
MAINTENANCE AND ADJUSTMENT

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.

EMISSION CONTROL INFORMATION

To protect the environment in which we all live, Kawasaki has incorporated crankcase emission (1) and exhaust emission (2) control systems in compliance with applicable regulations of the United States Environmental Protection Agency.

1. Crankcase Emission Control System

This system eliminates the release of crankcase vapors into the atmosphere. Instead, the vapors are routed through an oil separator to the intake side of the engine. While the engine is operating, the vapors are drawn into the combustion chamber, where they are burned along with the fuel and air supplied by the carburetor.

2. Exhaust Emission Control System

This system reduces the amount of pollutants discharged into the atmosphere by the exhaust of this motorcycle. The fuel and ignition systems of this motorcycle have been carefully designed and constructed to ensure an efficient engine with low exhaust pollutant levels.

High Altitude Performance Adjustment Information

To improve the EMISSION CONTROL PERFORMANCE of vehicles operated above 4 000 feet, Kawasaki recommends the following Environmental Protection Agency (EPA) approved modification.

NOTE

- *When properly performed, these specified modifications only are not considered to be emissions system “tampering” and vehicle performance is generally unchanged as a result.*

Installation Instructions:

High altitude adjustment requires replacement of certain carburetor components. Installation of these optional parts may be performed by an authorized Kawasaki dealer, or the consumer, following repair recommendations specified in the appropriate Kawasaki Service Manual.

MAINTENANCE AND WARRANTY

Proper maintenance is necessary to ensure that your motorcycle will continue to have low emission levels. This Owner's Manual contains those maintenance recommendations for your motorcycle. Those items identified by the Periodic Maintenance Chart are necessary to ensure compliance with the applicable standards.

As the owner of this motorcycle, you have the responsibility to make sure that the recommended maintenance is carried out according to the instructions in this Owner's Manual at your own expense.

The Kawasaki Limited Emission Control System Warranty requires that you return your motorcycle to an authorized Kawasaki dealer for remedy under warranty. Please read the warranty carefully, and keep it valid by complying with the owner's obligations it contains.

You should keep a maintenance record for your motorcycle. To assist you in keeping this record, we have provided space on pages 138 through 142 of this manual where an authorized Kawasaki dealer, or someone equally competent, can record the maintenance. You should also retain copies of maintenance work orders, bills, etc., as verification of this maintenance.

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED:

Federal law prohibits the following acts or the causing thereof: (1) the removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below:

- * Replacement of the original exhaust system or muffler with a component not in compliance with Federal regulations.
- * Removal of the muffler(s) or any internal portion of the muffler(s).
- * Removal of the air box or air box cover.
- * Modifications to the muffler(s) or air intake system by cutting, drilling, or other means if such modifications result in increased noise levels.

Periodic Maintenance Chart

K: Should be serviced by an authorized Kawasaki dealer.

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

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

1. Periodic Inspection (Engine Related Items)

Operation (Engine Items)	Frequency	*Odometer Reading km × 1000 (mile × 1000)							See Page
	Whichever comes first ↓ Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	
Air cleaner element - clean				●		●		●	88
Valve clearance - inspect				●		●		●	87

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Operation (Engine Items)	Frequency	Whichever comes first →							*Odometer Reading km × 1000 (mile × 1000)	See Page
		↓	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)		
Throttle control system (play, smooth return, no drag) - inspect	year	●		●		●		●	92	
Choke operation - inspect	year	●		●		●		●	—	
Idle speed - inspect		●		●		●		●	94	
K Fuel leak (fuel hose and pipe) - inspect	year	●		●		●		●	—	
K Fuel hoses damage - inspect	year	●		●		●		●	—	

Operation (Engine Items)	Frequency	Whichever comes first → ↓ *Odometer Reading km × 1000 (mile × 1000)							See Page
		Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	
K Fuel hoses installation condition - inspect	year	●		●		●		●	—
Air suction system damage - inspect				●		●		●	—

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2. Periodic Inspection (Chassis Related Items)

Frequency	Whichever comes first →								*Odometer Reading km × 1000 (mile × 1000)	See Page
	↓	1	6	12	18	24	30	36		
Operation (Chassis Items)	Every	(0.6)	(3.75)	(7.5)	(11.25)	(15)	(18.75)	(22.5)		
Clutch and drive train:										
Clutch operation (play, engagement, disengagement) - inspect		•		•		•		•		95
Drive chain lubrication condition - inspect #	every 600 km (400 mile)								102	
Drive chain slack - inspect #	every 1 000 km (600 mile)								98	
Drive chain wear - inspect #				•		•		•		100

Frequency	Whichever comes first →								See Page
	*Odometer Reading km × 1000 (mile × 1000)								
Operation (Chassis Items)	Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	
Brake operation (effectiveness, play, drag) - inspect	year	•	•	•	•	•	•	•	103
Brake light switch operation - inspect		•	•	•	•	•	•	•	108
Suspensions:									
Rear shock absorber operation (damping and smooth stroke) - inspect				•		•		•	110
Front forks/rear shock absorber oil leak - inspect	year			•		•		•	—
K Uni-trak rocker arm bearings - lubricate						•			—

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Frequency	Whichever comes first ↓	*Odometer Reading km × 1000 (mile × 1000)							See Page
		Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	
K Uni-trak rocker arm operation - inspect				●		●		●	—
K Uni-trak tie rods operation - inspect				●		●		●	—
K Uni-trak tie rods bearings - lubricate						●			—
K Swing arm pivot - lubricate						●			—
Steering system:									
K Steering play - inspect	year	●		●		●		●	—

Frequency	Whichever comes first ↓	*Odometer Reading km × 1000 (mile × 1000)							See Page
		→	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	
Operation (Chassis Items)	Every								
K Steering stem bearings - lubricate	2 years					•			—
Electrical system:									
Lights and switches operation - inspect	year			•		•		•	—
Headlight aiming - inspect	year			•		•		•	117
Side stand switch operation - inspect	year			•		•		•	—
Engine stop switch operation - inspect	year			•		•		•	—
Chassis:									

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Frequency	Whichever comes first ↓ Every	*Odometer Reading km × 1000 (mile × 1000)							See Page
		1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	
Chassis parts - lubricate	year			●		●		●	121
Bolts and nuts tightness - inspect		●		●		●		●	127

3. Periodic Replacement

Change/Replacement Item	Frequency	Whichever comes first ↓ Every					*Odometer Reading km × 1000 (mile × 1000)	See Page
		1 (0.6)	12 (7.5)	24 (15)	36 (22.5)	48 (30)		
Air cleaner element # - replace	2 years						88	
Engine oil # - change	year	●	●	●	●	●	81	
Oil filter - replace	year	●	●	●	●	●	81	
K Fuel hoses - replace	4 years					●	—	
K Brake hoses - replace	4 years					●	—	
K Brake fluid (front and rear) - change	2 years			●		●	108	
K Rubber parts of master cylinder and caliper - replace	4 years					●	—	
Spark plug - replace			●	●	●	●	85	

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

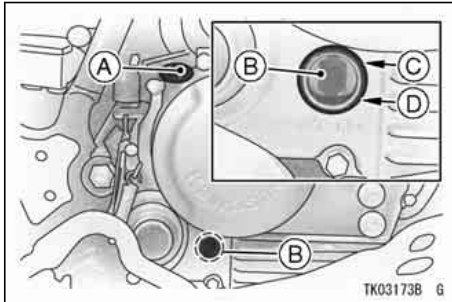
- Situate the motorcycle so that it is perpendicular to the ground.

- 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.

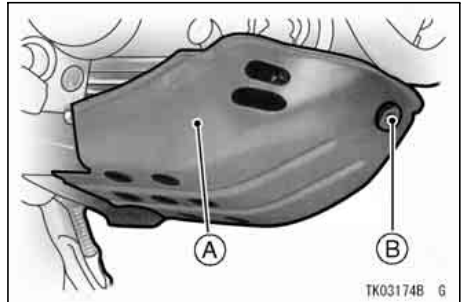


- A. Oil Filler Cap
- B. Oil Level Gauge
- C. Upper Level Line
- D. Lower Level Line

- 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

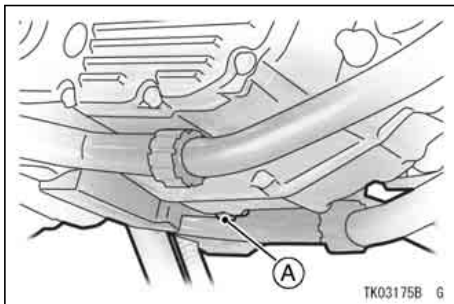
- Warm up the engine thoroughly, and then stop it.
- Set the motorcycle up on its side stand.
- Remove the bolt of the engine guard, and take off the engine guard.



- A. Engine Guard
- B. Bolt

- Place an oil pan beneath the engine.
- Remove the engine oil drain plug.

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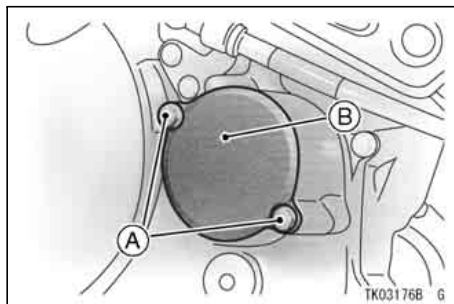
A. Drain Plug

- 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.

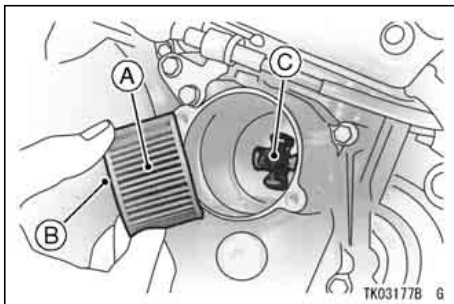
- If the oil filter is to be changed, remove the oil filter cover bolts and take off the cover with O-ring.



A. Bolts

B. Oil Filter Cover

- Replace the element with a new one.
- Put the spring and element into the right engine cover.



- A. Element
- B. Grommet
- C. Spring

- Apply a little engine oil to the grommet and O-ring, and 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 any 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.
- Install the engine guard.

Tightening Torque

Engine Oil Drain Plug:

15 N·m (1.5 kgf·m, 11 ft·lb)

NOTE

- *If a torque wrench is not available, this item should be serviced by a Kawasaki dealer.*

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Recommended Engine Oil

Type: API SE, SF or SG
API SH, SJ, SL or SM with
JASO MA, MA1 or MA2

Viscosity: SAE 10W-40

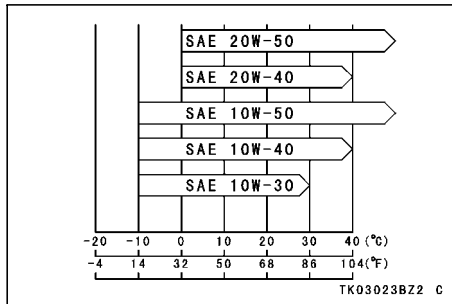
NOTE

- Do not add any chemical additive to the oil. Oils fulfilling the above requirements are fully formulated and provide adequate lubrication for both the engine and the clutch.

Engine Oil Capacity

Capacity: 1.3 L (1.4 US qt)
[when filter is not removed]
1.4 L (1.5 US qt)
[when filter is removed]
1.5 L (1.6 US qt)
[when engine is completely dry]

Although 10W-40 engine oil is the recommended oil for most conditions, the oil viscosity may need to be changed to accumulate atmospheric conditions in your riding area.



Spark Plugs

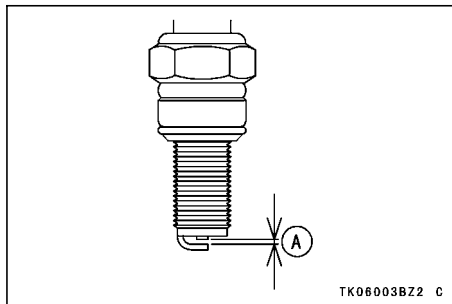
The standard spark plug is shown in the table. The spark plug should be taken out in accordance with the Periodic Maintenance Chart for cleaning, inspection, and resetting of the plug gap.

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 CR8E, ND U24ESR-N
Plug Gap	0.7 ~ 0.8 mm (0.028 ~ 0.031 in.)
Tightening Torque	13 N·m (1.3 kgf·m, 115 in·lb)



TK06003BZ2 C

A. Plug Gap

NOTE

- *If a torque wrench is not available, this item should be serviced by a Kawasaki dealer.*

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 CR7E

NOTE

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

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 only by a competent following the Service Manual.

Air Cleaner

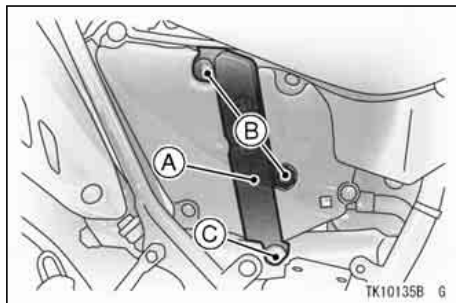
A clogged air cleaner restricts the engine's air intake, increasing fuel consumption, reducing engine power, and causing spark plug fouling.

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.

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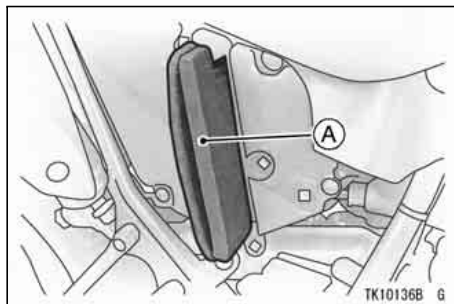
Element Removal

- Remove the right side cover.
- Unscrew the air cleaner element cap screws and bolt, then remove the air cleaner element cap.



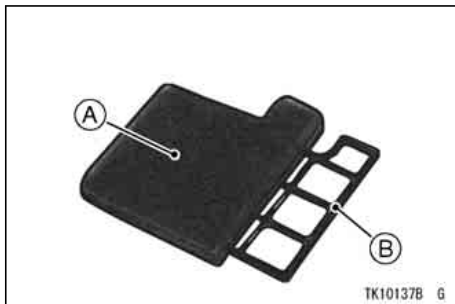
- A. Air Cleaner Element Cap**
- B. Screws**
- C. Bolt**

- Pull out the air cleaner element from the air cleaner housing.



- A. Element**

- Remove the element from the frame.



- A. Element
B. 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 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.*

Element Cleaning

- Clean the element in a bath of a high-flash point solvent.

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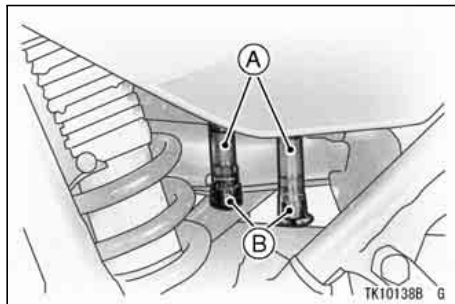
- Dry the element with compressed air or by squeezing it.
- After cleaning, saturate the element with SE, SF or SG class SAE 10W40 motor oil, squeeze out the excess oil, then wrap it in a clean rag and squeeze it as dry as possible. Be careful not to tear the element.

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.

Oil Draining

- Inspect the transparent drain hoses located at the lower end of the air cleaner housing to see if any oil has run down from the air cleaner housing.



A. Drain Hoses

B. Plugs

- If there are any oil in the drain hoses, remove the plugs from the lower end of the drain hoses and drain the oil.

 **WARNING**

Be sure to install each plug in the drain hose after draining. Oil on tires will make them slippery and can cause an accident and injury.

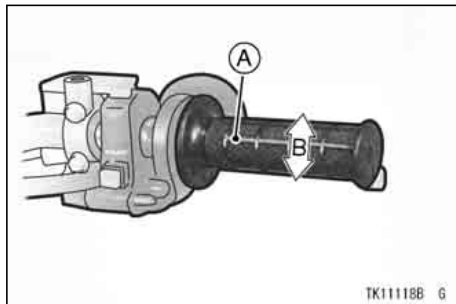
Throttle Grip

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.

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Inspection

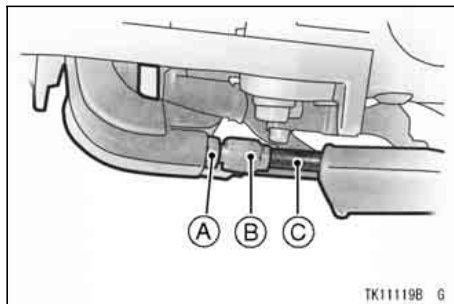
- Check that there is 2 ~ 3 mm (0.08 ~ 0.12 in.) throttle grip play when lightly turning the throttle grip back and forth.
- If there is improper play, adjust it.



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

Adjustment

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

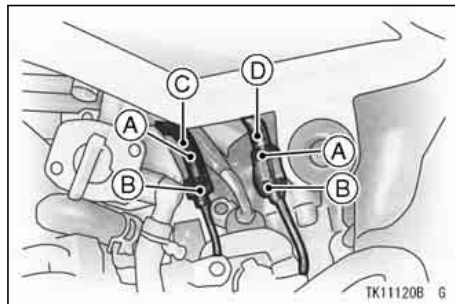


- A. Locknut**
B. Adjuster
C. Throttle Cable (Accelerator Cable)

- Tighten the locknut.
- If the throttle cable 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.

- Loosen the locknut at the upper end of the throttle cable and turn in the adjuster fully.
- Tighten the locknut.
- Turn the upper and lower nuts at the lower end of the decelerator cable until there is no play when the throttle grip is completely closed. Tighten the nuts.
- Turn the upper and lower nuts at the lower end of the accelerator cable until 2 ~ 3 mm (0.08 ~ 0.12 in.) of throttle grip play is obtained. Tighten the nuts.



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

- If there is excess play, use the adjuster at the upper end of the throttle cable.

 **WARNING**

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

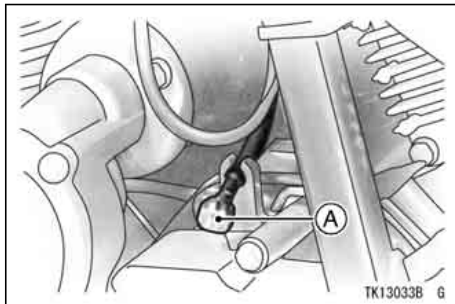
Carburetors

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 1 250 ~ 1 350 r/min (rpm) by turning the 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.



A. Idle Adjusting Screw

! WARNING

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

Clutch

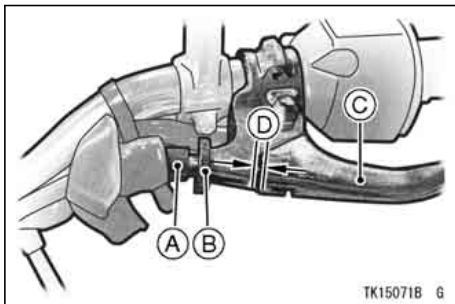
Due to friction plate wear and clutch cable stretch over a long period of use, the clutch must be adjusted in accordance with the Periodic Maintenance Chart.

! WARNING

To avoid a serious burn, never touch a hot engine or an 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. Clutch Lever
- D. 2 ~ 3 mm (0.08 ~ 0.12 in.)

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.

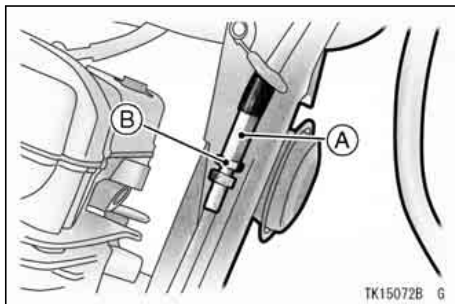
- Turn the adjuster at the upper end of the cable so that the clutch lever will have 2 ~ 3 mm (0.08 ~ 0.12 in.) of play.

⚠ 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 adjusting nut at the middle of the clutch cable.
- Loosen the locknut at the clutch lever.
- Turn the adjuster in all the way, then tighten the locknut.

- Loosen the locknut at the middle of the clutch cable, and turn the adjusting nut so that the clutch lever has 2 ~ 3 mm (0.08 ~ 0.12 in.) of play.



A. Adjusting Nut
B. Locknut

- Tighten the locknut.
- Slide the dust cover back into place.

NOTE

- After the adjustment is made, start the engine and check that the clutch does not slip and that it releases properly.

! WARNING

Do not run the engine in a closed area. Exhaust gases contain carbon monoxide; a colorless, odorless, poisonous gas. Breathing exhaust gas leads to carbon monoxide poisoning, asphyxiation, and death.

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.

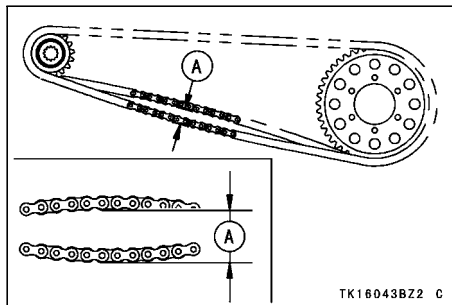
⚠ WARNING

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. 35 ~ 55 mm (1.4 ~ 2.2 in.)

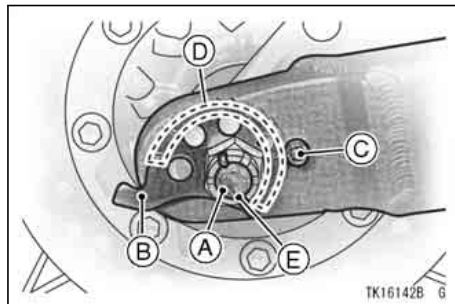
- If the drive chain is too tight or too loose, adjust it so that the chain slack will be within the standard value.

Drive Chain Slack

Standard	35 ~ 55 mm (1.4 ~ 2.2 in.)
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Chain Slack Adjustment

- Remove the cotter pin, and loosen the axle nut.
- Rotate the chain adjuster at each end of the swingarm to obtain the standard chain slack.



- A. Axle Nut
- B. Chain Adjuster
- C. Projection
- D. Numbers
- E. Cotter Pin

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 the axle nut to the specified torque.

Tightening Torque

Axle Nut:
88 N·m (9.0 kgf·m, 65 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 spread its ends.

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

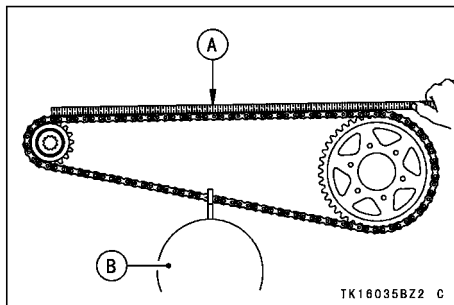
 **WARNING**

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

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



- A. Measure
- B. Weight

Drive Chain 20-Link Length

Service Limit: 323 mm (12.7 in.)

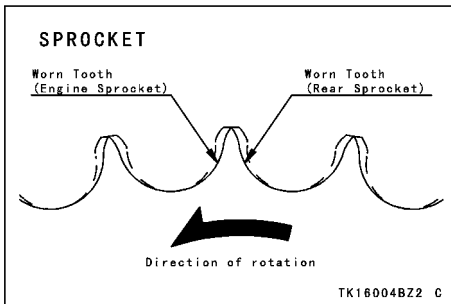
! WARNING

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.*

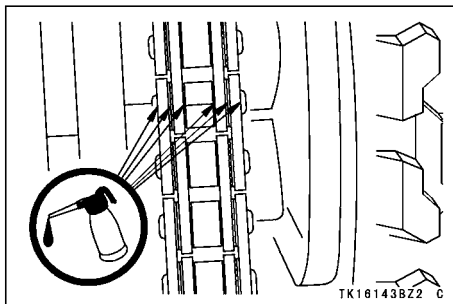


- If there is any irregularity, have the drive chain and/or the sprockets replaced by an authorized Kawasaki dealer.

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.

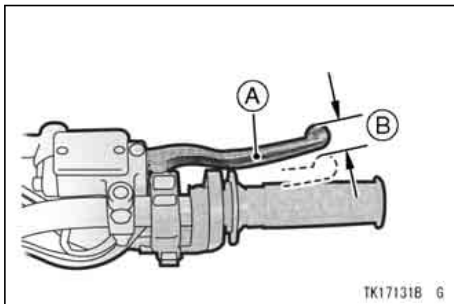
Brakes

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

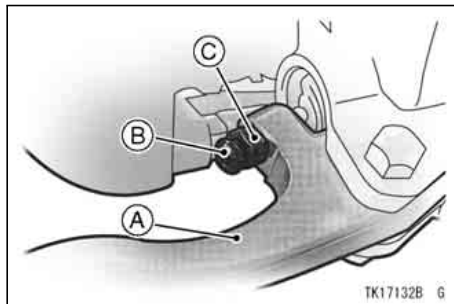
Front Brake Lever Play

The brake lever has 2 ~ 5 mm (0.08 ~ 0.20 in.) of play when the brake is lightly applied.

To adjust the brake lever play, loosen the locknut and turn the adjuster to either side. After adjustment, tighten the locknut securely and check the braking effectiveness.



- A. Brake Lever
- B. 2 ~ 5 mm (0.08 ~ 0.20 in.)



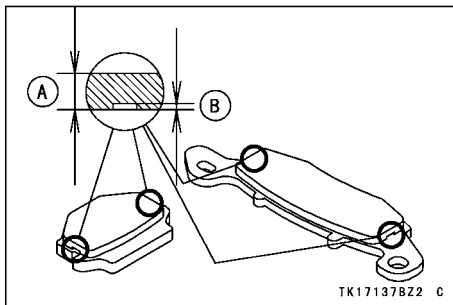
- A. Brake Lever
- B. Adjuster
- C. Locknut

! WARNING

If the brake lever or pedal 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.

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.



A. Lining Thickness

B. 1 mm (0.04 in.)

Disc Brake Fluid -

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

Fluid Requirement

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

NOTE

- Brake fluid of DOT4 is installed in the brake system when shipped.

CAUTION

Do not spill brake fluid onto any painted surface.

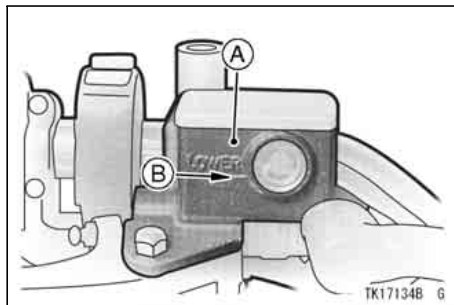
Do not use fluid from a container that has been left open or that has been unsealed for a long time.

Check for fluid leakage around the fittings.

Check brake hose for damage.

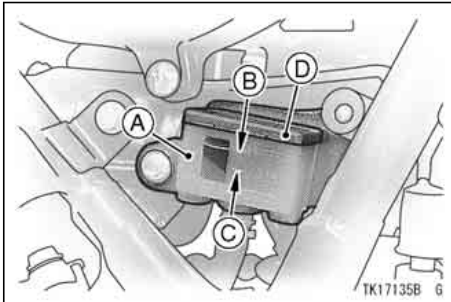
Fluid Level Inspection

- The brake fluid level in the front brake fluid reservoir must be kept above the line (lower level line) next to the gauge and that in the rear brake fluid reservoir (located under the right side cover) must be kept between the upper and lower level lines (reservoirs held horizontal).

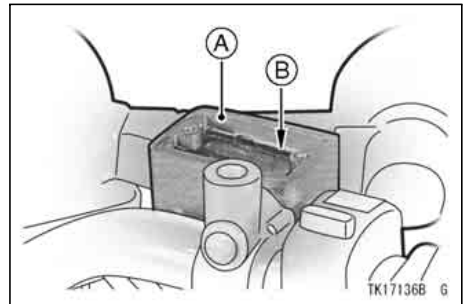


A. Front Brake Fluid Reservoir
B. Lower Level Line

- If the fluid level in either 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. Inside the front brake fluid reservoir is a stepped line showing the upper level line.



- A. Rear Brake Fluid Reservoir**
- B. Upper Level Line**
- C. Lower Level Line**
- D. Cap**



- A. Front Brake Fluid Reservoir**
- B. 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.

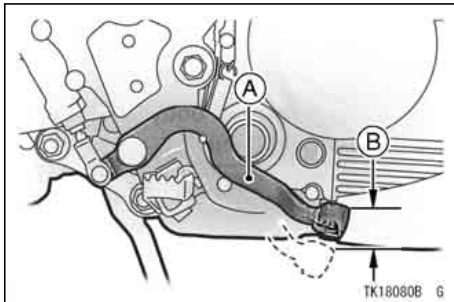
Brake Light Switches

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 10 mm (0.4 in.) of pedal travel.



- A. Brake Pedal
- B. 10 mm (0.4 in.)

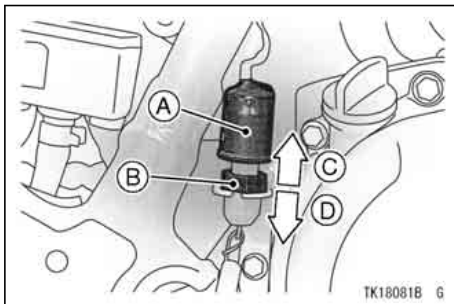
- If it does not, adjust the rear brake light switch.

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

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

The spring adjusting nut on the rear shock absorber can be adjusted.

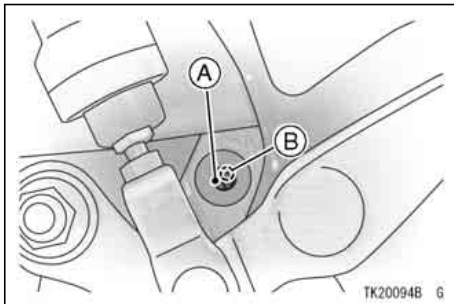
If the spring action feels too soft or too stiff, have it adjusted by an authorized Kawasaki dealer.

Rebound Damping Force Adjustment

The rebound damping force adjuster at the lower end of the rear shock absorber has 20 adjustment clicks.

- First turn the rebound damping force adjuster all the way clockwise with a screwdriver to make the damping force greatest.

- Turn the adjuster counterclockwise to decrease damping force.



A. Rebound Damping Adjuster

B. Mark

The standard setting position of the rebound damping force adjuster for an average-build rider of 68kg (150 lb) with no passenger and no accessories are as follows.

Rebound Damping Force Adjuster	7 turns out*
--------------------------------	--------------

* out from the fully seated position

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 165 kg (364 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 involves wide variations in temperature or altitude.*



A. Tire Pressure Gauge

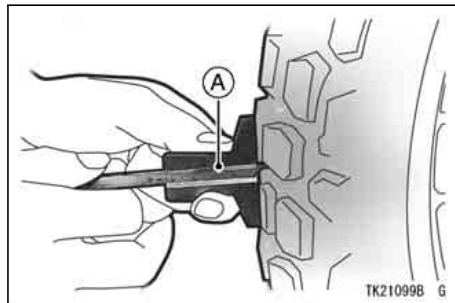
Tire Air Pressure (when cold)

Front	Up to 165 kg (364 lb) Load	150 kPa (1.50 kgf/cm ² , 21 psi)
Rear	Up to 97.5 kg (215 lb) Load	150 kPa (1.50 kgf/cm ² , 21 psi)
	97.5 ~ 165 kg (215 ~ 364 lb) Load	175 kPa (1.75 kgf/cm ² , 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	2 mm (0.08 in.)
Rear	2 mm (0.08 in.)

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- 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.

Standard Tire

Front	Size: 2.75-21 45P BRIDGESTONE "TRAIL WING-301"
Rear	Size: 4.10-18 59P BRIDGESTONE "TRAIL WING-302"

WARNING

Use the same manufacturer's tires on both front and rear wheels.

 **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

The battery installed in this motorcycle is a sealed type, so it is not necessary to check the battery electrolyte level or add distilled water.

The sealing strip should not be pulled off once the specified electrolyte has been installed in the battery for initial service.

Since the electrical system of this motorcycle is designed to use only a sealed battery, do not replace it with a conventional battery.

CAUTION

Never remove the sealing strip, or the battery can be damaged. Do not install a conventional battery in this motorcycle, or the electrical system cannot work properly.

NOTE

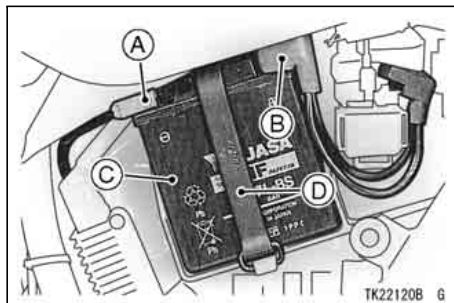
- If you charge the sealed battery, never fail to observe the instructions shown in the label on the battery.

! WARNING

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

Battery Removal

- Remove the left side cover.
- Disconnect the leads from the battery, first from the (-) terminal and then the (+) terminal.



- A. (-) Terminal
- B. (+) Terminal
- C. Battery
- D. Band

- Remove the battery band, and take the battery out of the battery case.

- Clean the battery using a solution of baking soda and water. Be sure that the lead connections are clean.

Battery Installation

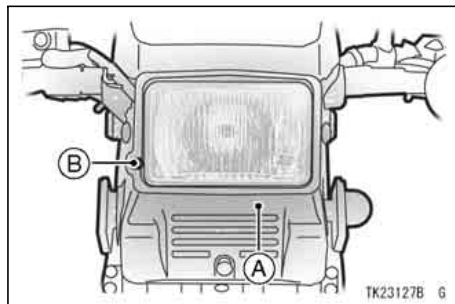
- Put the battery in the battery case.
- Connect the capped lead to the (+) terminal, and then connect the black lead to the (-) terminal.
- Put a light coat of grease on the terminals to prevent corrosion.
- Cover the (+) terminal with its protective cap.
- Reinstall the parts removed.

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



- A. Vertical Adjusting Screw**
B. Horizontal Adjusting Screw

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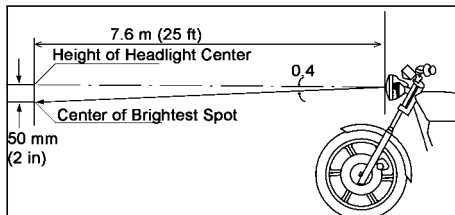
Vertical Adjustment

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 driver.

- Turn the vertical adjusting screw on the headlight rim in or out to adjust the headlight vertically.

NOTE

- *On high beam, the brightest point should be slightly below horizontal. The proper angle is 0.4 degrees below horizontal. This is a 50 mm (2 in.) drop at 7.6 m (25 ft) measured from the center of the headlight, with the motorcycle on its wheels and the rider seated.*

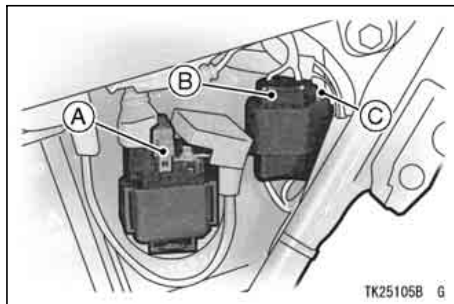


CAUTION

When handling the quartz-halogen bulbs, never touch the glass portion with bare hands. Always use a clean cloth. Oil contamination from hands or dirty rags can reduce bulb life or cause the bulb to explode.

Fuses

The main fuse is mounted on the starter relay located to the left side of the battery. The fuse case is located to the left side of the starter relay. 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.

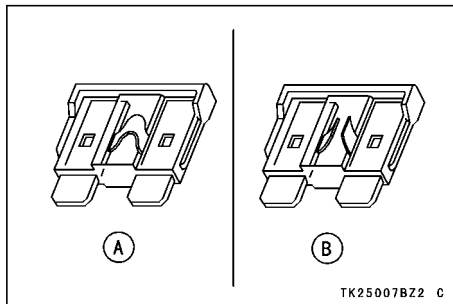


- A. Main Fuse (20 A)
- B. Fuse Case
- C. Spare Fuse

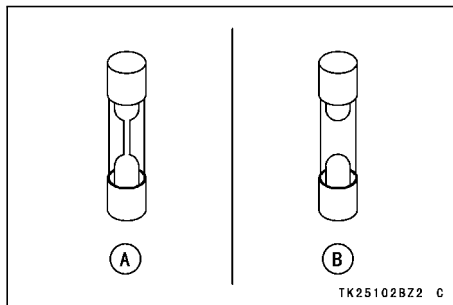
! WARNING

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 fuse case.



A. Normal
B. Failed



A. Normal
B. Failed

General Lubrication

Lubricate the points shown below, with either motor oil or regular grease, in accordance with the Periodic Maintenance Chart or whenever the vehicle has been operated under wet or rainy conditions.

Before lubricating each part, clean off any rusty spots with rust remover and wipe off any grease, oil, dirt, or grime.

NOTE

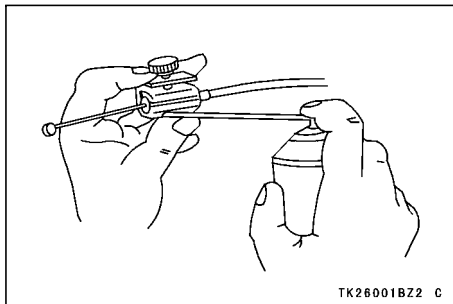
- *A few drops of oil are effective to keep bolts and nuts from rusting and sticking. This makes removal easier. Badly rusted nuts, bolts, etc., should be replaced with new ones.*

Apply motor oil to the following pivots -

- Side Stand
- Clutch Lever
- Front Brake Lever
- Rear Brake Pedal

Lubricate the following cables with a pressure cable lubber -

- Clutch Inner Cable
- Throttle Inner Cables



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Apply grease to the following points -

- Clutch Inner Cable Upper End
- Throttle Inner Cable Upper Ends

* Grease the lower part of the inner cable sparingly.

NOTE

- *After connecting the cables, adjust them.*

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 headlight cover, and other 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

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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 non-abrasive 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 headlight lens, and other non-painted plastic parts with an approved plastic cleaner/polisher product.

CAUTION

Plastic parts may deteriorate and brake 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.

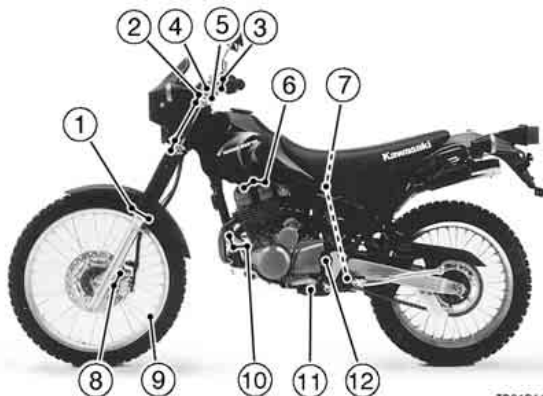
 **WARNING**

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.

Bolt and Nut Tightening

In accordance with the Periodic Maintenance Chart, it is very important to check the tightness of the bolts and nuts listed here. Also, check to see that each cotter pin is in place and in good condition. Please ask your authorized Kawasaki dealer for torque values.

1. Front Fender Mounting Bolts
2. Front Fork Clamp Bolts
3. Clutch Lever Holder Bolts
4. Handlebar Clamp Bolts
5. Steering Stem Head Bolt
6. Cylinder Head Bolts
7. Rear Shock Absorber Mounting Bolts and Nuts
8. Caliper Mounting Bolts
9. Spokes
10. Engine Mounting Bolts and Nuts
11. Shift Pedal Bolt
12. Swingarm Pivot Shaft Bolt



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- 13. Muffler Mounting Bolts
- 14. Brake Lever Holder Bolt
- 15. Rear Axle Nut
- 16. Exhaust Pipe Holder Nuts
- 17. Front Axle Nut



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