so that both wheels are raised off the ground. (If this cannot be done, put boards under the front and rear wheels to keep dampness away from the tire rubber.)
- Spray oil on all unpainted metal surfaces to prevent rusting. Avoid getting oil on rubber parts or in the brakes.
- Lubricate the drive chain and all the cables.

- Remove the battery, and store it where it will not be exposed to direct sunlight, moisture, or freezing temperatures. During storage it should be given a slow charge (one ampere or less) about once a month. Keep the battery well charged during cold weather so that the electrolyte does not freeze and crack open the battery. The more discharged the battery becomes, the more easily it freezes.
- Tie a plastic bag over the muffler to prevent moisture from entering.
- Put a cover over the motorcycle to keep dust and dirt from collecting on it.

**Preparation for after Storage:**

- Remove the plastic bag from the muffler.
- Check the electrolyte level in the battery, charge the battery if necessary, and install it in the motorcycle. Be careful that the battery vent hose is not pinched and that it is routed away from the chain.
- Make sure the spark plug is tight.
- Fill the fuel tank with fuel.
- Check all the points listed in the Daily Safety Checks section.
- Lubricate the pivots, bolts and nuts.





- \*\* 10. Break-In Caution
- 11. Brake Fluid (Front)
- \*\*\* 12. Noise Test Information
  
- \*\* : only on US model
- \*\*\* : only on Australia model

①

only on Australia model

# UNLEADED PETROL ONLY

②

only on California model

## CAUTION

Never fill tank so fuel level rises into filler neck. If tank is overfilled, heat may cause fuel to expand and flow into Evaporative Emission Control System resulting in hard starting and engine hesitation.

③

only on Australia model

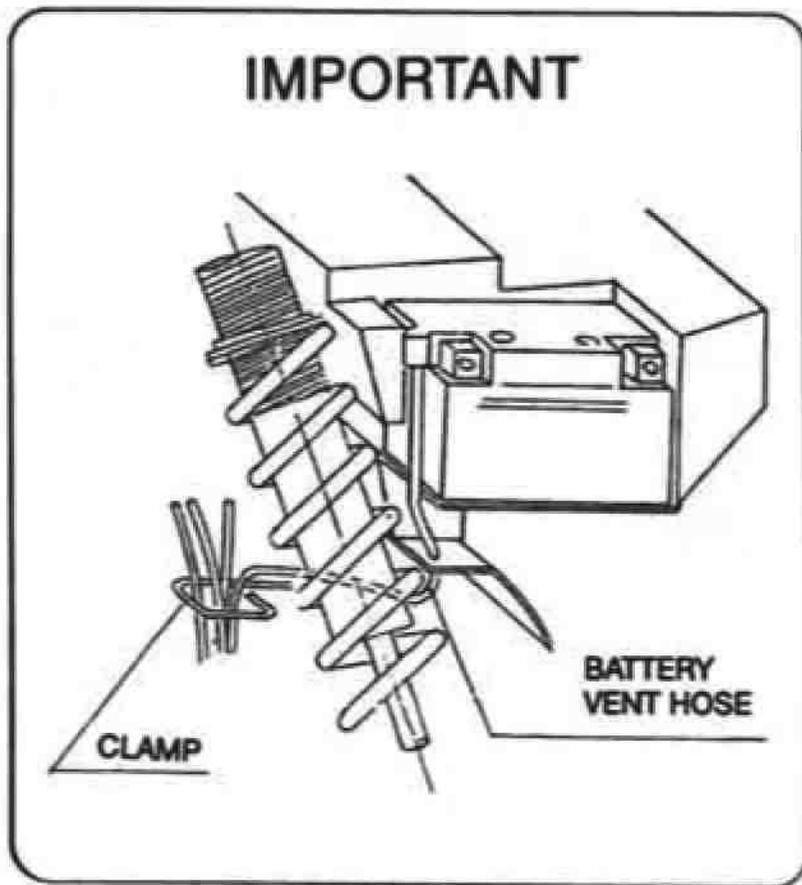
## TIRE AND LOAD DATA

The stability and handling characteristics of this motorcycle could become unsafe by the use of improper tire inflation pressures, overworn tires, unsuitable replacement tires, or overloading. When tire tread wears down to the limit, replace the tire with only the standard tire. Maintain the inflation pressure specified.

	Air Pressure(Cold)		Size & Make Type		Minimum Tread Depth
Front	Up to 150kg Load (330lbs)	150 kPa (1.50kg/cm <sup>2</sup> /28psi)	3.00-21 4PR DUNLOP TRAIL MAX	3.00-21 4PR DUNLOP K750A	2 mm(0.08in)
Rear	Up to 97.5kg Load (215lbs)	150 kPa (1.50kg/cm <sup>2</sup> /28psi)	4.60-17 4PR DUNLOP TRAIL MAX	4.60-17 4PR DUNLOP K750A	2 mm(0.08in)
	Up to 150kg Load (330lbs)	175 kPa (1.75kg/cm <sup>2</sup> /25psi)			

4

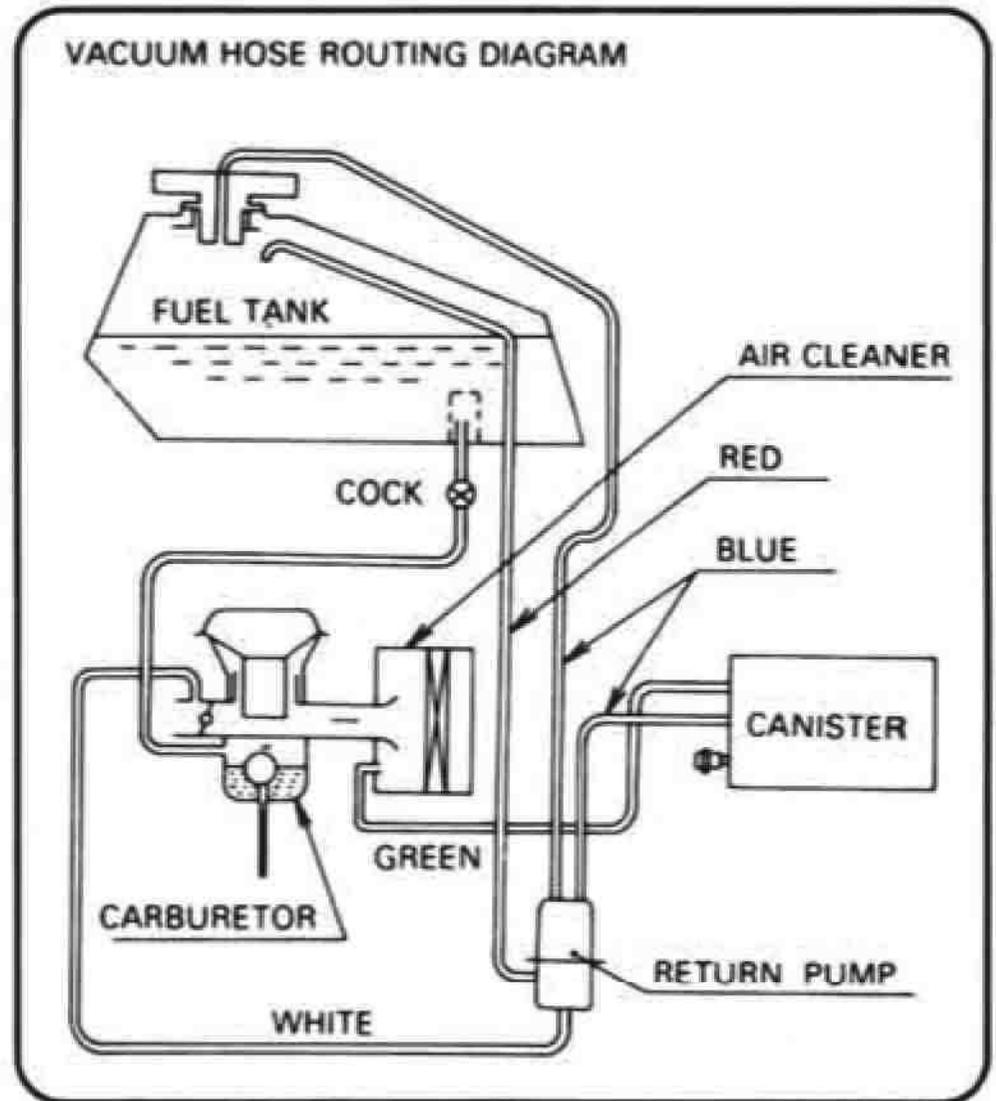
### IMPORTANT



5

only on California model

### VACUUM HOSE ROUTING DIAGRAM



6

only on US model

VEHICLE EMISSION CONTROL INFORMATION	
ENGINE FAMILY CODE -----	_____
MODEL(S) -----	_____
EXHAUST EMISSION CONTROL SYSTEM -----	_____
DISPLACEMENT -----	_____
TUNE UP SPECIFICATIONS	
IGNITION TIMING	10° BTDC AT 1300 RPM
IDLE SPEED	1300 ± 100 RPM IN NEUTRAL
IDLE AIR FUEL MIXTURE SETTING	NO ADJUSTMENT
VALVE CLEARANCE (ENGINE COLD)	INTAKE : 0.20 - 0.24 MM (0.008 - 0.009 IN) EXHAUST : 0.20 - 0.24 MM (0.008 - 0.009 IN)
SPARK PLUG	DPR9EA-9 (NGK) SPARK PLUG GAP : 0.8 - 0.9 MM X27EPR-U9 (DENSO) (0.032 - 0.036 IN)
FUEL	GASOLINE WITH RESEARCH OCTANE NO. (RON) 91 MIN.
ENGINE OIL	SERVICE RATING : API SE, SF OR SG API SH OR SJ WITH JASO MA VISCOSITY :SAE 10W-40 SEE THE OWNER'S MANUAL FOR OIL INFORMATION.
THIS VEHICLE CONFORMS TO USEPA REGULATIONS APPLICABLE TO XXXX MODEL YEAR NEW MOTORCYCLES. KAWASAKI HEAVY INDUSTRIES, LTD.	



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only on California model

VEHICLE EMISSION CONTROL INFORMATION

ENGINE FAMILY CODE -----  
EVAP. FAMILY -----  
MODEL(S) -----  
EXHAUST EMISSION CONTROL SYSTEM -----  
DISPLACEMENT -----

TUNE UP SPECIFICATIONS

IGNITION TIMING	10° BTDC AT 1300 RPM
IDLE SPEED	1300 ± 100 RPM IN NEUTRAL
IDLE AIR FUEL MIXTURE SETTING	NO ADJUSTMENT
VALVE CLEARANCE (ENGINE COLD)	INTAKE : 0.20 - 0.24 MM (0.008 - 0.009 IN) EXHAUST : 0.20 - 0.24 MM (0.008 - 0.009 IN)
SPARK PLUG	DPR9EA-9 (NGK) SPARK PLUG GAP : 0.8 - 0.9 MM X27EPR-U9 (DENSO) (0.032 - 0.036 IN)
FUEL	GASOLINE WITH RESEARCH OCTANE NO. (RON) 91 MIN.
ENGINE OIL	SERVICE RATING : API SE, SF OR SG API SH OR SJ WITH JASO MA VISCOSITY :SAE 10W-40 SEE THE OWNER'S MANUAL FOR ENGINE OIL INFORMATION.

THIS VEHICLE CONFORMS TO USEPA AND CALIFORNIA REGULATIONS  
APPLICABLE TO XXXX MODEL YEAR NEW MOTORCYCLES.  
KAWASAKI HEAVY INDUSTRIES, LTD.



7

<b>⚠ DANGER/POISON</b>			
 <b>SHIELD EYES</b> <b>EXPLOSIVE</b> GASES CAN CAUSE BLINDNESS OR INJURY	 <b>NO</b> • SPARKS • FLAMES • SMOKING	 <b>SULFURIC ACID</b> CAN CAUSE BLINDNESS OR SEVERE BURNS	<b>FLUSH EYES IMMEDIATELY WITH WATER</b>  <b>GET MEDICAL HELP FAST</b>
<b>KEEP OUT OF REACH OF CHILDREN</b>			 <b>LEAD</b> <b>RETURN</b> <b>RECYCLE</b> <b>Pb</b>
IN U.S.A.,      YUASA INC. SERVICED BY :      READING, PA. 19612			
     			

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### ENGINE OIL AND OIL FILTER

Engine Oil Change --- when filter is not removed: 1.7 liters (1.8 US qt)  
when filter is removed : 2.0 liters (2.1 US qt)

Engine Oil Type : API SE, SF or SG  
: API SH or SJ with JASO MA  
SAE10W-40

See Owner's Manual for engine oil / filter information and change intervals.

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### IMPORTANT DRIVE CHAIN INFORMATION

To prevent an accident and/or damage to the motorcycle, the drive chain must be properly maintained. It should be lubricated every 600km(400mi) and adjusted as often as necessary to keep chain slack at about 20~35mm(0.8~1.4in) measured midway between sprockets on the lower chain run with the motorcycle on the side stand. The standard chain is an Enuma EK520L-0 with estimated service life of 10000~40000km(6,200~25,000mi), depending on the severity of use and the frequency of lubrication and adjustment. For safety, replace the chain with only the standard chain any time it wears to over 323mm(12.7in), measured over a 20-link portion pulled straight with 10kg of tension. See the Owner's Manual for chain information.

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only on US model

### **BREAK-IN CAUTION**

To ensure proper vehicle performance, do not exceed the break-in limits shown on this tachometer.

0-500 mile ) 4,000 rpm  
0-800 km

500-1,000 mile ) 6,000 rpm  
800-1,600 km

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**USE ONLY DOT3 OR 4 BRAKE  
FLUID FROM A SEALED CONTAINER.  
CLEAN FILLER CAP  
BEFORE REMOVING.**

### **WARNING**

**UTILISER DU LIQUIDE  
DE FREIN DOT3 OU 4.**

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STATIONARY NOISE TEST INFORMATION  
TESTED 89.0 DB(A) AT 4500 R/MIN  
SILENCING SYSTEM : KAWASAKI HEAVY  
INDUSTRIES, LTD.  
IDENTIFICATION : K 246



# KL250-D22



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**KAWASAKI HEAVY INDUSTRIES, LTD.**  
Consumer Products & Machinery Company

**Part No.99986-1236**

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