Kawasaki

EL 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.

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 & COMPONENTS GROUP

Dec. 1990. (1). (M)

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SPECIFICATIONS

PERFORMANCE		
Maximum Horsepower		19.9 kW (27 PS) @11,800 r/min (rpm)
Maximum Torque		17.5 N-m (1.78 kg-m, 12.9 ft-lb) @9,800 r/min (rpm)
Minimum Turning Radius		2.8 m (110.2 in)
DIMENSIONS		
Overall Length		2,240 mm (88.19 in.)
Overall Width		765 mm (30.12 in.)
Overall Height		1,100 mm (43.31 in.)
Wheelbase		1,490 mm (58.66 in.)
Road Clearance		150 mm (5.91 in.)
Dry Weight		147 kg (324 lb)
ENGINE		
Type		DOHC, 2-cylinder, 4-stroke, liquid-cooled
Displacement		248 mL (15.1 cu in.)
Bore x Stroke		62.0 x 41.2 mm (2.44 x 1.62 in.)
Compression Ratio		12.0 : 1
Starting System		Electric starter
Cylinder Numbering Method		Left to right, 1-2
Firing Order		1-2
Carburetors		Keihin CVK30 x 2
Ignition System		Battery and coil (transistorized ignition)
Ignition Timing		10° BTDC @1,300 r/min (rpm)
(Electronically advanced)		~ 42° BTDC @4,500 r/min (rpm)
Spark Plugs		NGK CR8HSA or ND U24FSR-U
Lubrication System		Forced lubrication (wet sump)
Engine Oil		SE or SF class SAE 10W40, 10W50, 20W40, or 20W50
Engine Oil Capacity		1.9 L (2.0 US qt)
Coolant Capacity		1.0 L (1.1 US qt)
TRANSMISSION		
Transmission Type		6-speed, constant mesh, return shift
Clutch Type		Wet, multi disc
Driving System		Chain drive
Primary Reduction Ratio		3.458(83/24)
Final Reduction Ratio		3.142 (44/14)
Overall Drive Ratio		9.704 (Top gear)
Gear Ratio:	1st	2.600 (39/15)
	2nd	1.789 (34/19)
	3rd	1.409 (31/22)
	4th	1.160 (29/25)
	5th	1.000 (27/27)
	6th	0.892 (25/28)

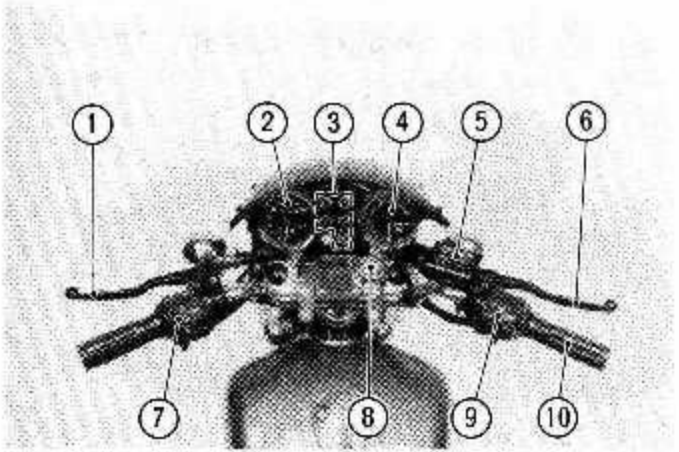
FRAME

Castor		29°
Trail		112 mm (4.41 in.)
Tire Size:	Front	100/90-17 55S Tubeless
	Rear	140/90-15 M/C 70S Tubeless
Fuel Tank Capacity		11.0 L (2.9 US gal)

ELECTRICAL EQUIPMENT

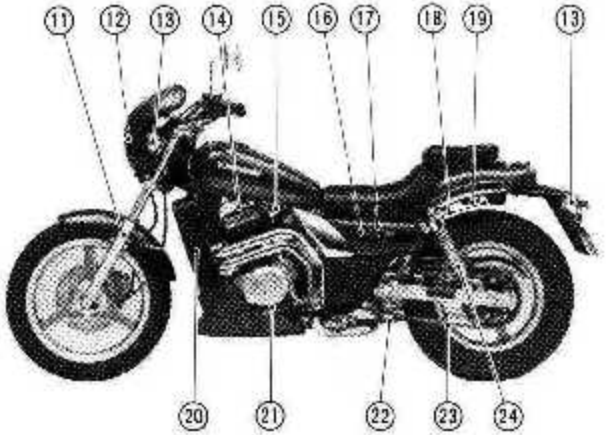
Battery	12 V 8 Ah
Headlight	12 V 60/55 W
Tail/Brake Light	12 V 5/21 W
Turn Signal Light	12 V 21 W

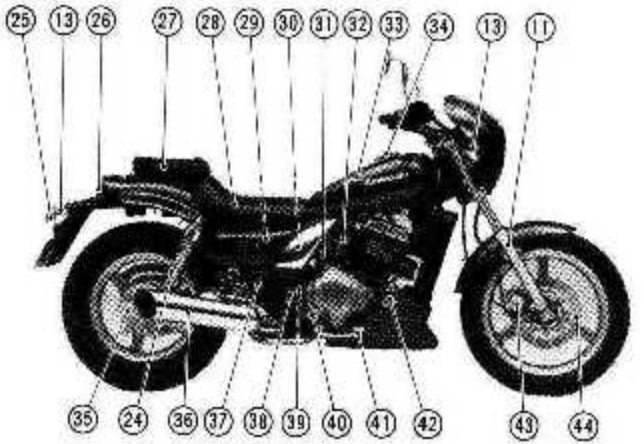
Specifications subject to change without notice.



1. Clutch Lever
2. Speedometer
3. Indicator Lights
4. Tachometer
5. Brake Fluid Reservoir (Front)
6. Front Brake Lever
7. Left Handlebar Switches
8. Ignition Switch/Steering Lock
9. Right Handlebar Switches
10. Throttle Grip

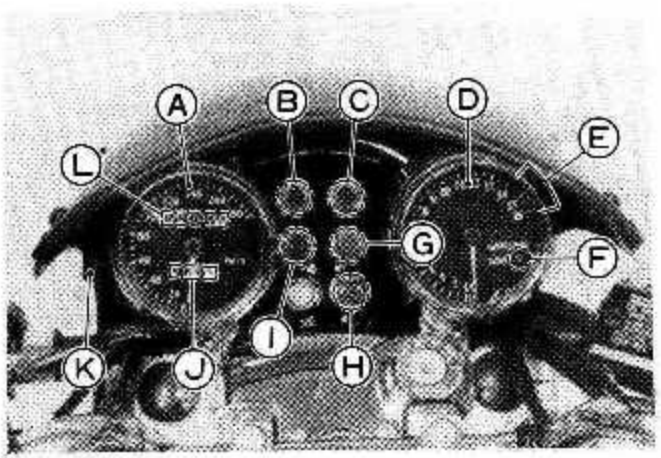
11. Front Fork
12. Headlight
13. Turn Signal Light
14. Spark Plugs
15. Fuel Tap
16. Junction Box (Fuses)
17. Air Cleaner
18. Tying Hooks
19. Helmet Hook
20. Radiator
21. Shift Pedal
22. Side Stand
23. Drive Chain
24. Rear Shock Absorber





25. Tail/Brake Light
26. License Plate Light
27. Passenger's Seat
28. Rider's Seat
29. Battery
30. Main Fuse
31. Idle Adjusting Screw
32. Carburetors
33. Fuel Tank
34. Fuel Tank Cap
35. Brake Lining Wear Indicator
36. Muffler
37. Tool Kit
38. Coolant Reserve Tank
39. Rear Brake Light Switch
40. Oil Level Gauge
41. Rear Brake Pedal
42. Horn
43. Brake Caliper
44. Brake Disc

Meter Instruments



A. Speedometer
B. Left Turn Signal Indicator Light
C. Right Turn Signal Indicator Light
D. Tachometer
E. Red Zone
F. Coolant Temperature Warning Light
G. High Beam Indicator Light
H. Oil Pressure Warning Light
I. Neutral Indicator Light
J. Trip Meter
K. Reset Knob
L. Odometer

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.

Indicator Lights

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

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

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

OIL: The oil pressure warning light goes on whenever the oil pressure is dangerously low or the ignition switch is in the ON position with the engine not running, and goes off when the engine oil pres-

sure is high enough. Refer to the Maintenance and Adjustment chapter for more detailed engine oil information.

TEMP: The coolant temperature warning light (LED-Light Emitting Diode) goes on when the ignition switch is turned on and goes off soon after the engine starts running to ensure that its circuit functions properly. The warning light also goes on whenever the coolant temperature rises to 120°C or higher when the motorcycle is in operation. If it stays on, 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 warning light goes on. Prolonged engine operation will result in severe damage from overheating.

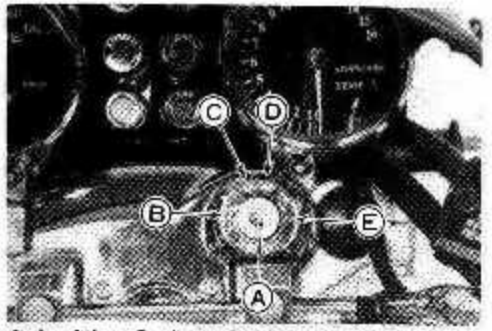
Key

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

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.



A. Ignition Switch/Steering Lock
B. LOCK position
C. OFF position
D. ON position
E. P (Park) position

OFF	Engine off. All electrical circuits off.
ON	Engine on. All electrical equipment can be used.
LOCK	Steering locked. Engine off. All electrical circuits off.
P(Park)	Steering locked. Engine off. City, tail and license plate lights on. All other electrical circuits cut off.

NOTE

○ If you leave the PARK position on for a long time (one hour), the battery may become totally discharged.

To operate the ignition switch:

OFF ⟷ ON [2 a] P(PARK)

[2 b] LOCK

1. Turn the handlebar fully to the left.
2. a. For parking push down the key in the ON position and turn it to P (Park).
   b. For locking push down the key in the OFF position and turn it to LOCK.

Right Handlebar Switches

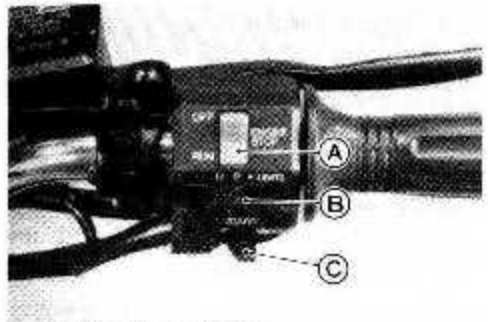
Engine Stop Switch

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 the OFF position.

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
B. Headlight Switch
C. Starter Button

Starter Button

The starter button operates the electric starter when pushed with the clutch lever pulled in or the transmission in neutral.

Refer to the Starting the Engine section of the "How to Ride the Motorcycle" chapter for starting instructions.

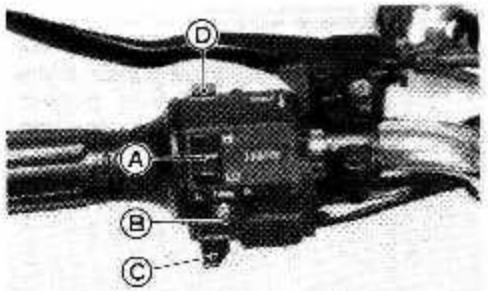
Headlight Switch

○	The headlight is off with the switch in the ○ position.
P	The city, tail, license plate and meter lights come on if the switch is pushed to the **P** position with the ignition switch in the ON position
H	The head, city, tail, license plate and meter lights come on if the switch is pushed forward to the **H** position with the ignition switch in the ON position.

Left Handlebar Switches

Dimmer Switch

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



A. Dimmer Switch
B. Turn Signal Switch
C. Horn Button
D. Passing Button

Turn Signal Switch

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

To stop flashing, push the switch in.

Horn Button

When the horn button is pushed, the horn sounds.

Passing Button

When the passing button is pushed, the headlight high beam (passing beam) comes on to signal the driver of the vehicle ahead that you are about to pass him. The passing light shuts off as soon as the switch released.

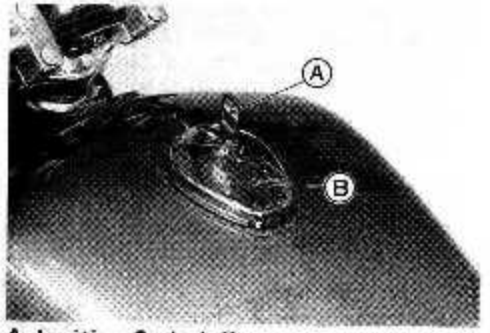
Fuel Tank Cap

To open the fuel tank cap, insert the ignition switch key into the lock 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 counterclockwise to the original position.

NOTE

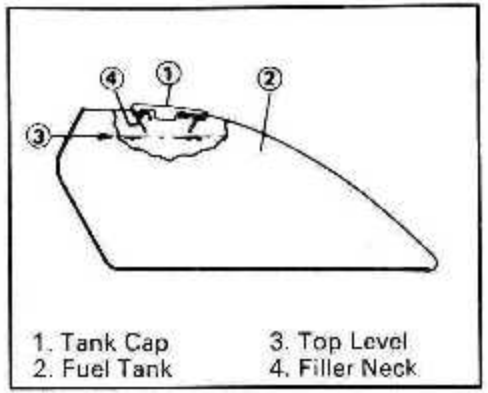
- *The tank cap cannot be closed without the key inserted, and the key cannot be removed unless the cap is locked properly.*
- *Do not push the cap down with the key, or the cap cannot be locked.*



A. Ignition Switch Key
B. Fuel Tank Cap

Fuel Tank

The following octane rating gasoline is recommended in the fuel tank. Avoid filling the tank in the rain or where heavy dust is blowing so that the fuel does not get contaminated.



1. Tank Cap
2. Fuel Tank
3. Top Level
4. Filler Neck

⚠WARNING

Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition switch 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 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. However, except for Australian models, if suitable gasoline is not available then PREMIUM, SUPER, or FOUR-STAR gasolines may be used.

⚠CAUTION

Use of leaded gasoline is illegal in some countries, states or territories. Check local regulations before using leaded gasoline.

Octane Rating

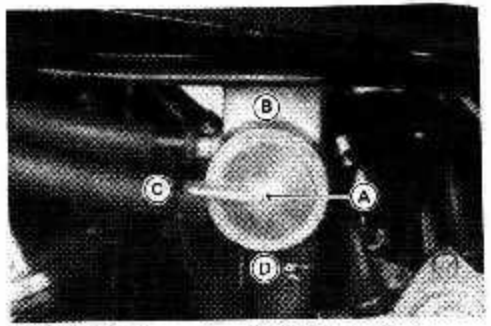
The octane rating of a gasoline is a measure of its resistance to detonation or "knocking." The term commonly used to describe a gasoline's octane rating is the Research Octane Number (RON). Always use a gasoline with an octane rating equal to, or higher than, Research Octane Number (RON) 91.

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 3.0 L (0.8 US gal) of fuel can be used by turning the fuel tap to RES.



A. Fuel Tap
B. RES position
C. OFF position
D. ON position

NOTE

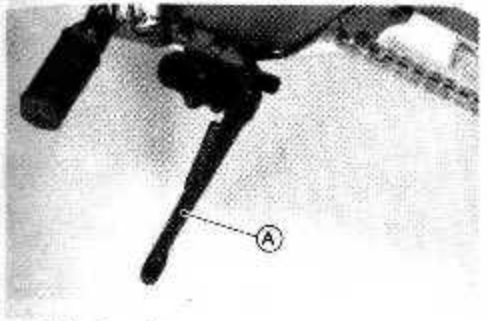
- *Since riding distance is limited when on RES, refuel at the earliest opportunity.*
- *Make certain that the fuel tap is turned to ON (Not RES) after filling up the fuel tank.*

⚠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.

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.

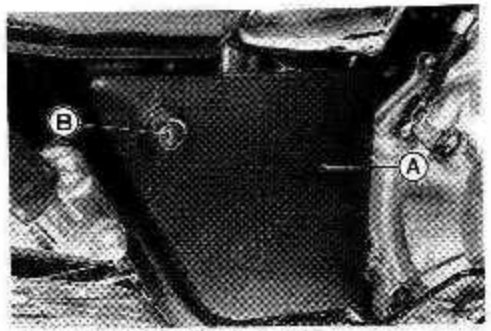
⚠WARNING

Forgetting and leaving the side stand down and riding away could cause an accident.

Seats

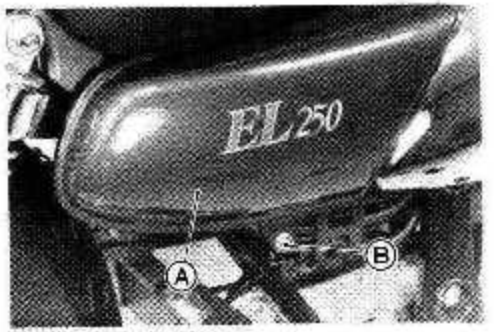
To remove the seat, follow this step.

1. Remove the left and right lower side covers (right with the ignition switch key).



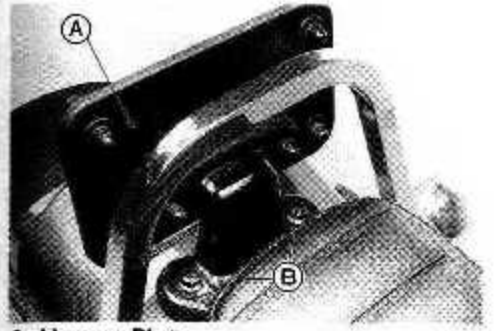
A. Right Lower Side Cover
B. Lock

2. Remove the left and right upper side covers.



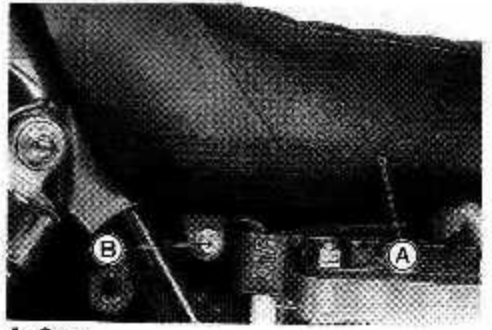
A. Upper Side Cover
B. Screw

3. Remove the license plate mounting bolts.



A. License Plate
B. Bolts

4. Pull the passenger's seat rearward a little.
5. Remove the rider's seat mounting bolts.



A. Seat
B. Bolt

6. Pull the seat up and to the rear.

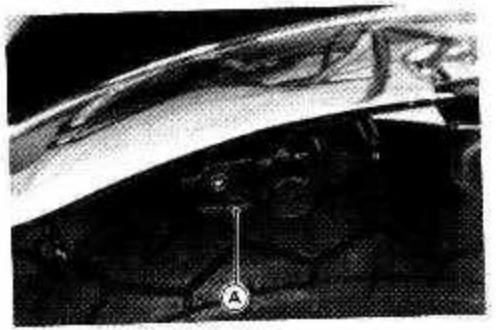
Helmet Hook

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

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

⚠WARNING

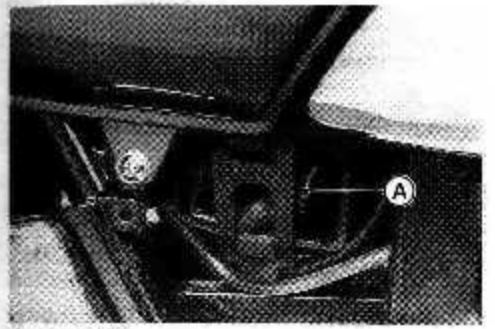
Do not ride the motorcycle with helmet attached to the hook. The helmet could cause an accident by distracting the operator or interfering with normal vehicle operation.



A. Helmet Hook

Tool Kit

The tool kit is stored under the battery case inside the right side cover secured with a rubber band. The minor adjustments and replacement of parts explained in this manual can be performed.



A. Tool Kit

Tying Hooks

When tying up light loads to the seat, use the hooks on the left and right sides of the rear fender.

A. Tying Hooks

The first 1,600 km (1,000 mi) that the motorcycle is ridden is designated as the break-in period. If the motorcycle is not used carefully during this period, you may very well end up with a "broken down" instead of a "broken in" motorcycle after a few thousand kilometers.

The following rules should be observed during the break-in period.

●The table shows maximum recommended engine speed during the break-in period.

Distance traveled	Maximum engine speed
0 ~ 800 km (0 ~ 500 mi)	4,000 r/min (rpm)
800 ~ 1,600 km (500 ~ 1,000 mi)	6,000 r/min (rpm)

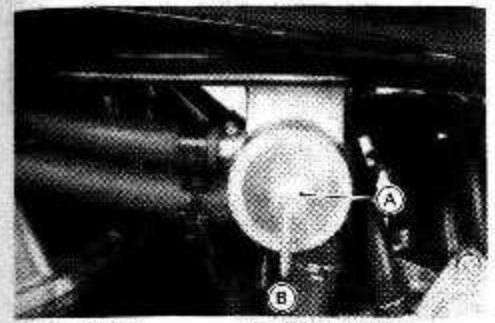
●Do not start moving or race the engine immediately after starting it, even if the engine is already warm. Run the engine for two or three minutes at idle speed to give the oil a chance to work up into all the engine parts.

●Do not race the engine while the transmission is in neutral.

In addition to the above, at 800 km (500 mi) it is extremely important that the owner have the initial maintenance service performed by an authorized Kawasaki dealer.

Starting the Engine

●Turn the fuel tap to the ON position.

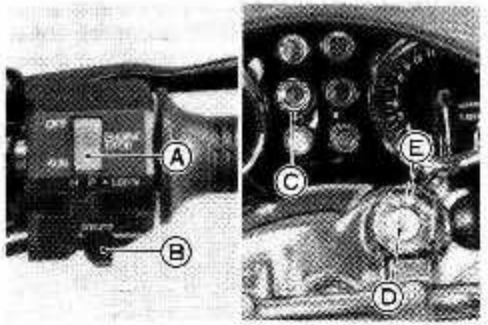


A. Fuel Tap **B. ON position**

●Check that the engine stop switch is in the RUN position.

●Turn the ignition switch on.

●Make certain the transmission is in neutral or the clutch is disengaged.

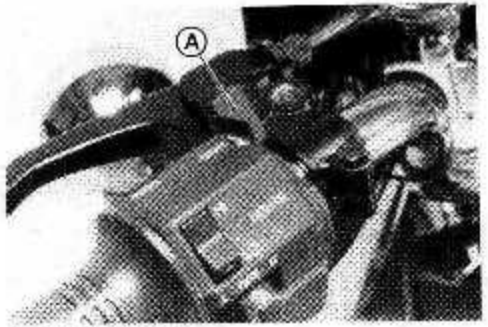


A. Engine Stop Switch
B. Starter Button
C. Neutral Indicator Light
D. Ignition Switch
E. ON position

●If the engine is cold, pull the choke lever all the way.

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.*



A. Choke Lever

● Leaving the throttle completely closed, push the starter button with the clutch lever pulled in until the engine starts.

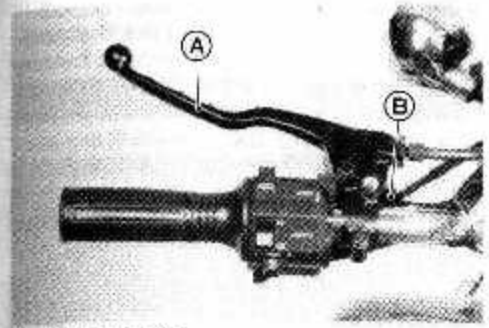
⚠CAUTION

Do not operate the starter continuously for more than 5 seconds, or the starter will overheat and the battery power will drop temporarily. Wait 15 seconds between each operation of the starter to let it cool and the battery power recover.

NOTE

○ *If the engine is flooded, crank the engine over with the throttle fully open until the engine starts.*

○ *The motorcycle is equipped with the starter lockout switch. This switch prevents the electric starter from operating when the clutch is engaged and the transmission is not in neutral.*



A. Clutch Lever
B. Starter Lockout Switch

● Gradually return the choke toward the off position a little at a time as necessary to keep the engine speed below 2,500 r/min (rpm) during warm-up.

● When the engine is warmed up enough to idle without using the choke, return the choke to the off position.

NOTE

○ *If you drive the motorcycle before the engine is warmed up, return the choke to the off position after you have driven the motorcycle for the length of time shown in the table.*

⚠CAUTION

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

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

Jump Starting

If your motorcycle battery is "run down," it should be removed and charged. If this is not practical, a 12 volt booster battery and jumper cables may be used to start the engine.

⚠WARNING

Battery acid generates hydrogen gas which is flammable and explosive under certain conditions. It is present within a battery at all times, even in a discharged condition. Keep all flames and sparks (cigarettes) away from the battery. Wear eye protection when working with a battery. In the event of battery acid contact with skin, eyes, or clothing, wash the affected areas immediately with water for at least five minutes. Seek medical attention.

Connecting Jumper Cables

- Make sure the ignition switch is turned "OFF."
- Remove the right side covers.
- Connect a jumper cable from the positive (+) terminal of the booster battery to the positive (+) terminal of the motorcycle battery.

A. Motorcycle Battery Positive (+) Terminal
B. To Booster Battery Positive (+) Terminal
C. Unpainted Metal Surface
D. To Booster Battery Negative (-) Terminal

- Connect another jumper cable from the negative (−) terminal of the booster battery to your motorcycle rear brake pedal or other unpainted metal surface. Do not use the negative (−) terminal of the battery.

⚠WARNING

Do not make this last connection at the carburetor or battery. Take care that you do not touch the positive and negative cables together, and do not lean over the battery when making this last connection. Do not jump start a frozen battery. It could explode.
Do not reverse polarity by connecting positive (+) to negative (−), or a battery explosion and serious damage to the electrical system may occur.

- Follow the standard engine starting procedure.

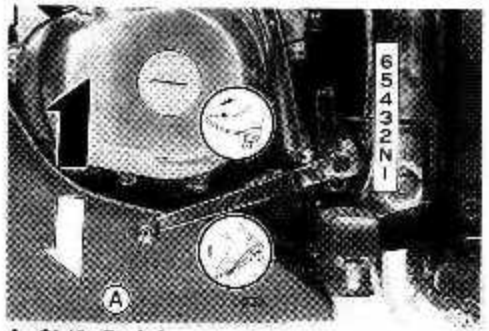
⚠CAUTION

Do not operate the starter continuously for more than 5 seconds or the starter will overheat and the battery power will drop temporarily. Wait 15 seconds between each operation of the starter to let it cool and the battery power recover.

- After the engine starts, disconnect the jumper cables. Disconnect the negative (−) cable from the motorcycle first.

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. This switch is designed so that the engine stops if the clutch is engaged with the transmission in gear when the side stand has been left down.

Shifting Gears

- Close the throttle while pulling in the clutch lever.
- Shift into the next higher or lower gear.

⚠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.

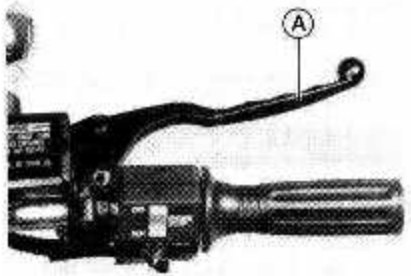
- Open the throttle part way, while releasing the clutch lever.

NOTE

○ The transmission is equipped with a positive neutral finder. When the motorcycle is standing still, the transmission cannot be shifted past neutral from 1st gear. To use the positive neutral finder, shift down to 1st gear, then lift up on the shift pedal while standing still. The transmission will shift only into neutral

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 switch off.
- Turn the fuel tap to the OFF position.
- Support the motorcycle on a firm level surface with the side stand.
- Lock the steering.

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 and insufficient riding skills can create a dangerous situation known as throttle failure. Two of the most common causes of throttle failure are:

1. During removal of the air cleaner by the owner, dirt is allowed to enter and jam the carburetor.
2. A novice may forget which direction the throttle rotates: then jerk the throttle wide open thinking he has shut it off. He may panic when the machine accelerates suddenly instead of slowing down; and "freeze," holding the throttle wide open.

In an emergency situation such as throttle failure, your motorcycle may be stopped by disengaging the clutch and applying the brakes. Once this stopping 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 switch off.
- Turn the fuel tap to the OFF position.
- 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 taillight on for greater visibility by turning the ignition switch to the P (park) position.*
- *Do not leave the switch at P position too long, or the battery will discharge.*

Daily Safety Checks

Check the following items each day before you ride. The time required is minimal, and habitual performance of these checks will help ensure you a safe, reliable ride.

If any irregularities are found during these checks, refer to the Maintenance and Adjustment chapter or see your dealer for the action required to return the motorcycle to a safe operating condition.

⚠WARNING

Failure to perform these checks every day before you ride may result in serious damage or a severe accident.

Fuel ..... Adequate supply in tank, no leaks.
Engine oil..... Oil level between level lines.
Tires..... Air pressure (when cold):

Front and Rear	200 kPa (2.0 kg/cm², 28 psi)

Drive Chain..... Slack 35 ~ 45 mm (1.4 ~ 1.8 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 pedal play 20 ~ 30 mm (0.8 ~ 1.2 in.).
Brake lining wear: Indicator within "USABLE RANGE."
Brake pad wear: Lining thickness more than 1 mm (0.04 in.) left.
No brake fluid leakage.
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).
Radiator cap ..... Properly installed.
Electrical equipment..... All lights and horn work.
Engine stop switch ..... Stops engine.
Side stand..... Returns to its fully up position by spring tension.
Return spring not weak or not damaged.

Refer to the "Daily Safety Checks" caution label attached to the rear fender under the seat.

Additional Considerations for High Speed Operation

Brakes: The importance of the brakes, especially during high speed operation, cannot be overemphasized. 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: High speed operation is hard on tires, and good tires are crucial for riding safety. Examine their overall condition, inflate to the proper pressure, and check the wheel balance.

Fuel: Have sufficient fuel for the high fuel consumption during high speed operation.

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

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

Electrical Equipment: Make certain that the headlight, tail/brake light, turn signals, horn, etc., all work properly.

Miscellaneous: Make certain that all nuts and bolts are tight and that all safety related parts are in good condition.

⚠WARNING

Handling characteristics of a motorcycle at high speeds may vary from those you are familiar with at legal highway speeds. Do not attempt high speed operation unless you have received sufficient training and have the required skills.

The maintenance and adjustments outlined in this chapter are easily carried out and must be done in accordance with the Periodic Maintenance Chart to keep the motorcycle in good running condition. The initial maintenance is vitally important and must not be neglected.

If you are in doubt as to any adjustment or vehicle operation, please ask your authorized Kawasaki dealer to check the motorcycle.

Please note that Kawasaki cannot assume any responsibility for damage resulting from incorrect maintenance or improper adjustment done by the owner.

Periodic Maintenance Chart

Operation \ Frequency	Whichever comes first: Every	*Odometer Reading km (mi): 800 (500)	5,000 (3,000)	10,000 (6,000)	15,000 (9,000)	20,000 (12,000)	25,000 (15,000)	30,000 (18,000)	See Page
K Carburetor synchronization --check †		•	•	•	•	•	•	•	66
Idle speed--check ÷		•	•	•	•	•	•	•	66
Throttle grip play--check †		•		•		•		•	62
Spark plug--clean and gap †			•	•	•	•	•	•	56
K Valve clearance--check †		•		•		•		•	58
Air cleaner element--clean†		•		•		•		•	59
Air cleaner element--replace	5 cleanings					■			59
Fuel system--check				•		•		•	95
Battery electrolyte level--check †	month	•	•	•	•	•	•	•	89
Brake light switch--check †		•	•	•	•	•	•	•	81
Brake lining and pad wear--check †			•	•	•	•	•	•	76
Brake play--check ÷		•	•	•	•	•	•	•	79

Operation \ Frequency	Whichever comes first: Every	*Odometer Reading km (mi): 800 (500)	5,000 (3,000)	10,000 (6,000)	15,000 (9,000)	20,000 (12,000)	25,000 (15,000)	30,000 (18,000)	See Page
Brake fluid level--check †	month	•	•	•	•	•	•	•	78
K Brake fluid--change	2 years					•			79
Clutch--adjust		•	•	•	•	•	•	•	68
K Steering--check †		•	•	•	•	•	•	•	–
Drive chain wear--check ÷			•	•	•	•	•	•	73
Nuts, bolts, and fasteners tightness--check ÷		•		•		•		•	–
Tire wear--check †			•	•	•	•	•	•	86
Engine oil--change	year	•		•		•		•	49
Oil filter--replace		•		•		•		•	49
General lubrication--perform			•	•	•	•	•	•	–
K Front fork oil--change								•	
K Swing arm pivot--lubricate				•		•		•	–
Coolant--change	2 years							•	55
Radiator hoses, connections --check ÷	year	•		•		•		•	52

Operation \ Frequency	Whichever comes first: Every	*Odometer Reading km (mi): 800 (500)	5,000 (3,000)	10,000 (6,000)	15,000 (9,000)	20,000 (12,000)	25,000 (15,000)	30,000 (18,000)	See Page
K Brake camshaft--lubricate	2 years					•			77
K Steering stem bearing--lubricate	2 years					•			–
K Master cylinder cup and dust seal--replace	2 years								–
K Caliper piston seal and dust seal--replace	2 years								–
K Brake hose --replace	4 years								–
K Fuel hose--replace	4 years								–
Drive chain--lubricate	Every 300 km (200 mi)								75
Drive chain slack--check †	Every 800 km (500 mi)								70

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.

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 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.

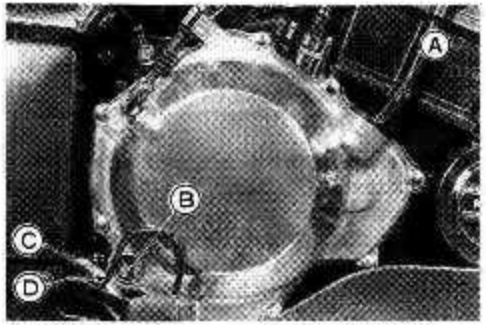
Oil Level Inspection

- 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 lines next to the gauge.

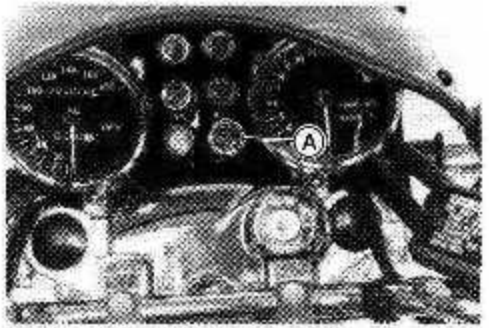


A. Oil Filler Cap
B. Oil Level Gauge
C. Upper Level
D. Lower Level

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

⚠CAUTION

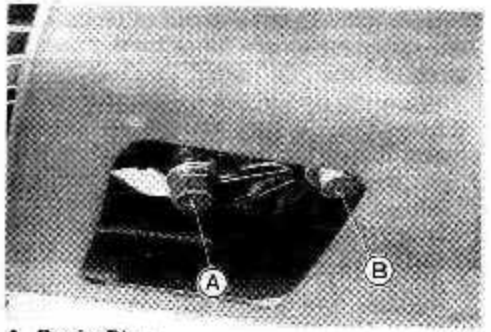
If the engine oil gets extremely low or if the oil pump or oil passages clog up or otherwise do not function properly, the oil pressure warning light will light. If this light stays on when the engine speed is above 1,500 r/min (rpm), stop the engine immediately and find the cause.



A. Oil Pressure Warning Light

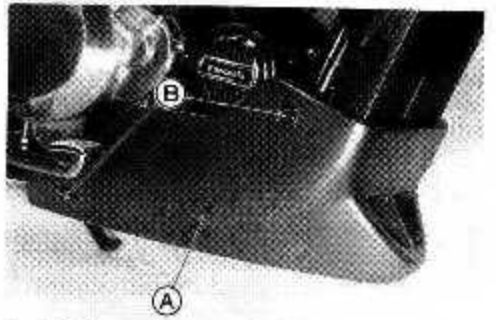
Oil and/or Oil Filter Change

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



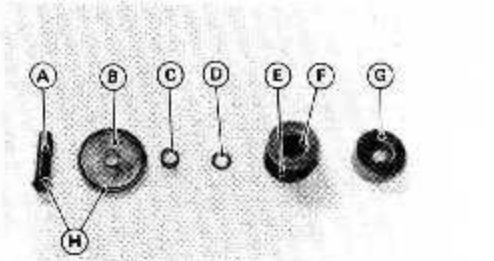
A. Drain Plug
B. Oil Filter Mounting Bolt

- With the motorcycle perpendicular to the ground, let the oil completely drain.
- If the oil filter is to be changed, remove the lower fairing.



A. Fairing
B. Bolts

- Remove the oil filter mounting bolt and drop out the oil filter.
- Replace the oil filter element with a new one.



A. Mounting Bolt
B. Filter Cover
C. Spring
D. Flat Washer
E. Element
F. Grommet
G. Element Fence
H. O-ring

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.*

- Apply a little engine oil to the O-ring on the filter mounting bolt, fit the filter cover on the bolt, and install the spring and flat washer.
- Apply a little engine oil to the grommets on both sides of the element, and turn the filter to work the element into place. Be careful that the element grommets do not slip out of place.
- Install the element fence on the bolt.
- Install the oil filter, tightening its mounting bolt to the specified torque.
- After the oil has completely drained out, install the engine 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 with a good quality motor oil specified in the table.
- Check the oil level.
- Reinstall the lower fairing.

Tightening Torque

Engine Drain Plug:
20 N·m (2.0 kg·m, 14.5 ft·lb)
Oil Filter Mounting Bolt:
20 N·m (2.0 kg·m, 14.5 ft·lb)

Engine Oil

Grade:	SE or SF class
Viscosity:	SAE 10W40, 10W50, 20W40, or 20W50
Capacity:	1.5 L (1.6 US qt) [when filter is not removed]
	1.9 L (2.0 US qt) [when filter is removed]

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

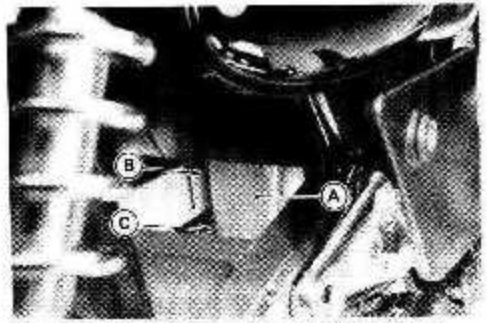
○*A permanent type of antifreeze is installed in the cooling system when shipped. It is colored green, contains a 50% solution of ethylene glycol, and has the freezing point of −35°C (−31°F).*

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 from behind the right side of the motorcycle. The coolant level should be between the F (FULL) and L (LOW) marks.

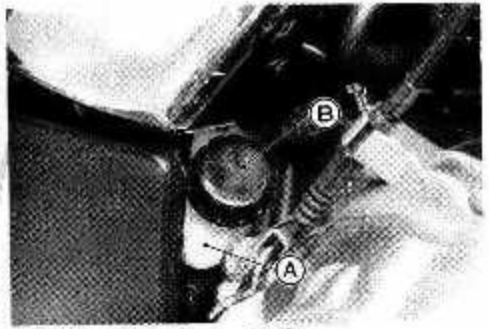
NOTE

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



A. Reserve Tank **C. L (LOW) Mark**
B. F (FULL) Mark

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



A. Reserve Tank **B. 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

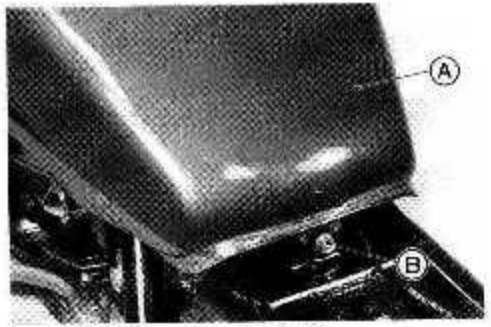
Have the coolant changed by an authorized Kawasaki dealer.

Spark Plugs

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

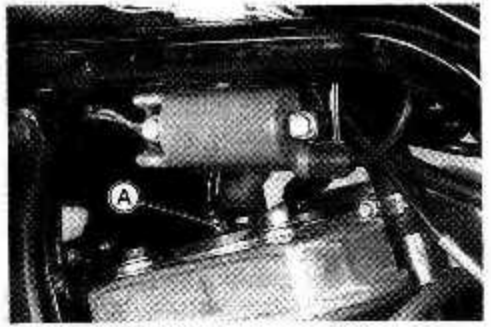
Spark Plug Removal

- Remove the seat (see the Seats section in the General Information chapter).
- Turn the fuel tap to the OFF position.
- Pull the fuel hoses off the fuel tap.
- Take off the fuel tank mounting bolt and remove the fuel tank.



A. Fuel Tank **B. Bolt**

- Carefully pull the spark plug caps from the spark plugs.



A. Spark Plug Cap

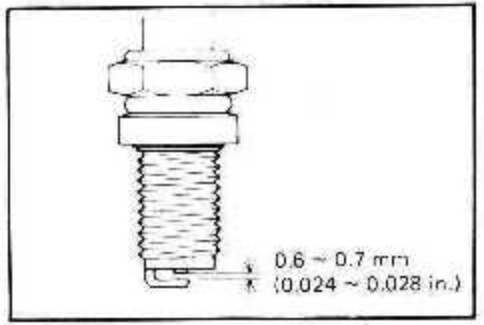
- Unscrew the spark plugs with a plug wrench in the tool kit.

NOTE

○Spark plug installation is performed in the reverse order of removal.

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 CR8HSA or ND U24FSR-U
Plug Gap	0.6 ~ 0.7 mm (0.024 ~ 0.028 in.)
Tightening Torque	14 N-m (1.4 kg-m, 10.0 ft-lb)

⚠CAUTION

For cold weather and/or low speed riding, a hotter spark plug shown in the table 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.

Hotter Spark Plug

NGK CR7HSA or ND U22FSR U

Valve Clearance

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

⚠CAUTION

If valve clearance is left unadjusted, the 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 only by your authorized Kawasaki dealer.

Air Cleaner

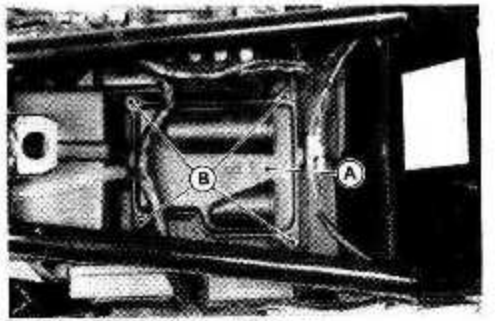
A clogged air cleaner restricts the engine's air intake, increasing fuel consumption, reducing engine power, and causing spark plug fouling.

The air cleaner element must be cleaned and replaced 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

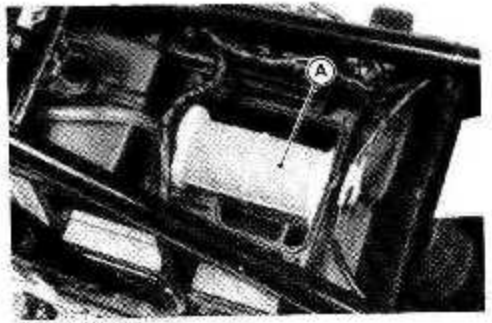
● Remove the seat (see Seats section in the General Information chapter).

● Unscrew the air cleaner housing cap.



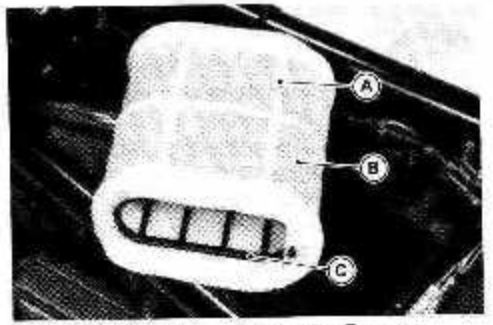
A. Air Cleaner Housing Cap
B. Screws

● Pull out the element.



A. Element

● Remove the outer frame from the element then the inner frame.



A. Outer Frame
B. Element
C. Inner Frame

● Push a clean, lint-free towel into 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 carburetors, 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.*

Element Cleaning

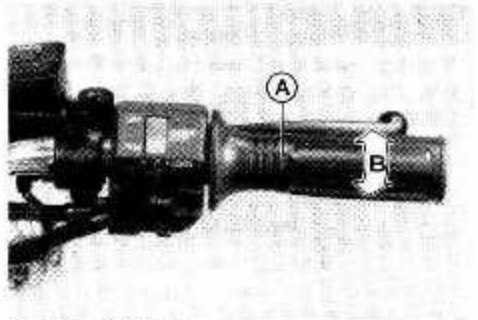
● Clean the element in a bath of a high flash point solvent.
● Dry the element with compressed air or squeeze it.
● After cleaning, saturate the element with SE class SAE 30 motor oil, squeeze out the excess, then wrap it in a clean rag and squeeze it as dry as possible. Be careful not to tear the element.

⚠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 periodically in accordance with the Periodic Maintenance Chart, and adjust the play if necessary.



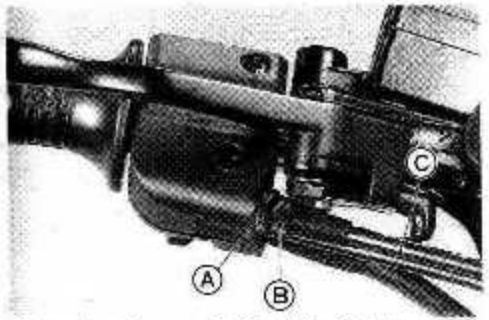
A. Throttle Grip
B. 2 ~ 3 mm (0.08 ~ 0.12 in.)

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.

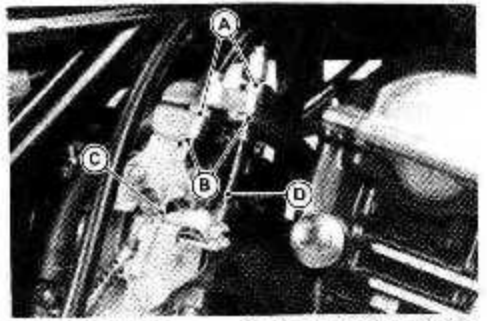
Adjustment

- Loosen the locknut at the throttle grip, and turn the adjuster until the proper amount of throttle grip play is obtained.



A. Locknut
B. Adjuster
C. Throttle Cable (Accelerator Cable)

- Tighten the locknut.
- If the throttle cables can not be adjusted by using the cable adjuster at the upper end of the throttle cable, use the upper and lower nuts at the lower ends of the throttle cables.
- Turn out both upper nuts and turn in both lower nuts as far as they will go so as to give the throttle grip plenty of play.



A. Upper Nuts
B. Lower Nuts
C. Accelerator Cable
D. Decelerator Cable

- Loosen the locknut at the throttle grip and turn in the adjuster fully.
- Tighten the locknut.
- With the throttle grip completely closed, turn out the lower nut and turn in the upper nut of the decelerator cable at its lower end until the inner cable just becomes tight.
- Turn out the lower nut and turn in the upper nut of the accelerator cable until the specified free play is obtained.

⚠WARNING

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

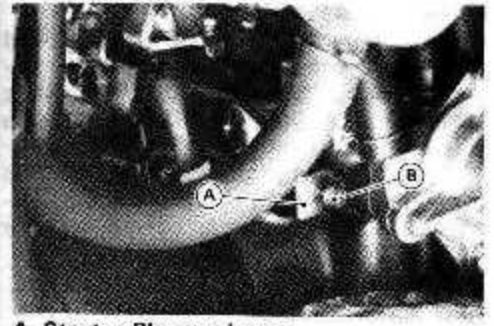
Choke Lever

By pulling 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 it if necessary.

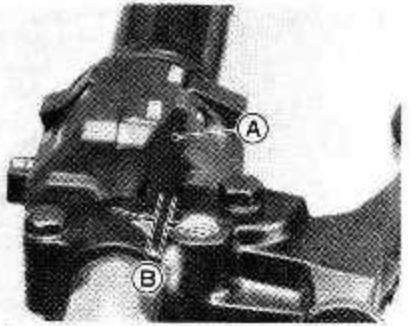
Inspection

- 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 lever. Pull the choke lever until the starter plunger lever at the carburetor touches the starter plunger; the amount of choke lever travel is the amount of cable play.



A. Starter Plunger Lever
B. Starter Plunger

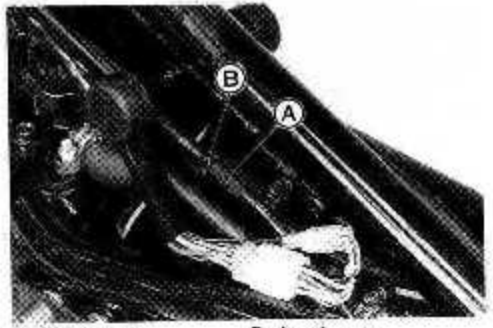
- The proper amount of play is 2 ~ 3 mm (0.08 ~ 0.12 in.) at the bottom of the choke lever. If there is too much or too little play, adjust the choke cable.



A. Choke Lever
B. 2 ~ 3 mm (0.08 ~ 0.12 in.)

Adjustment

- Remove the fuel tank (see Spark Plug Removal in the Spark Plugs section).
- Loosen the locknut at the middle of the choke cable, and turn the adjuster until the cable has the proper amount of play.



A. Adjuster B. Locknut

●Tighten the locknut after adjustment.

Carburetors

The carburetor adjustments, idle speed and synchronization, should be performed in accordance with the Periodic Maintenance Chart or whenever the idle speed is disturbed.

The following procedure covers the idle speed adjustment. Carburetor synchronization should be done only by your authorized Kawasaki dealer.

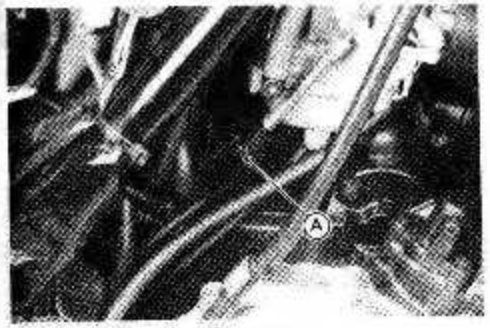
NOTE

○*Poor carburetor synchronization will cause unstable idling, sluggish throttle response, and reduced engine power and performance.*

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

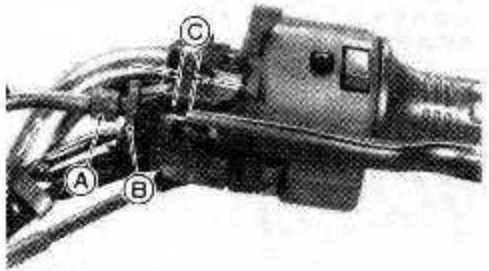
Due to friction plate wear and clutch cable stretch over a long period of use, the clutch must be adjusted in accord ance with the Periodic Maintenance Chart.

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

If it does not, adjust the lever play as follows.

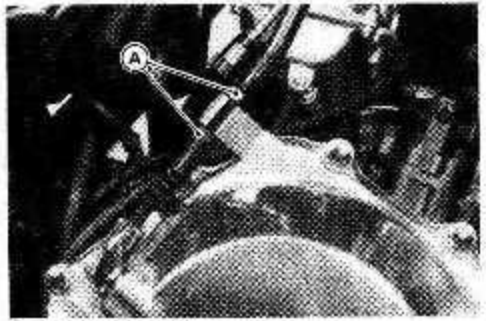
Adjustment

- Loosen the locknut at the clutch lever.
- Turn the adjuster so that the clutch lever will have the specified free 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

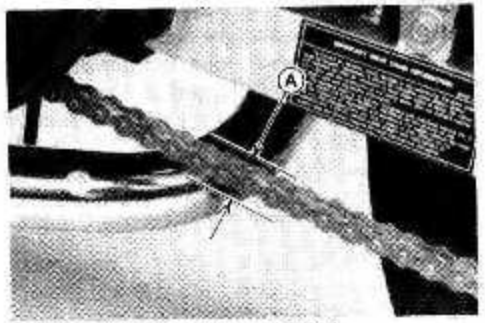
The drive chain must be checked, adjusted, and lubricated in accordance with the Periodic Maintenance Chart for safety and to prevent excessive wear. If the chain becomes badly worn or maladjusted – either too loose or too tight – the chain could jump off the sprockets or break.

⚠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 vertical movement mid way between the sprockets.



A. 35 ~ 45 mm (1.4 ~ 1.8 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

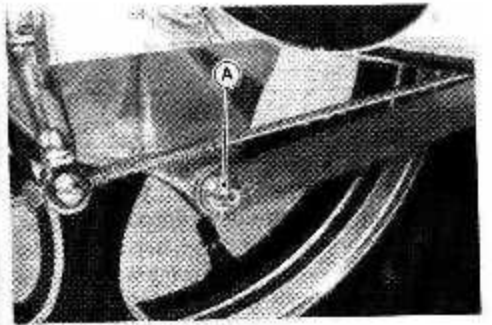
Standard	35 ~ 40 mm (1.4 ~ 1.6 in.)
Too tight	less than 35 mm (1.4 in.)
Too loose	more than 45 mm (1.8 in.)

Chain Slack Adjustment

- Loosen the rear torque link nut.

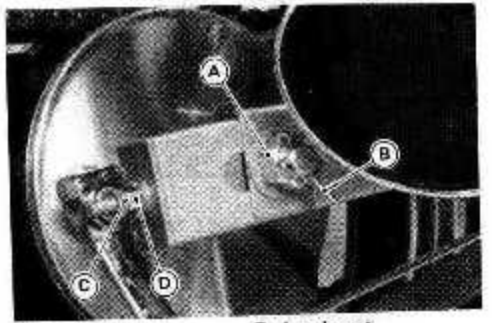
⚠CAUTION

Do not forget to loosen the torque link nut.



A. Torque Link Nut

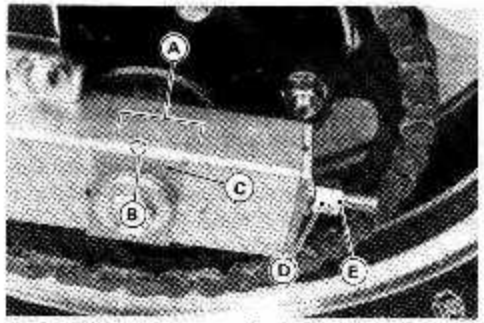
- Loosen the left and right chain adjuster locknuts.



A. Axle Nut
B. Cotter Pin
C. Locknut
D. Adjusting Nut

- Remove the cotter pin, and loosen the axle nut.
- If the chain is too loose, turn in the left and right chain adjusting nuts evenly.
- If the chain is too tight, turn out the left and right chain adjusting nuts evenly, and kick the wheel forward.

●Turn both chain adjusting nuts evenly until the drive chain has the correct amount of slack. To keep the chain and wheel properly aligned, the notch on the left wheel alignment indicator should align with the same swing arm mark that the right indicator notch aligns with.



A. Marks
B. Notch
C. Indicator
D. Adjusting Nut
E. Locknut

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.

●Tighten both chain adjuster locknuts.
●Center the brake panel assembly in the brake drum. This is done by tightening the axle nut lightly, spinning the wheel, and depressing the brake pedal forcefully. The partially tightened axle nut allows the brake panel assembly to center itself within 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	110 N-m (11 kg-m, 80 ft-lb)
Torque Link Nut	29 N-m (3 kg-m, 22 ft-lb)

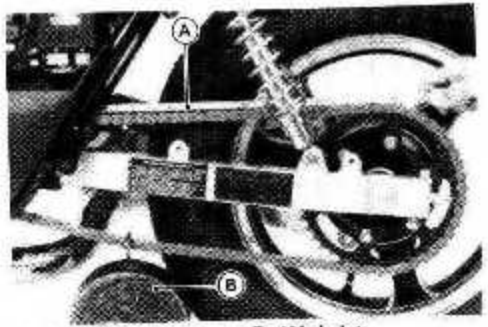
●Rotate the wheel, measure the chain slack again at the tightest position, and readjust if necessary.
●Insert a new cotter pin through the axle nut and axle, and spread its ends.
●Tighten the rear torque link nut to the specified torque.

⚠WARNING

If the axle nut or torque link 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.)

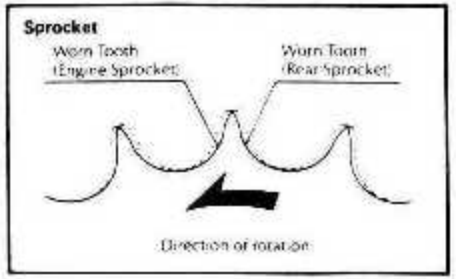
⚠WARNING

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.*

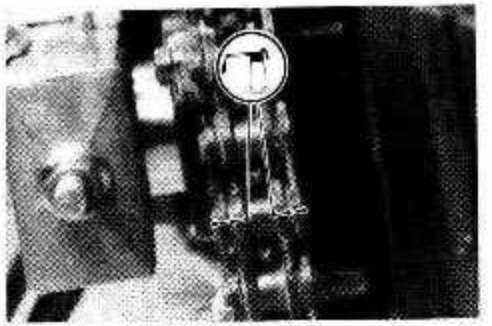


- If there is any irregularity, have the drive chain and/or the sprockets replaced by an authorized Kawasaki dealer.

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.

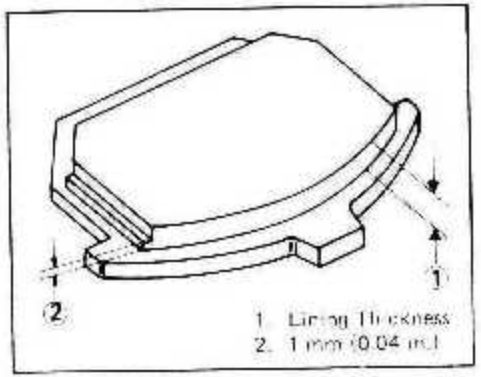


- If the chain is especially dirty, clean it using diesel oil or kerosine and then apply oil as mentioned above.

Brakes

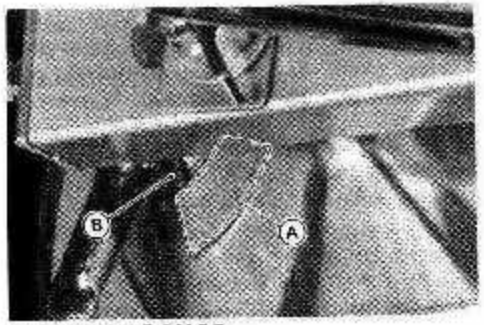
Brake Wear Inspection

In accordance with the Periodic Maintenance Chart, inspect the brakes for wear. For the front 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.



1. Lining Thickness
2. 1 mm (0.04 in.)

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 the reservoir and change the brake fluid. The brake fluid should also be changed if it becomes contaminated with dirt or water.

Fluid Requirement

Recommended fluids are given in the table below. If none of the recommended brake fluids are available, use extra heavy-duty brake fluid only from a container marked D.O.T. 3.

Recommended Disc Brake Fluid

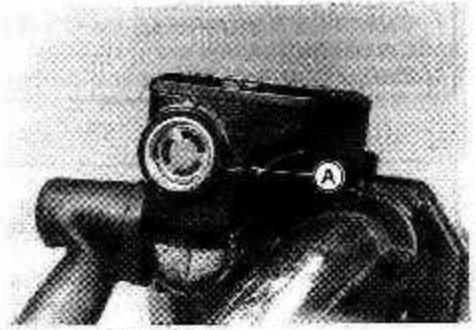
Atlas Extra Heavy Duty
Shell Super Heavy Duty
Texaco Super Heavy Duty
Wagner Lockheed Heavy Duty
Castrol Girling-Universal
Castrol GT (LMA)
Castrol Disc Brake Fluid

⚠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 for brake hose damage.

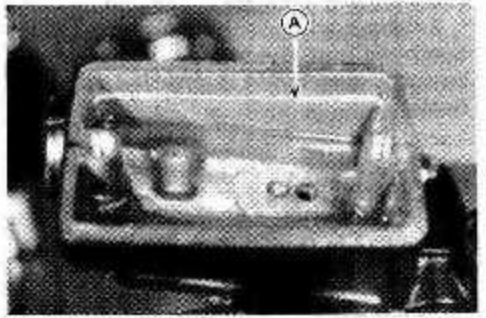
Fluid Level Inspection

●The brake fluid level in the reservoir must be kept above the lower level line (reservoir held horizontal).



A. Lower Level Line

●If it is lower than the level line, fill the reservoir to the upper level line inside the reservoir.



A. Upper Level Line

⚠WARNING

Do not mix two brands of 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

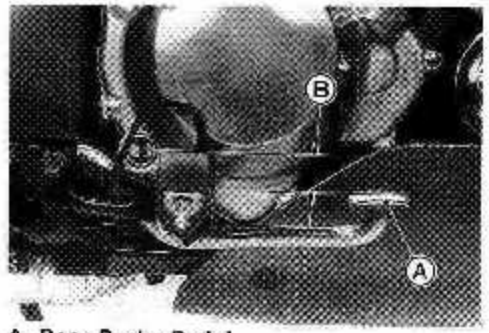
If the brake lever feels mushy when it is applied, there might be air in the brake lines or the brake may be defective. Since it is dangerous to operate the motorcycle under such conditions, have the brake checked immediately by an authorized Kawasaki dealer.

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 ~ 20 mm (0 ~ 0.8 in.) lower than the top of the footpeg.



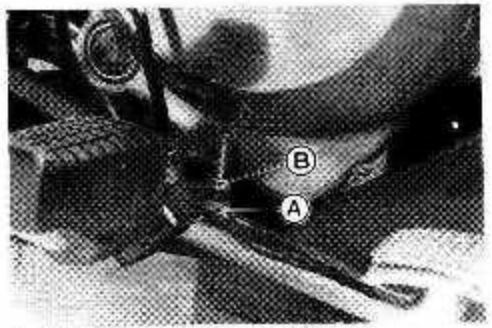
A. Rear Brake Pedal
B. 0 ~ 20 mm (0 ~ 0.8 in.)

●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.

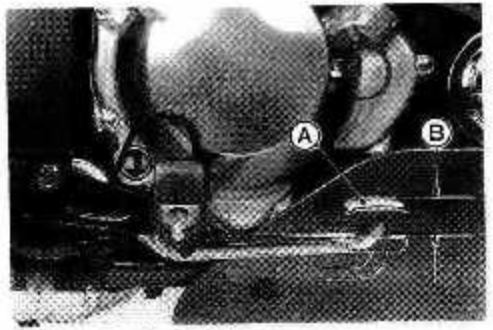


A. Adjusting Bolt B. Locknut

●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. Rear Brake Pedal
B. 20 ~ 30 mm (0.8 ~ 1.2 in.)

●Rotate the wheel to check for brake drag.

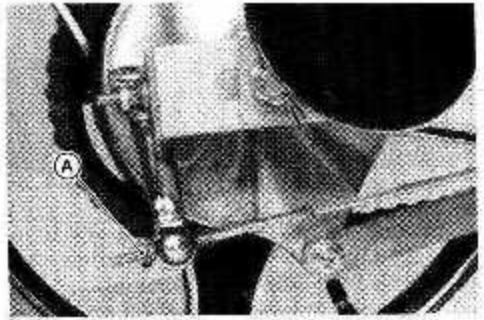
●Operate the pedal a few times to see that it returns to its rest position immediately upon release.

●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.

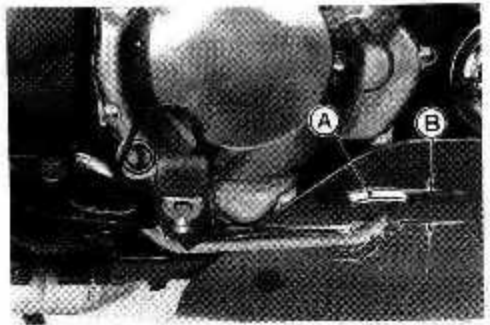
Inspection

●Turn on the ignition switch.

●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.)

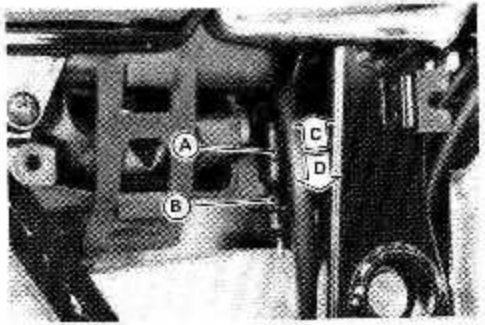
- If it does not, adjust the rear brake light switch.

Adjustment

- Remove the right lower side cover.
- 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.

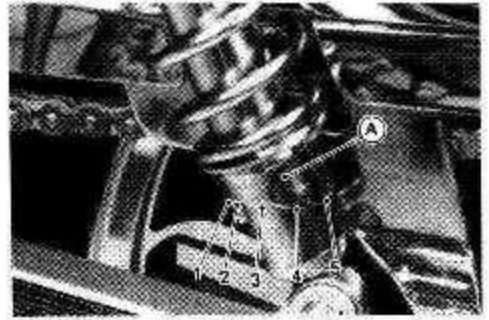


A. Rear Brake Light Switch
B. Adjusting Nut
C. Lights sooner.
D. Lights later.

Rear Shock Absorbers

Spring Adjustment

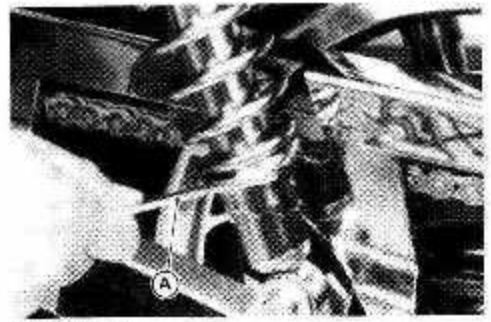
The spring adjusting sleeve on each rear shock absorber has 5 positions so that the spring can be adjusted for different road and loading conditions.



A. Adjusting Sleeve

If the spring action feels too soft or too stiff, turn each adjusting sleeve by using the wrench in the tool kit in accordance with the following table:

Position	1	2	3	4	5
Spring Action	⟶ Stronger				



A. Wrench

⚠WARNING

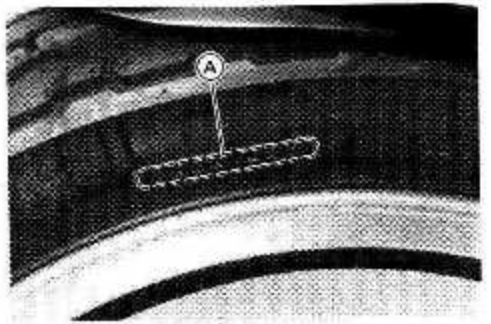
If both spring adjusting sleeves are not adjusted equally, handling may be impaired and a hazardous condition may result.

NOTE

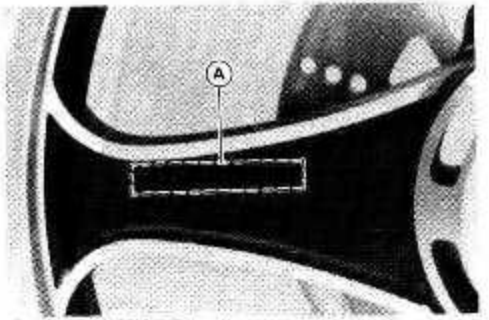
○Be sure to turn back the adjusting sleeve counterclockwise from position 5 when softening the spring action.

Wheels

Tubeless tires are installed on the wheels of this motorcycle. The indications of TUBELESS on the tire side wall and the rim show that the tire and rim are specially designed for tubeless use.



A. TUBELESS Mark



A. TUBELESS Mark

The tire and rim form a leakproof unit by making airtight contacts at the tire chamfers and the rim flanges instead of using an inner tube.

⚠WARNING

The tires, rims, and air valves on this motorcycle are designed only for tubeless type wheels. The recommended standard tires, rims, and air valves must be used for replacement.
Do not install tube-type tires on tubeless rims. The beads may not seat properly on the rim causing tire deflation.
Do not install a tube inside a tubeless tire. Excessive heat build-up may damage the tube causing tire deflation.

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 185 kg (408 lb), in-

cluding 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 involves wide variations in temperature or altitude.*

Tire Air Pressure (when cold)

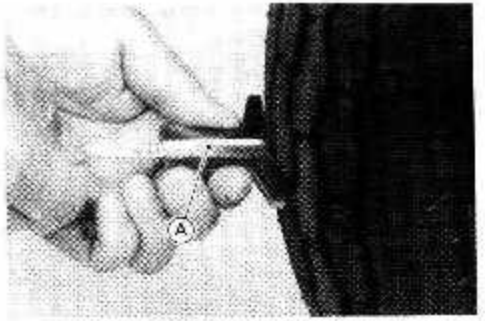
Front and Rear	200 kPa (2.0 kg/cm², 28 psi)

A. Tire Pressure Gauge

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	———	1 mm (0.04 in.)
Rear	Under 130 km/h (80 mph)	2 mm (0.08 in.)
	Over 130 km/h (80 mph)	3 mm (0.12 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

- *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.
Tires that have been punctured and repaired do not have the same capabilities as undamaged tires. Do not exceed 100 km/h (60 mph) within 24 hours after repair.

Standard Tire

Front	110/90 17 55S DUNLOP F17 Tubeless
Rear	140/90-15 M/C 70S DUNLOP K425G Tubeless

NOTE

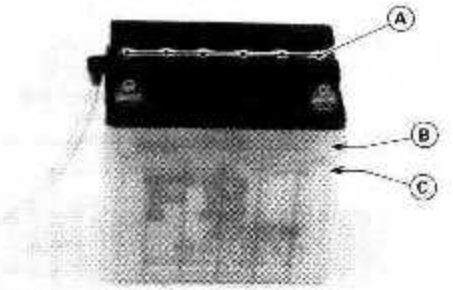
○ *When operating on public roadways, keep maximum speed under traffic law limits.*

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.



A. Filler Caps
B. Upper Level Line
C. Lower Level Line

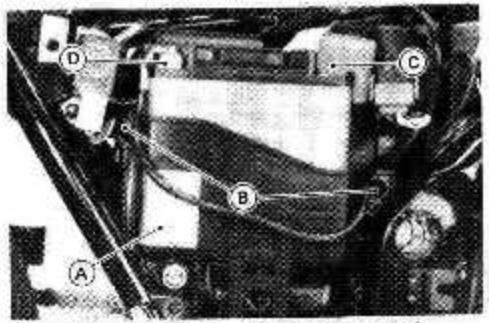
- If the electrolyte level is low in any cell, fill with distilled water as follows.
- Remove the battery filler caps and fill with distilled water until the electrolyte level in each cell reaches the upper level line.

⚠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.

Battery Removal

- Remove the right lower and upper side covers.
- Unscrew the battery holder.



A. Battery Holder
B. Screws
C. (+) Terminal
D. (−) 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.
- Connect the capped lead to the (−) terminal, and then connect the black lead to the (−) terminal.
- Put a light coat of grease on the terminals to prevent corrosion.
- Cover the (+) terminal with its protective cap.

⚠CAUTION

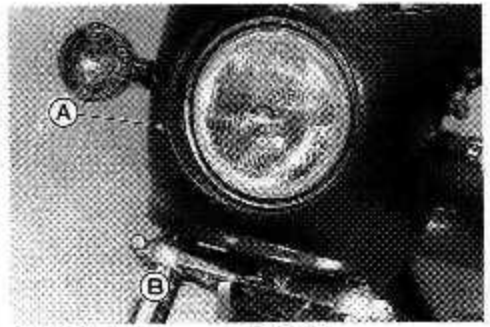
Make sure the battery vent hose is kept away from the drive system and exhaust system. Battery electrolyte can corrode and dangerously weaken the drive system. Do not let the vent hose become folded, pinched, or melted by the exhaust system. An unvented battery will not keep a charge and it may crack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

- Take off the headlight fairing mounting bolt and pull up the fairing to remove.



A. Fairing
B. Bolt

- Turn the adjusting screw on the headlight rim in or out until the beam points straight ahead.

A. Adjusting Screw

●Reinstall the headlight fairing.

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 headlight bolt shown.

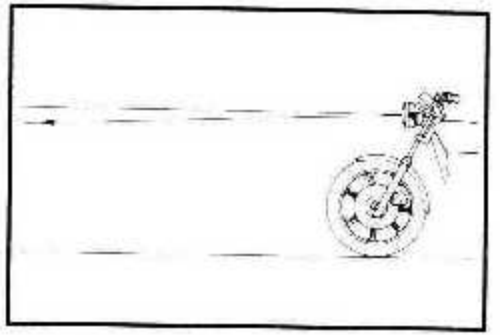
A. Headlight Bolt

●Push the headlight up or down to adjust the headlight vertically.

●Tighten the headlight bolt.

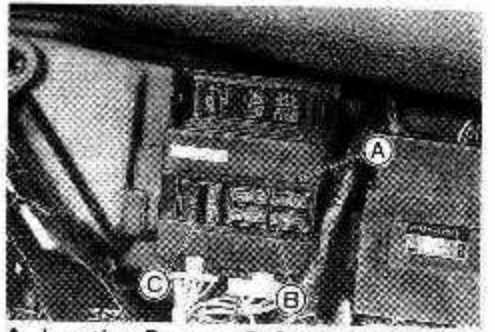
NOTE

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

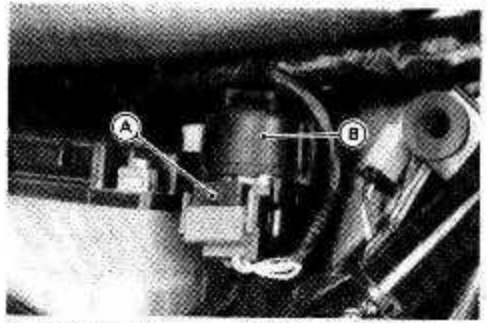


Fuses

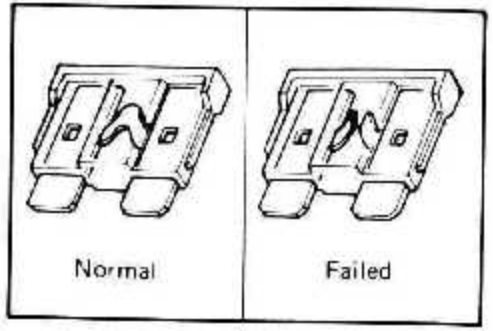
Fuses are arranged in the junction box located inside the left side cover, and the main fuse is mounted on the starter relay inside the right side cover. If a fuse fails during operation, inspect the electrical system to determine the cause, and then replace it with a new fuse of proper amperage.



A. Junction Box
B. Fuses
C. Spare Fuses



A. Main Fuse B. Starter Relay



⚠WARNING

Do not use any substitute for the standard fuse.
Replace the blown fuse with a new one of the correct capacity, as specified on the junction box.

Fuel System

Accumulation of moisture or sediment in the fuel system will restrict the flow of fuel and cause carburetor malfunction. The system should be checked in accordance with the Periodic Maintenance Chart.

⚠WARNING

Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition switch 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 to the ON position.
- Run the lower ends of the drain hoses into a suitable container.
- Turn out each drain screw a few turns to drain the carburetors, and check to see if water or dirt has accumulated in the carburetors.

A. Drain Screw B. Drain Hose

- Tighten the drain screws.

NOTE

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

Cleaning

For the prolonged life of your motorcycle, wash it down immediately after it has been splashed with seawater or exposed to the sea breeze; operated on rainy days, rough roads, or in dusty areas; or operated on roads on which salt has been scattered for ice removal.

Preparation for Washing

Before washing, precautions must be taken to keep water off the following places:

- Rear opening of the muffler; Cover with a plastic bag secured with a rubber band.
- Clutch and brake levers, switch housings on the handlebar; Cover with plastic bags.
- Ignition switch; Cover the keyhole with tape.
- Air cleaner intake; Close up the intake with tape, or stuff with rags.

Where to be Careful

Avoid spraying water with any great force near the following places:

- Meter instruments
- Disc brake master cylinder and caliper
- Rear hub; If water gets inside the hub, the rear brake will not function until it dries out.
- Under the fuel tank; If water gets into the ignition coils or into the spark plug caps, the spark will jump through the water and be grounded out. When this happens, the motorcycle will not start and the affected parts must be wiped dry.
- Front wheel hub
- Steering pivot (steering stem head pipe)
- Swing arm pivot

NOTE

○ *Coin operated, high pressure spray washers are not recommended. The water may be forced into bearings and other components causing eventual failure from rust and corrosion. Some of the soaps which are highly alkaline leave a residue or cause spotting.*

After Washing

- Remove the plastic bags and tape, and clean the air cleaner intake.
- Lubricate the points listed in the General Lubrication section.
- Test the brake before motorcycle operation.
- Start the engine and run it for 5 minutes.

⚠WARNING

Never wax or lubricate the brake disc. Loss of braking and an accident could result. Clean the disc with an oilless solvent such as trichloroethylene or acetone. Observe the solvent manufacturer's warnings.

STORAGE

Preparation for Storage:

- Clean the entire vehicle thoroughly.
- Empty the fuel from the fuel tank, and empty the carburetors by unscrewing the drain screw at each float bowl. (If left in for a long time, the fuel will break down and could clog the carburetors.)
- 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.

⚠WARNING

Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition switch 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.

- Remove the spark plugs and put several drops of SE class SAE 30 oil into each cylinder. Push the starter button for a few seconds to coat the cylinder walls with oil, and install the spark plugs.
- 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 exhaust pipe to prevent moisture from entering.
- Put a cover over the motorcycle to keep dust and dirt from collecting on it.

Preparation after Storage:
- 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 kept away from the driving system and other frame parts.
- Make sure the spark plugs are tight.
- Fill the fuel tank with fuel.
- Change the engine oil.
- Check all the points listed in the Daily Safety Checks section.
- Lubricate the points listed in the General Lubrication section.

EL250-E1

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