Kawasaki

Includes:
- Important Safety Information
- Operating Instructions
- Maintenance and Storage

VERSYS
Motorcycle
OWNER'S MANUAL

⚠ WARNING

Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

NOTICE

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

Quick Reference Guide

This Quick Reference Guide will assist you in finding the information you're looking for.

A Table of Contents is included after the Foreword.

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.*

FOREWORD

Congratulations on your purchase of a new Kawasaki motorcycle. Your new motorcycle is the product of Kawasaki's advanced engineering, exhaustive testing, and continuous striving for superior reliability, safety and performance.

Please read this Owner's Manual carefully before riding so that 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 authorized Kawasaki motorcycle dealer. The Service Manual contains detailed disassembly and maintenance information. Those who plan to do their own work should, of course, be competent mechanics and possess the special tools described in the Service Manual.

Keep this Owner's Manual aboard your motorcycle at all times so that you can refer to it whenever you need information.

This manual should be considered a permanent part of the motorcycle and should remain with the motorcycle when it is sold.

This publication includes the latest information available at the time of printing. However, there may be minor differences between the actual product and illustrations and text in this manual.

All products are subject to change without prior notice or obligation.

KAWASAKI HEAVY INDUSTRIES, LTD.Consumer Products & Machinery Company

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TABLE OF CONTENTS

SPECIFICATIONS

DIMENSIONS

Overall Length	2 125 mm (83.66 in.)
Overall Width	840 mm (33.07 in.)
Overall Height	1 315 mm (51.77 in.)
Wheelbase	1 415 mm (55.71 in.)
Road Clearance	180 mm (7.09 in.)
Curb Mass	206 kg (454 lb)

ENGINE

Type	DOHC, 4-valve, 2-cylinder, 4-stroke, liquid-cooled
Displacement	649 cm^3 (39.6 cu in.)
Bore × Stroke	83 × 60 mm (3.27 × 2.36 in.)
Compression Ratio	10.6 : 1
Starting System	Electric starter
Cylinder Numbering Method	Left to right, 1-2

Firing Order		1-2
Carburetion System		FI (Fuel Injection)
Ignition System		Battery and coil (transistorized ignition)
Ignition Timing		10° BTDC @1 300 r/min (rpm) ~
(Electronically advanced)		33° BTDC @5 000 r/min (rpm)
Spark Plugs		NGK CR9EIA-9
Lubrication System		Forced lubrication (semi-dry sump)
Engine Oil	Type:	API SE, SF or SG
		API SH, SJ, SL or SM with JASO MA, MA1 or MA2
		SAE 10W-40
	Capacity:	2.4 L (2.5 US qt)
Coolant Capacity		1.2 L (1.3 US qt)

TRANSMISSION

Transmission Type	6-speed, return shift
Clutch Type	Wet, multi disc
Driving System	Chain drive

Primary Reduction Ratio		2.095 (88/42)
Final Reduction Ratio		3.067 (46/15)
Overall Drive Ratio		5.473 (Top gear)
Gear Ratio	1st	2.438 (39/16)
	2nd	1.714 (36/21)
	3rd	1.333 (32/24)
	4th	1.111 (30/27)
	5th	0.966 (28/29)
	6th	0.852 (23/27)

FRAME

Castor		25°
Trail		108 mm (4.2 in.)
Tire Size:	Front	120/70ZR17 M/C (58 W) Tubeless
	Rear	160/60ZR17 M/C (69 W) Tubeless
Rim Size:	Front	17 × 3.50

	Rear	17 × 4.50
Fuel Tank Capacity		19.0 L (5.0 US gal)

ELECTRICAL EQUIPMENT

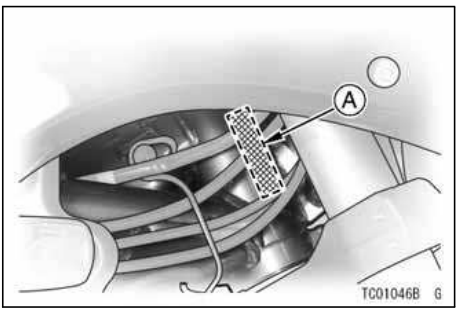
Battery	12 V 10 Ah
Headlight	12 V 55 W/55 W (Hi/Lo)
LED Tail/Brake Light	0.4/3.7 W

Even if one of LED (Light Emitting Diode) tail/brake light is not lit, consult with an authorized Kawasaki dealer.
Specifications subject to change without notice.

SERIAL NUMBER LOCATIONS

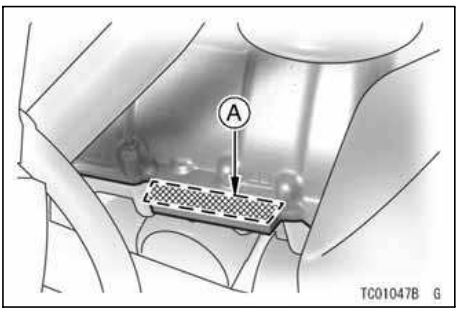
The engine and frame serial numbers are used to register the motorcycle. They are the only means of identifying your particular machine from others of the same model type. These serial numbers may be needed by your dealer. when ordering parts. In the event of theft, the investigating authorities will require both numbers as well as the model type and any peculiar features of your machine that can help them identify it.

Frame No.



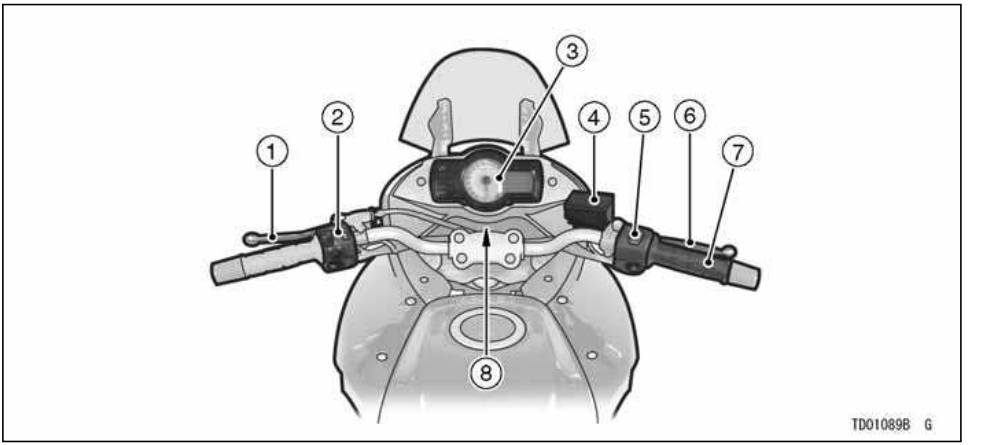
A. Frame Number

Engine No.

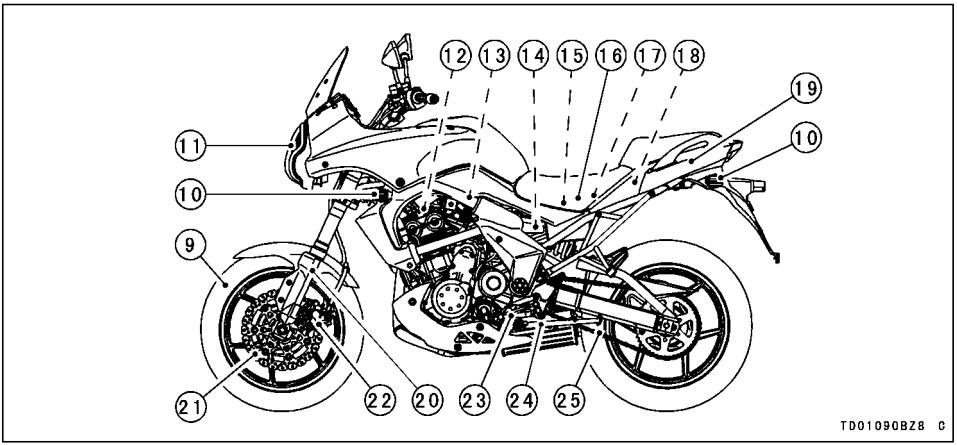


A. Engine Number

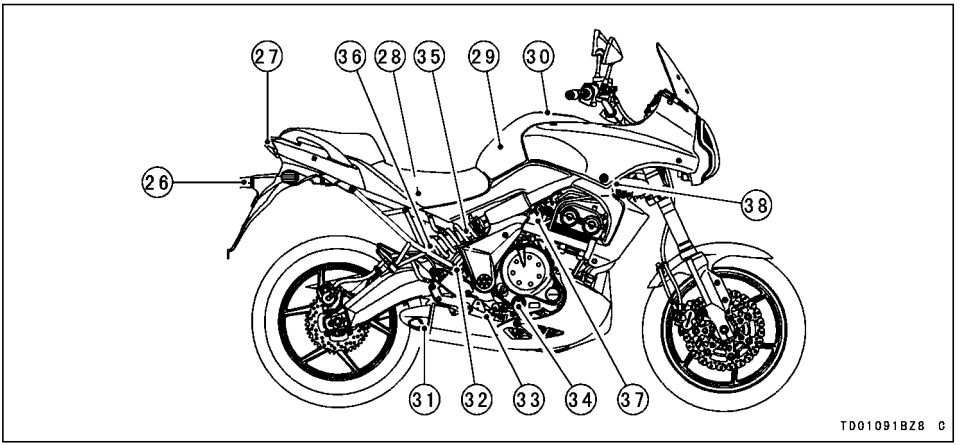
LOCATION OF PARTS



1. Clutch Lever
2. Left Handlebar Switches
3. Meter Instruments
4. Brake Fluid Reservoir (Front)
5. Right Handlebar Switches
6. Front Brake Lever
7. Throttle Grip
8. Ignition Switch/Steering Lock

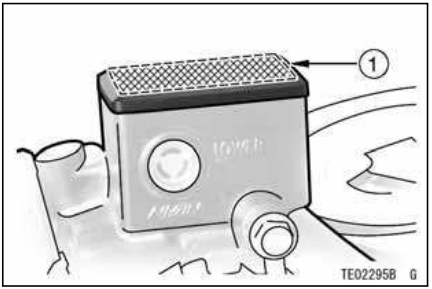


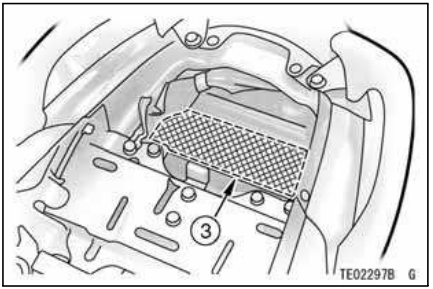
9. Wheel
10. Turn Signal Light
11. Headlight/Position
12. Spark Plugs
13. Air Cleaner
14. Main Fuse
15. Battery
16. Seat
17. Tool Kit/Storage Compartments
18. Helmet Holding Hook
19. Seat Lock
20. Front Fork
21. Brake Disc
22. Brake Caliper
23. Shift Pedal
24. Side Stand
25. Drive Chain



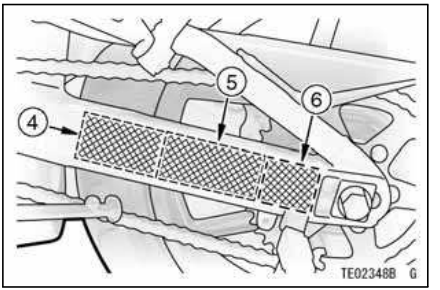
26. License Plate Light
27. Tail/Brake Light
28. Brake Fluid Reservoir (Rear)
29. Fuel Tank
30. Fuel Tank Cap
31. Muffler
32. Rear Brake Light Switch
33. Rear Brake Pedal
34. Oil Level Gauge
35. Rear Shock Absorber
36. Rebound Damping Force Adjuster
37. Idle Adjusting Screw
38. Coolant Reserve Tank

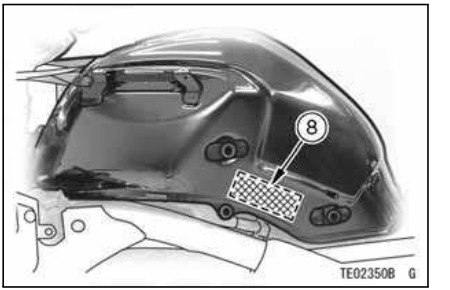
LOCATION OF LABELS

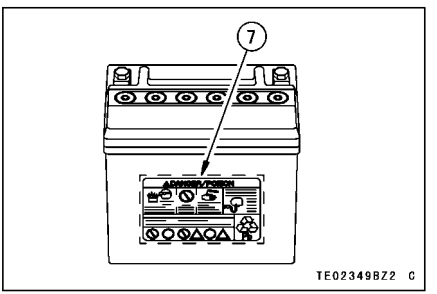




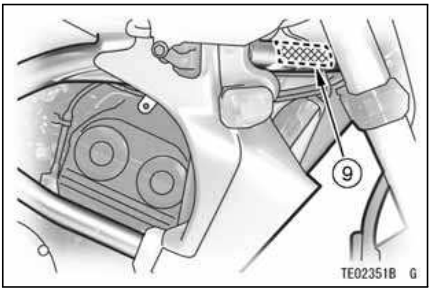
1. Brake Fluid (Front)
2. Brake Fluid (Rear)
3. Daily Safety Checks

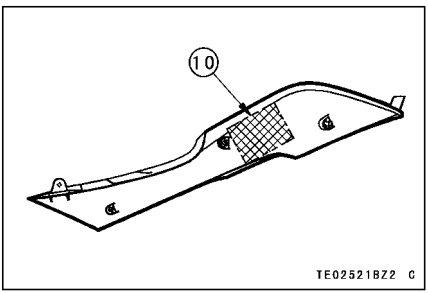


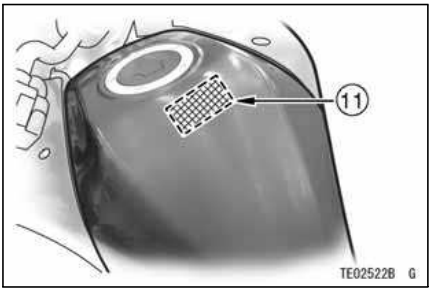




4. Tire and Load Data
5. Important Drive Chain Information
6. Noise Emission Control Information
7. Battery Poison/Danger
8. Vehicle Emission Control Information







9. Weight and manufacture
*10. Vacuum Hose Routing Diagram
*11. Fuel Level

*: only on California model

18 LOCATION OF LABELS

(1)

USE ONLY DOT4 BRAKE FLUID
FROM A SEALED CONTAINER.
CLEAN FILLER CAP BEFORE
REMOVING.

-WARNING-

N`UTILISER QUE DU FLUIDE
DE FREIN DOT4.

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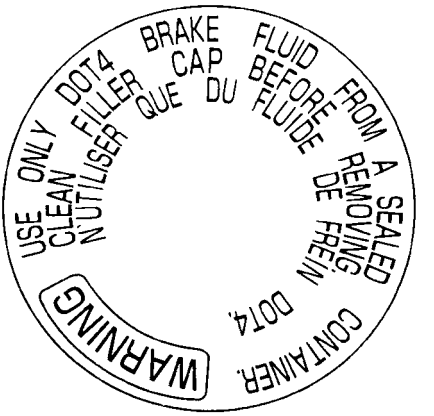
(2)



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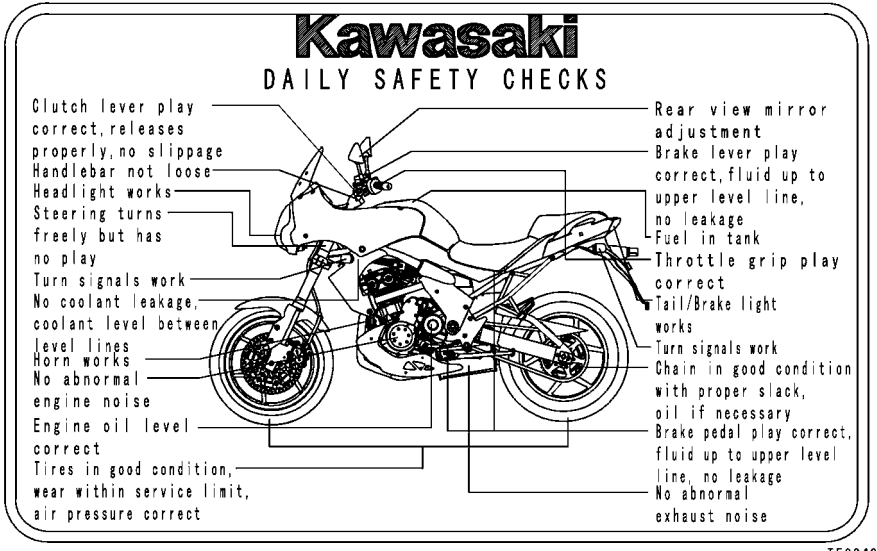

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(4)

TIRE AND LOAD DATA

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

	Air Pressure(Cold)		Size & Make Type (Tubeless Tire)		Minimum Tread Depth	
Front	Up to 180kg Load (397lbs)	225 kPa (2.25kgf/cm², 32psi)	DUNLOP 120/70ZR17M/C(58W) D221FAG		1 mm(0.04in)	
Rear	Up to 180kg Load (397lbs)	250 kPa (2.50kgf/cm², 36psi)	DUNLOP 160/60ZR17M/C(69W) D221G		Up to 130 km/h(80MPH)	2 mm(0.08in)
					Over 130 km/h(80MPH)	3 mm(0.12in)

TE03489B S

(5)

IMPORTANT DRIVE CHAIN INFORMATION

To prevent an accident and/or damage to the motorcycle, the drive chain must be properly maintained. It should be lubricated every 600km(400mi) and adjusted as often as necessary to keep chain slack at about 25~35mm(1.0~1.4in) measured midway between sprockets on the lower chain run with the motorcycle on the side stand. The standard chain is an Enuma EK520MVXL1 with estimated service life of 15000~45000km(9400~28000mi), depending on the severity of use and the frequency of lubrication and adjustment. For safety, replace the chain with only the standard chain any time it wears to over 323mm(12.7in), measured over a 20-link portion pulled straight with 98N(10kgf, 20lbf) of tension. See the Owner's Manual for chain information.

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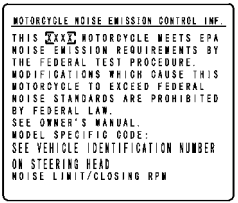
22 LOCATION OF LABELS

(6)



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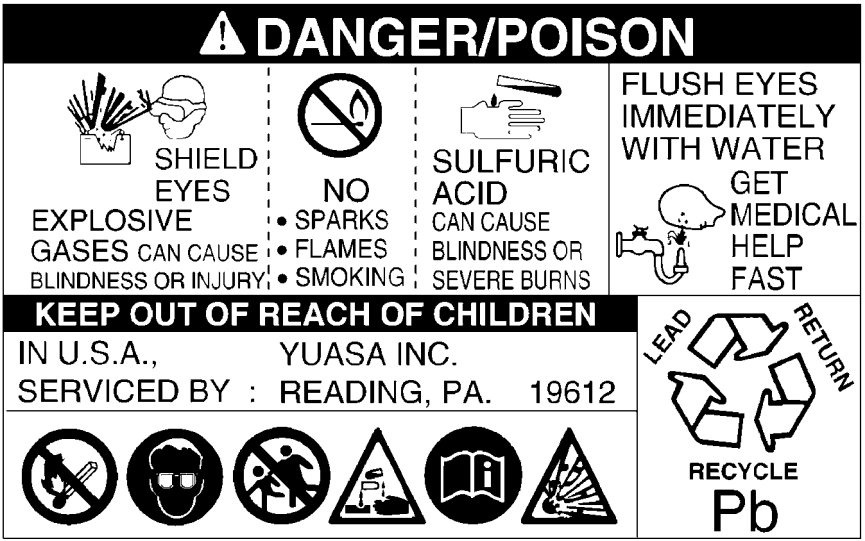
DANGER/POISON
SHIELD EYES
EXPLOSIVE GASES CAN CAUSE BLINDNESS OR INJURY
NO
• SPARKS
• FLAMES
• SMOKING
SULFURIC ACID
CAN CAUSE BLINDNESS OR SEVERE BURNS
FLUSH EYES IMMEDIATELY WITH WATER
GET MEDICAL HELP FAST
KEEP OUT OF REACH OF CHILDREN
IN U.S.A., YUASA INC.
SERVICED BY : READING, PA. 19612
LEAD
RETURN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

TE03115B S

(8)

VEHICLE EMISSION CONTROL INFORMATION

ENGINE FAMILY CODE ----_____ PERMEATION FAMILY ------ _____
MODEL(S) ---------- LE650A9
EXHAUST EMISSION CONTROL SYSTEM ---------- SFI+AIR+OC
DISPLACEMENT ---------- 649 CC

TUNE UP SPECIFICATIONS

IGNITION TIMING	10° BTDC AT 1300 RPM
IDLE SPEED	1300 ± 50 RPM IN NEUTRAL
IDLE AIR FUEL MIXTURE SETTING	NO ADJUSTMENT
VALVE CLEARANCE (ENGINE COLD)	INTAKE : 0.15-0.21MM(0.0059-0.0083 IN) EXHAUST : 0.22-0.31MM(0.0087-0.0122 IN)
SPARK PLUG	CR9EIA-9(NGK) SPARK PLUG GAP : 0.8-0.9 MM (0.031-0.035 IN)
FUEL	GASOLINE WITH RESEARCH OCTANE NO. (RON) 91 MIN.
ENGINE OIL	SERVICE RATING : API SE, SF OR SG API SH, SJ OR SL WITH JASO MA VISCOSITY : SAE 10W-40 SEE THE OWNER'S MANUAL FOR ENGINE OIL INFORMATION.

THIS VEHICLE CONFORMS TO U.S.EPA REGULATIONS APPLICABLE TO
2009 MODEL YEAR NEW MOTORCYCLES AND IS CERTIFIED TO AN HC+NOX
EMISSION STANDARD OF 0.8G/KW. KAWASAKI HEAVY INDUSTRIES, LTD.

Kawasaki

59464-1408

TE03987BZ9 C

(8) only on California model

VEHICLE EMISSION CONTROL INFORMATION

ENGINE FAMILY CODE ---_____ PERMEATION FAMILY---

EVAP. FAMILY ---------- 9KAXU17.0A07

MODEL(S) ---------- LE650A9

EXHAUST EMISSION CONTROL SYSTEM ---------- SFI+PAIR+OC

DISPLACEMENT ---------- 649 CC

TUNE UP SPECIFICATIONS

IGNITION TIMING	10° BTDC AT 1300 RPM
IDLE SPEED	1300 ± 50 RPM IN NEUTRAL
IDLE AIR FUEL MIXTURE SETTING	NO ADJUSTMENT
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ENGINE OIL	SERVICE RATING : API SE, SF OR SG API SH, SJ OR SL WITH JASO MA VISCOSITY : SAE 10W-40 SEE THE OWNER'S MANUAL FOR ENGINE OIL INFORMATION.

THIS VEHICLE CONFORMS TO U.S.EPA AND CALIFORNIA
REGULATIONS APPLICABLE TO 2009 MODEL YEAR NEW MOTORCYCLES
AND IS CERTIFIED TO 0.8G/KW HC+NOX ENGINE FAMILY EXHAUST
EMISSION STANDARD IN CALIFORNIA.
KAWASAKI HEAVY INDUSTRIES, LTD.

59464-1410

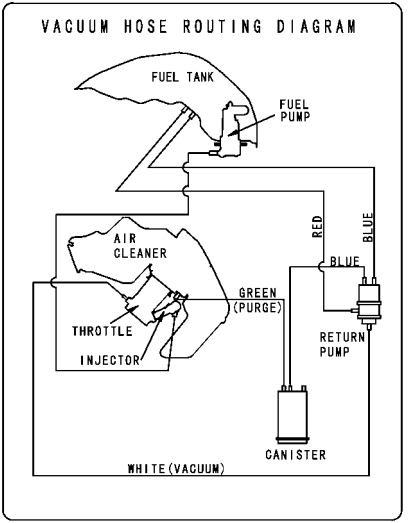
(9)

MFD. BY KAWASAKI HEAVY INDUSTRIES, LTD.
DATE: THIS VEHICLE CONFORMS
TO ALL APPLICABLE FEDERAL MOTOR VEHICLE
SAFETY STANDARDS IN EFFECT ON THE DATE
OF MANUFACTURE SHOWN ABOVE. GVWR 851 LBS.
GAWR F 302 LBS. WITH 120/70ZR17M/C (58W)
TIRE, J17M/CxMT3.50 RIM, AT 32 PSI. COLD.
GAWR R 549 LBS. WITH 160/60ZR17M/C (69W)
TIRE, J17M/CxMT4.50 RIM, AT 36 PSI. COLD.

MOTOR CYCLE MADE IN JAPAN

TE03731BN9 C

(10) only on California model



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TE03986BN7 C

(11) only on California model

CAUTION

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

TE03102B S

LOADING AND ACCESSORIES INFORMATION

⚠ WARNING

Incorrect loading, improper installation or use of accessories, or modification of your motorcycle may result in an unsafe riding condition. Before you ride the motorcycle, make sure that the motorcycle is not overloaded and that you have followed these instructions.

With the exception of genuine Kawasaki Parts and Accessories, Kawasaki has no control over the design or application of accessories. In some cases, improper installation or use of accessories, or motorcycle modification, will void the motorcycle warranty can negatively affect performance, and can even be illegal. In selecting and using accessories, and in loading the motorcycle, you are personally responsible for your own safety and the safety of other persons involved.

NOTE

○ *Kawasaki Parts and Accessories have been specially designed for use on Kawasaki motorcycles. We strongly recommend that all parts and accessories you add to your motorcycle be genuine Kawasaki components.*

Because a motorcycle is sensitive to changes in weight and aerodynamic forces, you must take extreme care

in carrying cargo, passengers and/or in the fitting of additional accessories. The following general guidelines have been prepared to assist you in making your determinations.

1. Any passenger should be thoroughly familiar with motorcycle operation. The passenger can affect control of the motorcycle by improper positioning during cornering and sudden movements. It is important that the passenger sit still while the motorcycle is in motion and not interfere with the operation of the motorcycle. Do not carry animals on your motorcycle.
2. You should instruct any passenger before riding to keep his feet on the passenger footpegs and hold on to the operator, seat strap or grab rail. Do not carry a passenger unless he or she is tall enough to reach the footpegs and footpegs are provided.
3. All baggage should be carried as low as possible to reduce the effect on the motorcycle center of gravity. Baggage weight should also be distributed equally on both sides of the motorcycle. Avoid carrying baggage that extends beyond the rear of the motorcycle.
4. Baggage should be securely attached. Make sure that the baggage will not move around while you are riding. Recheck baggage security as often as possible (not while the motorcycle is in motion) and adjust as necessary.
5. Do not carry heavy or bulky items on a luggage rack. They are designed for light items, and overloading can affect handling due to changes in weight distribution and aerodynamic forces.

6. Do not install accessories or carry baggage that impairs the performance of the motorcycle. Make sure that you have not adversely affected any lighting components, road clearance, banking capability (i.e., lean angle), control operation, wheel travel, front fork movement, or any other aspect of the motorcycle's operation.
7. Weight attached to the handlebar or front fork will increase the mass of the steering assembly and can result in an unsafe riding condition.
8. Fairings, windshields, backrests, and other large items have the capability of adversely affecting stability and handling of the motorcycle, not only because of their weight, but also due to the aerodynamic forces acting on these surfaces while the motorcycle is in operation. Poorly designed or installed items can result in an unsafe riding condition.
9. This motorcycle was not intended to be equipped with a sidecar or to be used to tow any trailer or other vehicle. Kawasaki does not manufacture sidecars or trailers for motorcycles and cannot predict the effects of such accessories on handling or stability, but can only warn that the effects can be adverse and that Kawasaki cannot assume responsibility for the results of such unintended use of the motorcycle. Furthermore, any adverse effects on motorcycle components caused by the use of such accessories will not be remedied under warranty.

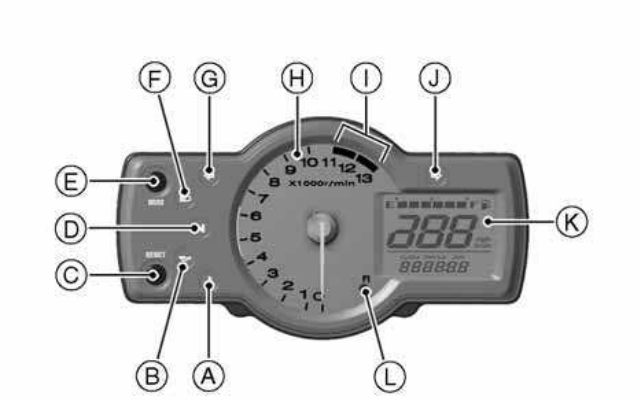
Maximum Load

Weight of rider, passenger, baggage, and accessories must not exceed 180 kg (397 lb).

GENERAL INFORMATION

Meter Instruments

A. Coolant Temperature Warning Light
B. Oil Pressure Warning Light
C. RESET Button
D. Neutral Indicator Light
E. MODE Button
F. High Beam Indicator Light
G. Left Turn Signal Indicator Light
H. Tachometer
I. Red Zone
J. Right Turn Signal Indicator Light
K. LCD (Speedometer, Clock, Trip Meter A/B, Odometer, Fuel Level Gauge)
L. FI Indicator Light



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Tachometer:

The tachometer shows the engine speed in 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.

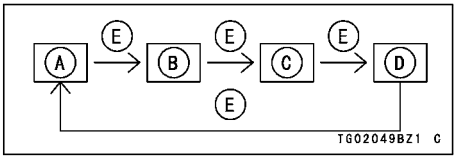
When ignition key is turned to “ON”, the tachometer needle momentarily points to the last reading to check its operation. If the tachometer needle does not operate correctly, have it inspected by an authorized Kawasaki dealer.

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.

LCD (Speedometer, Clock, Odometer, Trip Meters, Fuel Level Gauge):

The LCD (Liquid Crystal Display) located in the tachometer face is used to display the speedometer, Clock, odometer, Trip Meters A/B, and Fuel Level Gauge. Pushing the MODE button shifts the display through the following four modes: CLOCK, ODO, and TRIP A/B. When the ignition key is turned to “ON”, all the LCD segments are displayed for three seconds, then the clock or meters operate normally depending on the mode selected.

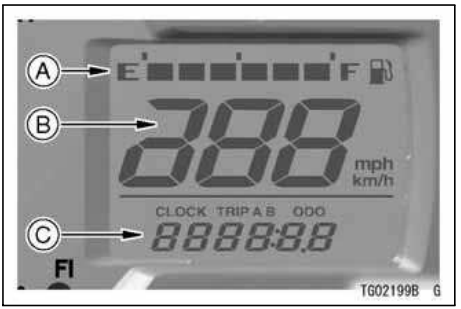


A. Clock
B. Odometer
C. Trip Meter A
D. Trip Meter B
E. Push MODE Button

NOTE

○ *For safe operation do not press the MODE button while riding.*

Digital Meter



A. Fuel Level Gauge
B. Speedometer
C. Clock, Trip Meter A/B, Odometer

NOTE

○ *Do not shift the digital meter display while riding for safe operation.*

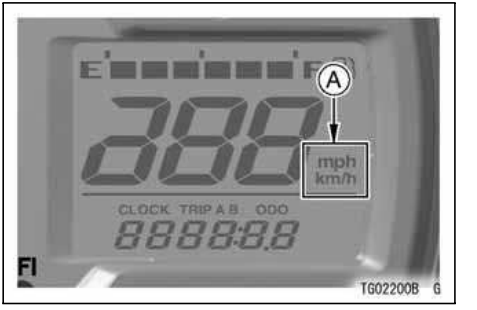
Mile/Km Display -

Mile/Km Display can alternate between English and metric modes (mile and km) in the digital meter. Make sure that km or mile according to local regulations is correctly displayed before riding.

NOTE

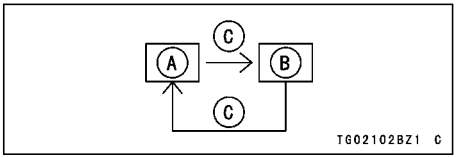
○ *Do not operate the vehicle with the digital meter displaying in the wrong unit (km or mile). Shift the km/mile display in the digital meter as follows.*

- Display the odometer in the digital meter.
- The km/mile display shifts by pushing the RESET button while the MODE button pushed in.



A. Km/Mile Display

● The km/mile display shifts as follows.



A. Mile Display
B. Km Display
C. Push RESET Button with MODE Button in

NOTE

○ *The data is maintained even if the battery is disconnected.*

Speedometer -

The speedometer shows the speed of the vehicle in digital value.

Clock -

To adjust the hours and minutes:

● Turn the ignition key to “ON”.
● Push the “MODE” button to display the clock.
● Push the “RESET” button for more than two seconds. Both the hour and minute displays start flashing.

- Push the “RESET” button. The hour display only flashes. Push the “MODE” button to advance the hours.

- Push the “RESET” button. The hour display stops flashing and the minute display starts flashing. Push the “MODE” button to advance the minutes.

- Push the “RESET” button. Both the hour and minute displays start flashing again.
- Push the “MODE” button. The displays stop flashing and the clock starts working.

NOTE

- *Pushing the “MODE” button momentarily advances the hour or minute step by step. Pushing and holding the button advance the hour or minute continuously.*
- *The clock works normally from the back-up power while the ignition switch is turned off.*
- *When the battery is disconnected, the clock resets to 1:00 and starts working again when the battery is connected.*

Odometer -

The odometer shows the total distance the vehicle has been ridden. This meter cannot be reset.

NOTE

- *The data is maintained even if the battery is disconnected.*
- *When the figures come to 999999, they are stopped and locked.*

Trip Meter -

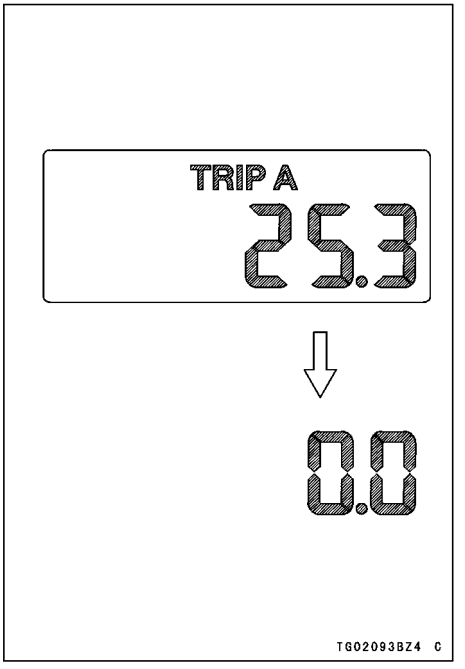
The trip meters show the distance in kilometers traveled since they were last reset to zero.

TRIP A: 0.0 ~ 999.9

TRIP B: 0.0 ~ 9999.9

To reset the trip meter:

- Push the “MODE” button to display the trip meter A or B.
- Push the “RESET” button and hold it in.
- After two seconds, the figure display turns to 0.0, and then starts counting when the vehicle is operated. The meter counts until it is next reset.



NOTE

- *The data is maintained by the back -up power if the ignition key is turned off.*
- *When the trip meter is reset while the vehicle is stopped, it starts counting as soon as the vehicle starts moving.*
- *When the trip meter reaches 999.9 (TRIP A) or 9999.9 (TRIP B) while running, the meters reset to 0.0 and continues counting.*
- *When the battery is disconnected, the meter display resets to 0.0.*

Fuel Gauge -

The fuel in the fuel tank is shown by the number of segments displayed. When the fuel tank is full, all the segments are displayed. As the fuel level in the tank goes down, the segments disappear one by one from F (full) to E (empty). When only the most bottom segment is displayed, 5.0 L (1.3 US gal) of fuel remain. Furthermore, when the lowest segment and "FUEL" flash in the digital meter, only 3.5 L (0.9 US gal) of fuel remain.

Refuel at the earliest opportunity if the most bottom segment of the fuel gauge flashes.

When vehicle stands with Side Stand, Fuel Gauge cannot show the amount of fuel in the fuel tank exactly. Stand upright the vehicle to check the fuel level.

NOTE

○ *When pushing the MODE button while "FUEL" is displayed, the display can be shifted to odometer, trip meter, or clock mode.*

Warning/Indicator Lights:

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

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

: When the turn signal switch is pushed to the left or right, the corresponding turn signal indicator light flashes.

: The oil pressure warning light goes on whenever the oil pressure is dangerously low or the ignition key is in the ON position with the engine not running, and goes off when the engine oil pressure is high enough. Refer to

the Maintenance and Adjustment chapter for more detailed engine oil information.

FI: The fuel injection (FI) indicator light in the tachometer goes on when the ignition key is turned to "ON" and goes off soon after ensuring that its circuit functions properly. The indicator light also goes on whenever the troubles occur in digital fuel injection system (DFI). If the indicator light comes on, have the DFI system checked by an authorized Kawasaki dealer. When the indicator light flashes, first turn the ignition key to "OFF" and then back to "ON".

: The coolant temperature warning light in the speedometer goes on whenever the coolant temperature rises to 115°C (239°F) when the motorcycle is in operation. This warns the operator that the coolant temperature is too high. If the warning light goes 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 flashes. Prolonged engine operation will result in severe damage from overheating.

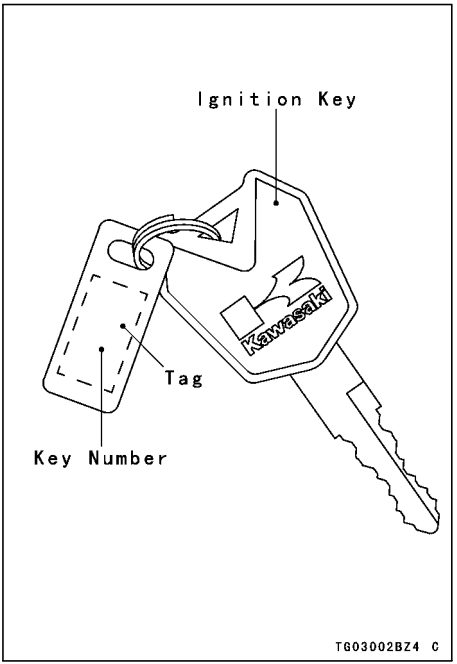
Key

This motorcycle has a combination key, which is used for the ignition switch/steering lock, seat lock, 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, or using the key code on the tag with your keys.

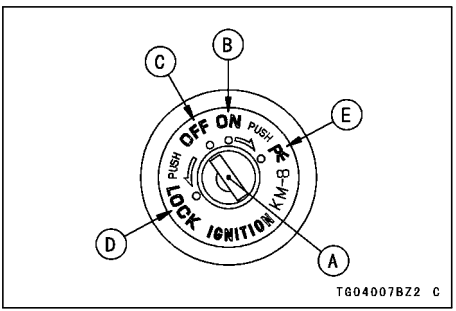
Record the code from the tag with your keys here. Participating Kawasaki dealers can use the code to make a new key in the event that your original keys are lost.

Write your key number here.



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.



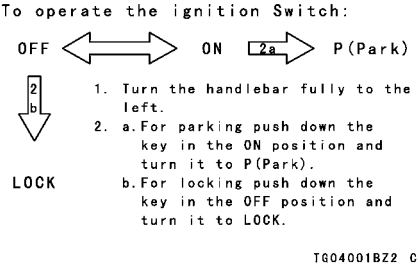
A. Ignition Switch/Steering Lock
B. ON position
C. OFF position
D. LOCK position
E. P (Park) position

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. License plate, tail, and city lights on and turn signals can be used. All other electrical circuits cut off.

NOTE

○ *The city, tail and license plate lights are on whenever the ignition key is in the ON position. One headlight goes on when the starter button is released after starting the engine. To avoid battery discharge, always start the engine immediately after turning the ignition key to "ON".*

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



Right Handlebar Switches

Engine Stop Switch:

In addition to the ignition switch, the engine stop switch must be in the ⟳ 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 ⊠ position.

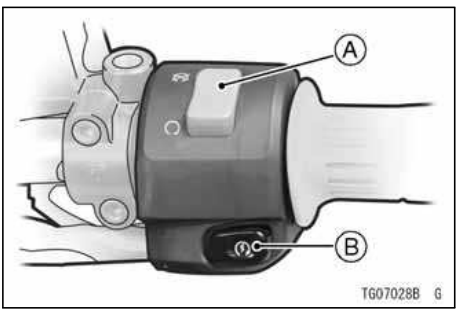
NOTE

○ *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.*

Starter Button:

The starter button operates the electric starter when the transmission is in neutral.

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



A. Engine Stop Switch
B. Starter Button

Left Handlebar Switches

Dimmer Switch:

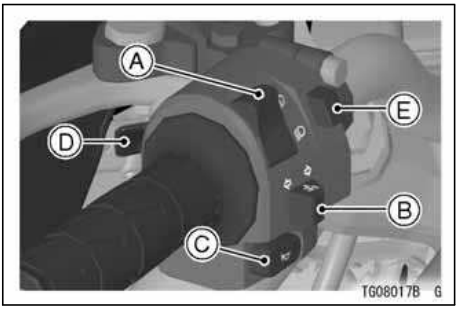
High or low beam can be selected with the dimmer switch. When the headlight is on high beam (≡D), the high beam indicator light is lit.

High beam.....(≡D)

Low beam.....(≡D)

NOTE

○ *When the headlight is on high beam, both head lights are lit. When the headlight is on low beam, only one headlight is lit.*



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

Turn Signal Switch:

When the turn signal switch is turned to the left (⇦) or right (⇨), the corresponding turn signal flashes 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 button is released.

Hazard Switch:

If an emergency requires you to park on the highway shoulder, turn on the hazard lights to warn other drivers of your location.

Push in the hazard switch with the ignition switch in the ON or P (Park) position. All the turn signals and turn signal indicator lights will flash on and off.

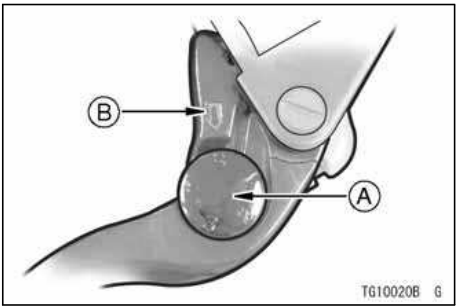
CAUTION

If you leave the switch on for a long time, the battery may become totally discharged. So be careful not to use the hazard lights for more than 30 minutes.

Brake/Clutch Lever Adjusters

There is an adjuster on both the brake and clutch levers. Each adjuster has 5 positions so that the released lever position can be adjusted to suit the operator's hands. Push the lever forward and turn the adjuster to align the number with the arrow mark on the lever holder.

The distance from the grip to the released lever is minimum at Number 5 and maximum at Number 1.



A. Adjuster
B. Mark

Fuel Tank Cap

To open the fuel tank cap, pull up the key hole cover. Insert the ignition key into the fuel tank cap and turn the key to the right.

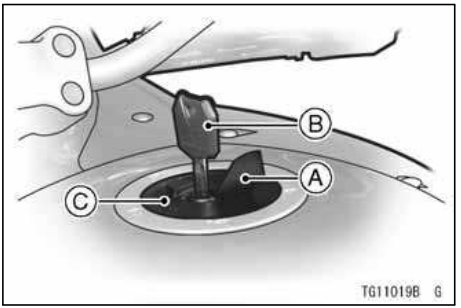
To close the cap, push it down into place with the key inserted. The key can be removed by turning it to the left to the original position.

NOTE

○ *The fuel tank cap cannot be closed without the key inserted, and the key cannot be removed unless the cap is locked properly.*

NOTE

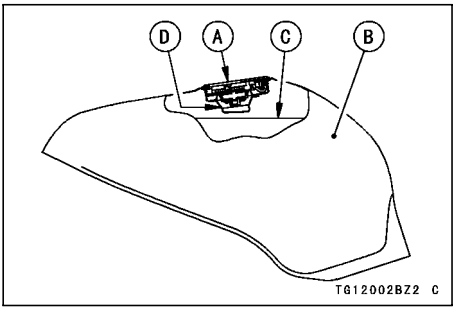
○ *Do not push on the key to close the cap, or the cap cannot be locked.*



A. Key Hole Cover
B. Ignition Key
C. Fuel Tank Cap

Fuel Tank

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



A. Tank Cap
B. Fuel Tank
C. Top Level
D. Filler Neck

⚠ WARNING

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

CAUTION

California models only: 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 flow into the Evaporative Emission Control System resulting in hard staring and engine hesitation and incompliance with the emission regulation.

Fuel Requirement:

Fuel Type

Use clean, fresh unleaded gasoline with a minimum Antiknock Index of 87. The Antiknock Index is posted on service station pumps. The octane rating of a gasoline is a measure of its resistance to detonation or "knocking." The Antiknock Index is an average of the Research Octane Number (RON) and

the Motor Octane Number (MON) as shown in the table.

Octane Rating Method		Minimum Rating
Antiknock Index	$\frac{(RON + MON)}{2}$	87

CAUTION

If engine "knocking" or "pinging" occurs, use a different brand of gasoline of a higher octane rating. If this condition is allowed to continue it can lead to severe engine damage.

Gasoline quality is important. Fuels of low quality or not meeting standard industry specifications may result in unsatisfactory performance. Operating problems that result from the use of poor quality or nonrecommended fuel may not be covered under your warranty.

Fuels Containing Oxygenates

Gasoline frequently contains oxygenates (alcohols and ethers) especially in areas of the U.S. and Canada

which are required to sell such reformulated fuels as part of a strategy to reduce exhaust emissions.

The types and volume of fuel oxygenates approved for use in unleaded gasoline by the U.S. Environmental Protection Agency include a broad range of alcohols and ethers, but only two components have seen any significant level of commercial use.

Gasoline/Alcohol Blends - Gasoline containing up to 10% ethanol (alcohol produced from agricultural products such as corn), also known as “gasohol” is approved for use.

CAUTION

Avoid using blends of unleaded gasoline and methanol (wood alcohol) whenever possible, and never use “gasohol” containing more than 5% methanol. Fuel system damage and performance problems may result.

Gasoline/Ether Blends - The most common ether is methyl tertiary butyl ether (MTBE). You may use gasoline containing up to 15% MTBE.

NOTE

○ *Other oxygenates approved for use in unleaded gasoline include TAME (up to 16.7%) and ETBE (up to 17.2%). Fuel containing these oxygenates can also be used in your Kawasaki.*

CAUTION

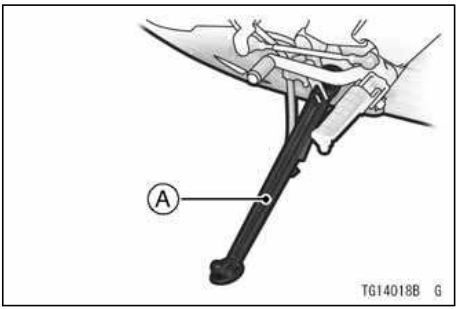
Never use gasoline with an octane rating lower than the minimum specified by Kawasaki.
Never use "gasohol" with more than 10% ethanol, or more than 5% methanol. Gasoline containing methanol must also be blended with solvents and corrosion inhibitors.
Certain ingredients of gasoline may cause paint fading or damage. Be extra careful not to spill gasoline or gasoline oxygenate blends during refueling.
When not operating your Kawasaki for 30 to 60 days, mix a fuel stabilizer (such as STA-BIL) with the gasoline in the fuel tank. Fuel stabilizer additives inhibit oxidation of the fuel which minimizes gummy deposits.

CAUTION

Never store this product with "gasohol" in the fuel system. Before storage it is recommended that you drain all fuel from the fuel system. See the Storage section in this manual.

Stand

The motorcycle is equipped with a side stand.



A. Side Stand

NOTE

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

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

NOTE

○ *The motorcycle is equipped with a side stand switch. This switch is designed so that the engine does not start if the transmission is in gear and the side stand is down.*

Seat Lock

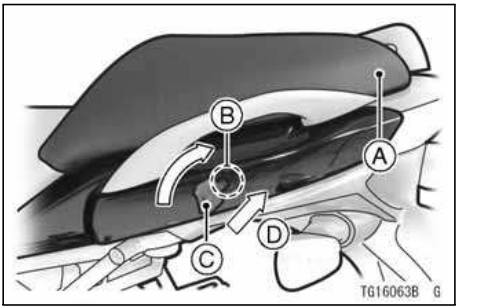
Seat Removal

Insert the ignition key into the seat lock, located on the rear cowling.

Turn the key clockwise while pulling on the rear end of the seat.

NOTE

○ *If there is difficulty removing the seat, be sure to insert the key all the way and to push down strongly on the rear end of the seat while turning the key clockwise.*

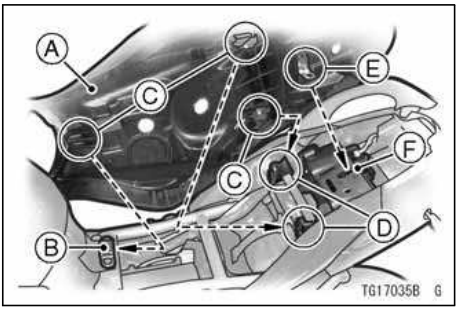


A. Seat
B. Seat Lock
C. Ignition Key
D. Insert

Seat Installation

Install seats in the reverse order of removal.

- Place the tabs into the matching slot and receptacles.



A. Seat
B. Slot
C. Tab
D. Receptacle
E. Hook
F. Lock

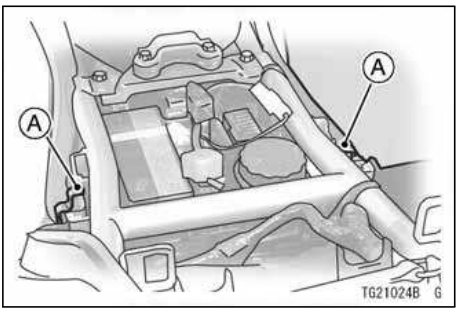
- Insert the hook at the rear of the seat into the lock on the frame.
- Push down the rear part of the seat until the lock clicks.
- Pull up the rear end of the seat to make sure it is securely locked.

NOTE

○ *If there is difficulty removing the ignition key from the seat lock, turn it lightly counterclockwise while pulling it out.*

Helmet Holding Hooks

Helmets can be secured to the motorcycle using the helmet holding hooks located under the seat.



A. Helmet Holding Hook

⚠ WARNING

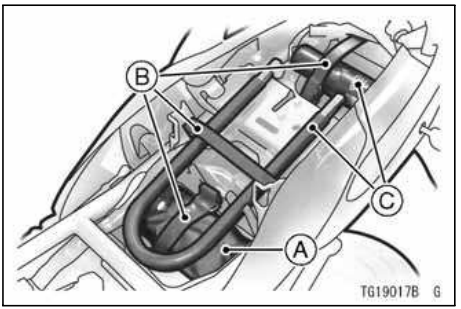
Do not ride the motorcycle with helmets attached to the hooks. The helmets could cause an accident by distracting the operator or interfering with normal vehicle operation.

Tool Kit/U-Shaped lock Compartment

The tool kit is stored under the seat. The kit contains tools that can be helpful in making roadside repairs, adjustments, and some maintenance procedures explained in this manual.

Also, under the seat, there is a lock strap which can hole a U-Shaped lock (not supplied).

Install the U-shaped part and lock separately and secure them each with its strap.

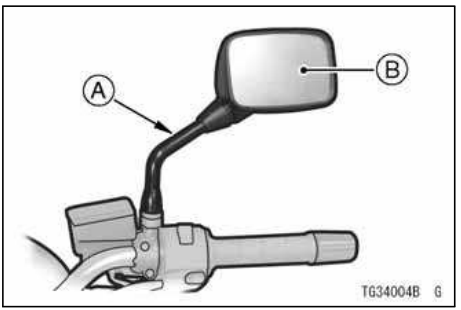


A. Tool Kit
B. Strap
C. U-Shaped Lock (not supplied)

Rear View Mirror

Rear View Mirror Adjustment

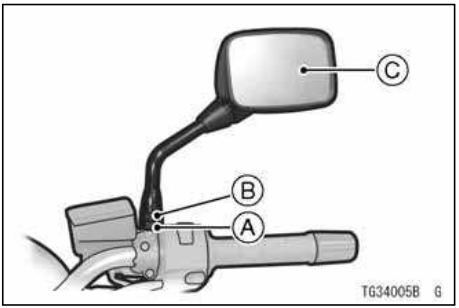
- Adjust the rear view mirror by slightly moving only the mirror portion of the assembly.
- If the rear visibility can not be assured by moving the mirror, turn the stay by hand.



A. Stay
B. Rear View Mirror

CAUTION

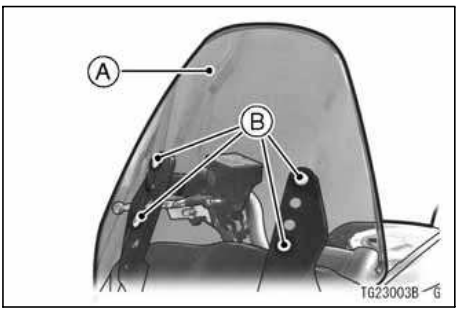
Do not force to tighten and/or loosen the upper hexagonal area with a pair of spanners or wrench. Forcible loosening and/or tightening may damage the upper hexagonal area and/or the turning mechanism of the stay.



A. Lower Hexagonal Area for Tightening
B. Upper Hexagonal Area
C. Rear View Mirror

Windshield

The windshield can be adjusted within 3 positions in height to suit the rider's preference. Loosen the upper and lower bolts on the windshield and move it up or down. After adjusting, make sure to tighten all four bolts securely.



A. Windshield
B. Bolts

Tightening Torque

Windshield Bolt 0.35 ~ 0.5 N·m (0.035 ~ 0.05 kgf·m, 0.25 ~ 0.36 ft·lb)

NOTE

○ *Make sure that there is a damper when tightening the bolts.*

BREAK-IN

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.

⚠ WARNING

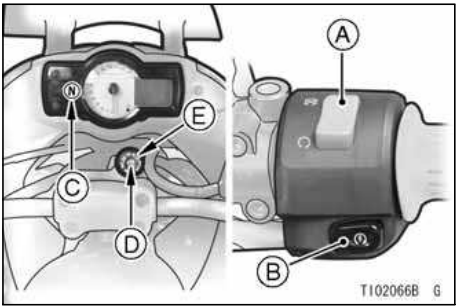
New tires are slippery and may cause loss of control and injury.
A break-in period of 160 km (100 miles) is necessary to establish normal tire traction. During break-in, avoid sudden and maximum braking and acceleration, and hard cornering.

In addition to the above, at 1 000 km (600 mi) it is extremely important that the owner have the initial maintenance service performed by a competent mechanic following the procedures in the Service Manual.

HOW TO RIDE THE MOTORCYCLE

Starting the Engine

- Check that the engine stop switch is in the ⟳ position.
- Turn the ignition key to “ON”.
- Make sure the transmission is in neutral.



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

NOTE

○ *The motorcycle is equipped with a vehicle-down sensor, which causes the engine to stop automatically and*

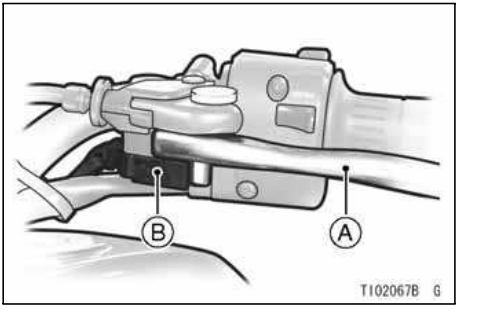
the Fi indicator light to flash when the motorcycle falls down. After righting the motorcycle, first turn the ignition key to "OFF" and then back to "ON" before starting the engine.

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

○ *The motorcycle is equipped with a starter lockout switch. This switch is designed so that the engine does not start if the transmission is in gear and the side stand is down. However, the engine can be started if the clutch lever is pulled and the side stand is fully up.*



A. Clutch Lever
B. Starter Lockout Switch

CAUTION

Do not let the engine idle longer than 5 minutes, or engine overheating and damage may occur.

Jump Starting

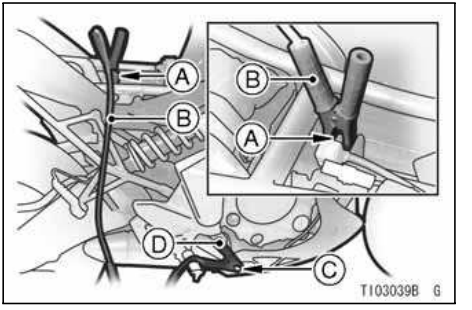
If your motorcycle battery is “run down,” it should be removed and charged. If this is not practical, a 12 volt booster battery and jumper cables may be used to start the engine.

⚠ 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 5 minutes. Seek medical attention.

Connecting Jumper Cables

- Remove the seat.
- Make sure the ignition key is turned to OFF.
- 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. From Booster Battery Positive (+) Terminal
C. Footpeg
D. From Booster Battery Negative (–) Terminal

- Connect another jumper cable from the negative (–) terminal of the

booster battery to your motorcycle footpeg or other unpainted metal surface. Do not use the negative (–) terminal of the battery.

⚠ WARNING

Do not make this last connection at the fuel system 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.

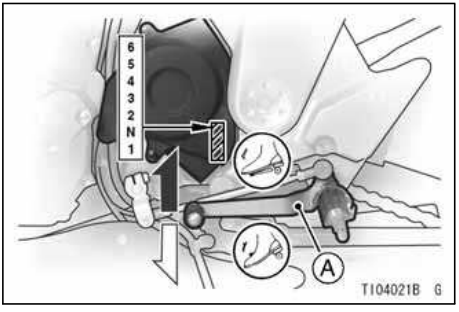
CAUTION

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 has started, disconnect the jumper cables. Disconnect the negative (–) cable from the motorcycle first.
- Reinstall the parts removed.

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 does not start if the transmission is in gear and the side stand is down.*
- *When the headlight is on high beam, two headlight beams are lit, and on low beam, one headlight is lit.*

Shifting Gears

- Close the throttle while pulling in the clutch lever.
- Shift into the next higher or lower gear.
- Open the throttle part way, while releasing the clutch lever.
- For smooth riding, each gear position should cover the proper rate of speed shown in the table.

⚠ 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.

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.*

Vehicle speed when shifting

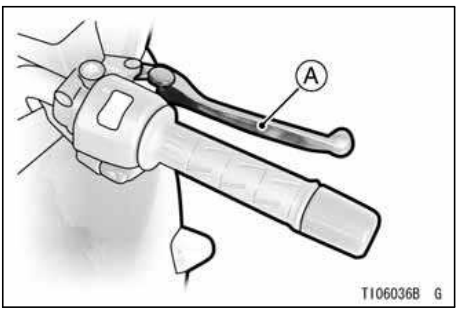
Shifting up	km/h (mph)	Shifting down	km/h (mph)
1st → 2nd	15 (9)	6th → 5th	30 (19)
2nd → 3rd	25 (15)	5th → 4th	25 (15)
3rd → 4th	35 (21)	4th → 3rd	20 (12)
4th → 5th	45 (27)	3rd → 2nd	15 (9)
5th → 6th	55 (34)	2nd → 1st	15 (9)

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.

CAUTION

In order to protect the emission control parts, do not turn off the ignition switch when the motorcycle is in motion.



A. Front Brake Lever

A. Rear Brake Pedal

Stopping the Engine

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

NOTE

○ *The motorcycle is equipped with a vehicle-down sensor, which causes the engine to stop automatically and the fuel injection indicator light to flash when the motorcycle falls down. After righting the motorcycle, first turn the ignition key to “OFF” and then back to “ON” before starting the engine.*

Stopping the Motorcycle in an Emergency

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

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

In an emergency situation such as throttle failure, your vehicle may be stopped by applying the brakes and disengaging the clutch. 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 key to “OFF”.
- Support the motorcycle on a firm, level surface with the side stand.

CAUTION

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

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

⚠ WARNING

The muffler and exhaust pipe are very hot while the engine is running and just after the engine stop. This can ignite a fire, resulting in property damage or severe personal injury.
Do not idle or park your vehicle in an area where flammable materials such as grasses or dry leaves may contact with muffler or exhaust pipe.

⚠ 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 key to the P (park) position.*
- *Do not leave the ignition switch at P position too long, or the battery will discharge.*

Catalytic Converter

This motorcycle is equipped with a catalytic converter in the exhaust system. Platinum and rhodium in the converter react with carbon monoxide and hydrocarbons to convert them into carbon dioxide and water resulting in much cleaner exhaust gases to be discharged into the atmosphere.

For proper operation of the catalytic converter, the following cautions must be observed.

⚠ WARNING

The muffler and exhaust pipe are very hot while the engine is running and just after the engine stop. This can ignite a fire, resulting in property damage or severe personal injury.
Do not idle or park your vehicle in an area where flammable materials such as grasses or dry leaves may contact with muffler or exhaust pipe.

- Use only unleaded gasoline. Never use leaded gasoline. Leaded gasoline significantly reduces the capability of the catalytic converter.
- Do not coast the vehicle with the ignition switch and/or engine stop switch off. Do not attempt to start the engine by rolling the vehicle if the battery is discharged. Do not operate

the vehicle with the engine or any one cylinder misfiring. Under these conditions unburned air/fuel mixture flowing out of engine excessively accelerates reaction in the converter allowing the converter to overheat and become damaged when the engine is hot, or reduces converter performance when the engine is cold.

SAFE OPERATION

Safe Riding Technique

The points given below are applicable for everyday motorcycle use and should be carefully observed for safe and effective vehicle operation.

For safety, eye protection and a helmet are strongly recommended. You should be aware of and verify the applicable safety regulations in force prior to riding your motorcycle. Gloves and suitable footwear should also be used for added protection.

A motorcycle does not provide the impact protection of an automobile, so defensive riding in addition to wearing protective apparel is extremely important. Do not let protective apparel give you a false sense of security.

Before changing lanes, look over your shoulder to make sure the way is clear. Do not rely solely on the rear view mirror; you may misjudge a vehicle's distance and speed, or you may not see it at all.

When going up steep slopes, shift to a lower gear so that there is plenty of power to spare rather than overloading the engine.

When applying the brakes, use both the front and rear brakes. Applying only one brake for sudden braking may cause the motorcycle to skid and lose control.

When going down long slopes, control vehicle speed by closing the throttle. Use the front and rear brakes for auxiliary braking.

In wet conditions, rely more on the throttle to control vehicle speed and less on the front and rear brakes. The throttle should also be used judiciously to avoid skidding the rear wheel from too rapid acceleration or deceleration.

Riding at the proper rate of speed and avoiding unnecessarily fast acceleration are important not only for safety and low fuel consumption but also for long vehicle life and quieter operation.

When riding in wet conditions or on loose roadway surfaces, the ability to maneuver will be reduced. All of your actions should be smooth under these conditions. Sudden acceleration, braking or turning may cause loss of control.

On rough roads, exercise caution, slow down, and grip the fuel tank with the knees for better stability.

When quick acceleration is necessary as in passing, shift to a lower gear to obtain the necessary power.

Do not downshift at too high an r/min (rpm) to avoid damage to the engine from overrevving.

Avoiding unnecessary weaving is important to the safety of both the rider and other motorists.

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	Up to 180 kg (397 lb) Load	225 kPa (2.25 kgf/cm², 32 psi)
Rear	Up to 180 kg (397 lb) Load	250 kPa (2.50 kgf/cm², 36 psi)

Install the air valve cap.
Drive chain ..... Slack 25 ~ 35 mm (1.0 ~ 1.4 in.)
Lubricate the dive chain if dry.
Nuts, bolts, fasteners .. Check that steering and suspension components, axles, and all controls are properly tightened or fastened.
Steering ..... Action smooth but not loose from lock to lock.
No binding of control cables.
Brakes ..... Brake pad wear: Lining thickness more than 1 mm (0.04 in.) left.
No brake fluid leakage.

Throttle	Throttle grip play 2 ~ 3 mm (0.08 ~ 0.12 in.).
Clutch	Clutch lever play 2 ~ 3 mm (0.08 ~ 0.12 in.).
	Clutch lever operates smoothly.
Coolant	No coolant leakage.
	Coolant level between level lines (when engine is cold).
Electrical equipment ...	All lights (Headlight, Tail/Brake Lights, Turn Signal Lights, Warning/Indicator Lights) and horn work.
Engine stop switch	Stops engine.
Side stand	Returns to its fully up position by spring tension.
	Returns spring not weak or not damaged.

Refer to the “Daily Safety Checks” caution label attached to the Tool kit/U-shaped lock compartment.

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 them 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 engine seizure and resulting loss of control, make sure that the oil level is at the upper level line.

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

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

Miscellaneous: Make sure 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.

MAINTENANCE AND ADJUSTMENT

The maintenance and adjustments outlined in this chapter must be 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.**

With a basic knowledge of mechanics and the proper use of tools, you should be able to carry out many of the maintenance items described in this chapter. If you lack proper experience or doubt your ability, all adjustments, maintenance, and repair work should be completed by a qualified technician.

Please note that Kawasaki cannot assume any responsibility for damage resulting from incorrect 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 and California Air Resources Board. Additionally, Kawasaki has incorporated an evaporative emission control system (3) in compliance with applicable regulations of the United States Environmental Protection Agency and California Air Resources Board.

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 fuel injection system.

2. Exhaust Emission Control System

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

3. Evaporative Emission Control System

The evaporative emission control system for this vehicle consists of low permeation fuel hoses and a fuel tank.

3. Evaporative Emission Control System (California)

Vapors caused by fuel evaporation in the fuel system are not vented into the atmosphere. Instead, fuel vapors are routed into the running engine to be burned, or stored in a canister when the engine is stopped. Liquid fuel is caught by a vapor separator and returned to the fuel tank.

High Altitude Performance Adjustment Information

High Altitude adjustment is not required.

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 180 through 186 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)

Frequency / Operation (Engine Items)	Whichever comes first ➡ / Every ⬇	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
Air cleaner element - clean				●		●		●	118
Valve clearance - inspect						●			116
Throttle control system (play, smooth return, no drag) - inspect	year	●		●		●		●	119

	Frequency / Operation (Engine Items)	Whichever comes first ➡ / Every ⬇	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
	Engine vacuum synchronization - inspect				●		●		●	122
	Idle speed - inspect		●		●		●		●	122
K	Fuel leak (fuel hose and pipe) - inspect	year	●		●		●		●	–
K	Fuel hoses damage - inspect	year	●		●		●		●	–

	Frequency / Operation (Engine Items)	Whichever comes first ➡ / ⬇ Every	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
K	Fuel hoses installation condition - inspect	year	●		●		●		●	–
	Coolant level - inspect		●		●		●		●	111
	Coolant leak - inspect	year	●		●		●		●	108
	Radiator hose damage - inspect	year	●		●		●		●	108

Frequency / Operation (Engine Items)	Whichever comes first ➡ / Every	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
Radiator hoses installation condition - inspect	year	●		●		●		●	108
Air suction system damage - inspect				●		●		●	117
Evaporative emission control system - function (California model only)		●	●	●	●	●	●	●	115

2. Periodic Inspection (Chassis Related Items)

Frequency / Operation (Chassis Items)	Whichever comes first ➡ / Every	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
Clutch and drive train:									
Clutch operation (play, engagement, disengagement) - inspect		●		●		●		●	124
Drive chain lubrication condition - inspect #	every 600 km (400 mile)								134
Drive chain slack - inspect #	every 1 000 km (600 mile)								127

	Frequency / Operation (Chassis Items)	Whichever comes first ➡ / Every ⬇	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
	Drive chain wear - inspect #				●		●		●	131
K	Drive chain guide wear - inspect				●		●		●	–
	Wheels and tires:									
	Tire air pressure - inspect	year			●		●		●	148
	Wheels/tires damage - inspect				●		●		●	149

	Frequency / Operation (Chassis Items)	Whichever comes first ➡ / Every ⬇	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
	Tire tread wear, abnormal wear - inspect				●		●		●	149
K	Wheel bearings damage - inspect	year			●		●		●	–
	Brake system:									
	Brake fluid leak - inspect	year	●	●	●	●	●	●	●	135

Frequency / Operation (Chassis Items)	Whichever comes first ➡ / Every ⬇	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
Brake hoses and pipe damage - inspect	year	●	●	●	●	●	●	●	135
Brake pad wear - inspect #			●	●	●	●	●	●	135
Brake hose installation condition - inspect	year	●	●	●	●	●	●	●	135
Brake fluid level - inspect	6 months	●	●	●	●	●	●	●	136

Frequency / Operation (Chassis Items)	Whichever comes first ➡ / Every ⬇	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
Brake operation (effectiveness, play, drag) - inspect	year	●	●	●	●	●	●	●	138
Brake light switch operation - inspect		●	●	●	●	●	●	●	139
Suspensions:									

Frequency / Operation (Chassis Items)	Whichever comes first ➡ / Every	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
Front forks/rear shock absorber operation (damping and smooth stroke) - inspect				●		●		●	141, 144
Front forks/rear shock absorber oil leak - inspect	year			●		●		●	141, 144
Steering System:									

	Frequency / Operation (Chassis Items)	Whichever comes first ➡ / Every ⬇	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
K	Steering play - inspect	year	●		●		●		●	–
K	Steering stem bearings - lubricate	2 years					●			–
	Electrical System:									
	Lights and switches operation - inspect	year			●		●		●	–
	Headlight aiming - inspect	year			●		●		●	157

	Frequency / Operation (Chassis Items)	Whichever comes first ➡ / Every	*Odometer Reading km × 1 000 (mile × 1 000) 1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	See Page
	Side stand switch operation - inspect	year			●		●		●	–
	Engine stop switch operation - inspect	year			●		●		●	–
	Chassis:									
K	Chassis parts - lubricate	year			●		●		●	–
K	Bolts and nuts tightness - inspect		●		●		●		●	–

3. Periodic Replacement

	Frequency / Change/Replacement Items	Whichever comes first ↓ / Every	*Odometer Reading km × 1 000 (mile × 1 000) → 1 (0.6)	12 (7.5)	24 (15)	36 (22.5)	48 (30)	See Page
	Air cleaner element # - replace	2 year						118
	Engine oil # - change	year	●	●	●	●	●	104
	Oil filter - replace	year	●	●	●	●	●	104
K	Fuel hoses - replace	4 year					●	–
K	Coolant - change	3 years				●		114
K	Radiator hoses and O-rings - replace	3 years				●		–
K	Brake hoses and pipe - replace	4 years					●	–

	Frequency / Change/Replacement Items	Whichever comes first ↓ / Every	*Odometer Reading km × 1 000 (mile × 1 000) → 1 (0.6)	12 (7.5)	24 (15)	36 (22.5)	48 (30)	See Page
K	Brake fluid (front and rear) - change	2 years			●		●	138
K	Rubber parts of master cylinder and caliper - replace	4 years					●	–
	Spark plug - replace			●	●	●	●	114

Engine Oil

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

⚠ WARNING

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

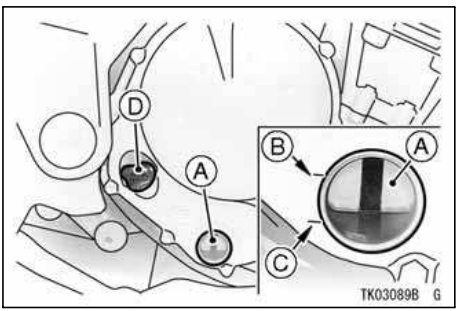
Oil Level Inspection

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

CAUTION

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

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

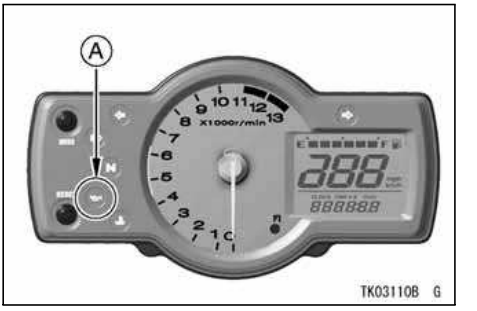


A. Oil Level Gauge
B. Upper Level Line
C. Lower Level Line
D. Oil Filler Cap

- 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.

CAUTION

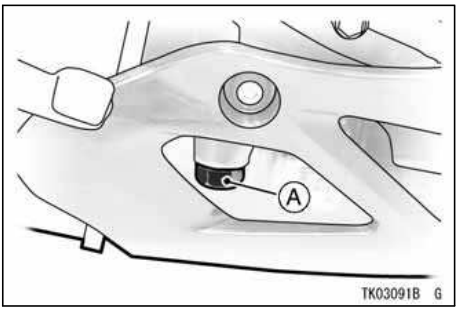
If the engine oil gets extremely low or if the oil pump does not function properly or oil passages are clogged, the oil pressure warning light will come on. If this light stays on while the engine running above the idle speed, stop the engine immediately and find the cause.



A. Oil Pressure Warning Light

Oil and/or Oil Filter Change

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



A. Drain Plug

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

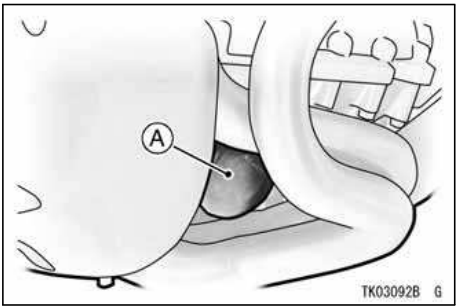
⚠ WARNING

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

- Remove the oil filter cartridge and replace it with a new one.

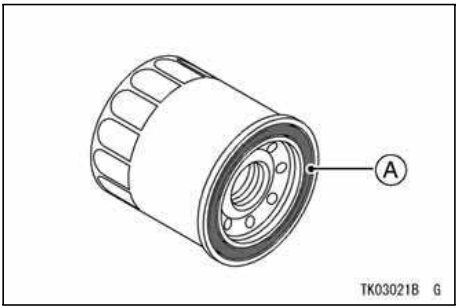
NOTE

○ *If a torque wrench or required Kawasaki special tool is not available, this item should be serviced by a Kawasaki dealer.*



A. Cartridge

- Apply a thin film of oil to the packing and tighten the cartridge to the specified torque.



A. Packing

- Install the drain plug with its new gasket. Tighten it to the specified torque.

NOTE

○ *Replace any gaskets with new ones.*

- Fill the engine up to the upper level line with a good quality engine oil specified in the table.
- Start the engine.
- Check the oil level and oil leakage.

Tightening Torque

Engine Oil Drain Plug :
30 N·m (3.0 kgf·m, 22 ft·lb)
Cartridge :
17.5 N·m (1.75 kgf·m, 13 ft·lb)

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

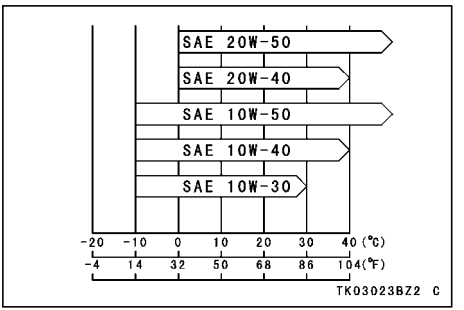
NOTE

○ *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:
1.7 L (1.8 US qt)
[when filter is not removed]
1.9 L (2.0 US qt)
[when filter is removed]
2.4 L (2.5 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 accommodate atmospheric conditions in your riding area.



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

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 leakage, cracks or deterioration, and connections for leakage or looseness each day before riding the motorcycle, and 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 in accordance with the periodic maintenance chart and replenish coolant if the level is low. Change the coolant in accordance with the Periodic Maintenance Chart.

Information for Coolant

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

jacket and radiator. This will clog up the coolant passages, and considerably reduce the efficiency of the cooling system.

⚠ WARNING

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

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

CAUTION

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

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

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

CAUTION

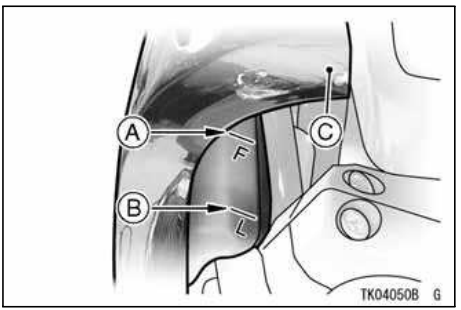
Permanent types of antifreeze on the market have anti-corrosion and anti-rust properties. When it is diluted excessively, it loses its anti-corrosion property. Dilute a permanent type of antifreeze in accordance with the instructions of the manufacturer.

NOTE

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

Coolant Level Inspection

- Situate the motorcycle so that it is perpendicular to the ground.
- Check the coolant level if it is between the F (Full) and L (Low) level lines.



A. F (Full) Level Line
B. L (Low) Level Line
C. Right Side Cover

NOTE

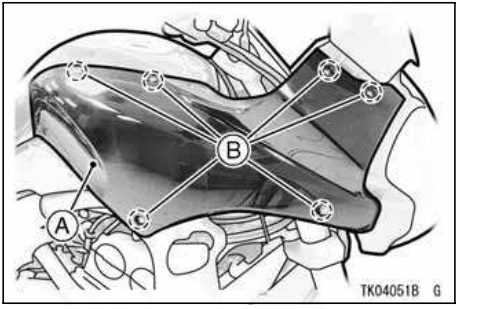
○ *Check the level when the engine is cold (room or atmospheric temperature).*

● If the amount of coolant is insufficient, remove the right cowl and add coolant into the reserve tank.

Coolant Filling

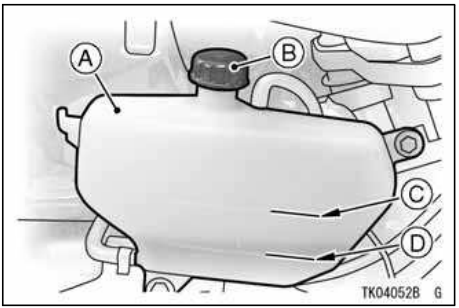
● Remove the windshield.

● Remove the right cowl by removing the bolt.



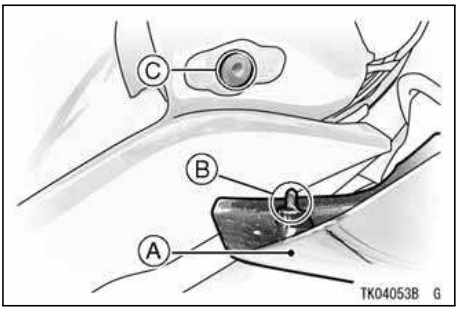
A. Right Cowl
B. Bolt

- Remove the cap from the reserve tank and add coolant through the filler opening to the F (Full) level line.



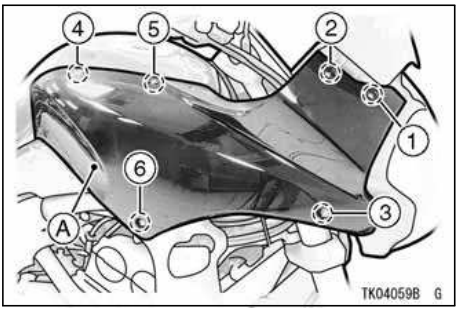
A. Reserve Tank
B. Cap
C. F (Full) Level Line
D. L (Low) Level Line

- Install the cap.
- To install the right cowl, fit the projection into the hole.



A. Right Cowl
B. Projection
C. Hole

- Tighten the bolts in the order directed.



A. Right Cowl

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.

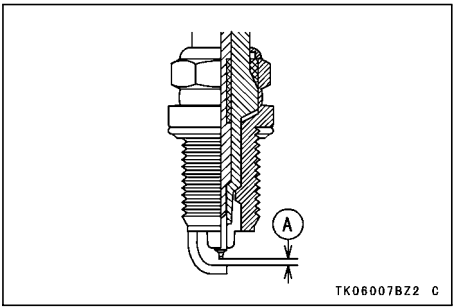
Spark Plugs

The standard spark plug is shown in the table. The spark plugs should be replaced in accordance with the Periodic Maintenance Chart.

Spark plug removal should be done by an authorized Kawasaki dealer.

Spark Plug

Standard Plug	NGK CR9EIA-9
Plug Gap	0.8 ~ 0.9 mm (0.031 ~ 0.035 in.)
Tightening Torque	15 N·m (1.5 kgf·m, 11 ft·lb)



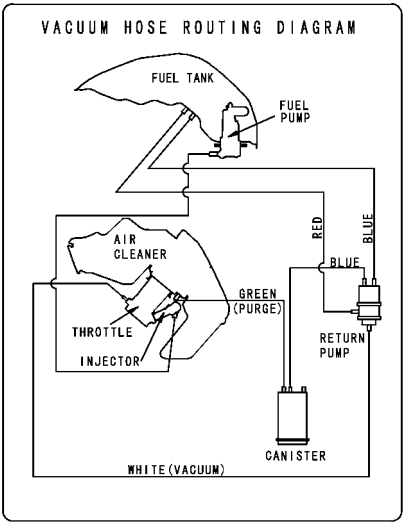
A. Plug Gap

Evaporative Emission Control System (California model only)

This system routes fuel vapors from the fuel system into the running engine or stores the vapors in a canister when the engine is stopped. Although no adjustments are required, a thorough visual inspection must be made at the intervals specified by the Periodic Maintenance Chart.

Inspection

- Check that the hoses are securely connected.
- Replace any kinked, deteriorated, or damaged hoses.



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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 mechanic following the instructions in the Service Manual.

Kawasaki Clean Air System

The Kawasaki Clean Air System (KCA) is a secondary air suction system that helps the exhaust gases to burn more completely. When the spent fuel charge is released into the exhaust system, it is still hot enough to burn. The KCA System allows extra air into the exhaust system so that the spent fuel charge can continue to burn. This continued burning action tends to burn up a great deal of the normally unburned gases, as well as changing a significant portion of the carbon monoxide into carbon dioxide.

Air Suction Valves -

The air suction valve is essentially a check valve which allows fresh air to flow only from the air cleaner into the exhaust port. Any air that has passed the air suction valve is prevented from returning. Inspect the air suction valves in accordance with the Periodic Maintenance Chart. Also, inspect the air suction valves whenever stable idling cannot be obtained, engine power is greatly reduced, or there are abnormal engine noises.

Air suction valve removal and inspection should be done only by a competent mechanic following the instructions in the Service Manual.

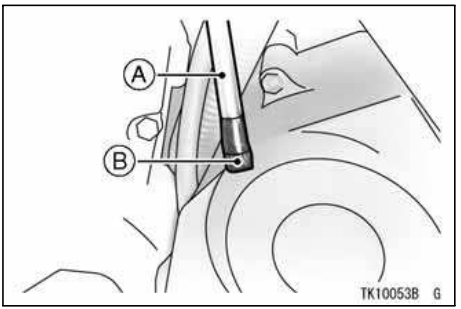
Air Cleaner

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, rainy, or muddy conditions, the air cleaner element should be serviced more frequently than the recommended interval by a competent mechanic following the instructions in the Service Manual.

Oil Draining

- Inspect the drain hose located on the rear side of the engine to see if any oil or water has run down from the air cleaner housing.



A. Drain Hose
B. Plug

- If there are any oil in the reservoir, remove the plug from the lower end of the drain hose and drain the oil.

⚠ WARNING

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

Throttle Control System

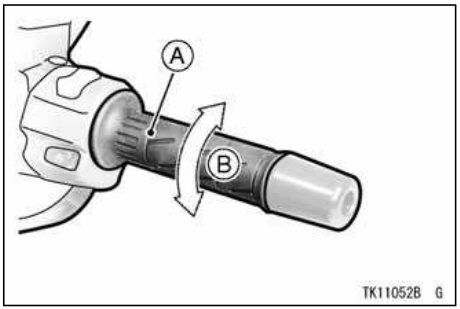
Check the throttle grip play in accordance with the Periodic Maintenance Chart, and adjust it if necessary.

Throttle Grip -

The throttle grip controls the butterfly valves in the throttle body. 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 valve may not open fully at full throttle. On the other hand, if the throttle grip has not play, the throttle will be hard to control, and the idle speed will be erratic.

Inspection

- Check that the throttle grip play is correct by lightly turning the throttle grip back and forth.



A. Throttle Grip
B. Throttle Grip Play

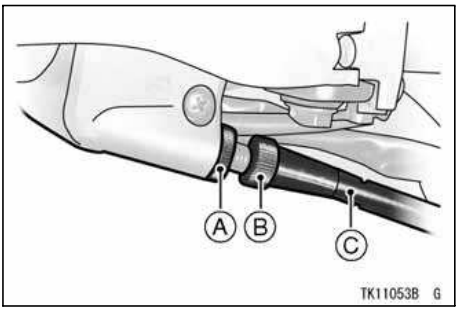
Throttle Grip Play

2 ~ 3 mm (0.08 ~ 0.12 in.)

- If there is improper play, adjust it.

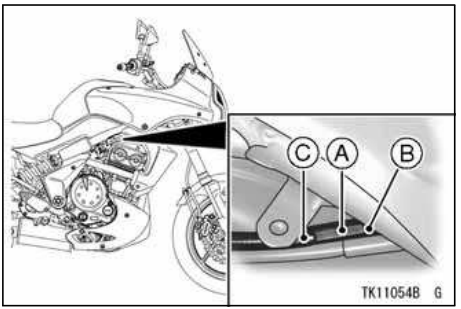
Adjustment

- Loosen the locknut at the upper end of the throttle cable and turn the throttle cable adjusting nut in completely so as to give the throttle grip plenty of play.



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

- Turn out the decelerator cable adjusting nut until there is no play when the throttle grip is completely closed.
- Tighten the locknut.



A. Adjuster
B. Locknut
C. Decelerator Cable

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

⚠ WARNING

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

Engine Vacuum Synchronization

Engine vacuum synchronization must be checked and adjusted periodically in accordance with the Periodic Maintenance Chart by a competent mechanic following the instructions in the Service Manual.

NOTE

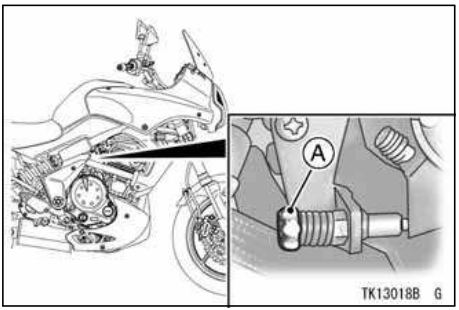
○ *Poor engine vacuum synchronization will cause unstable idling, sluggish throttle response, and reduce engine power and performance.*

Idle Speed

The idle speed check 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 by turning the idle adjusting screw.



A. Idle Adjusting Screw

Idle Speed

1 250 ~ 1 350 r/min (rpm)

- 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

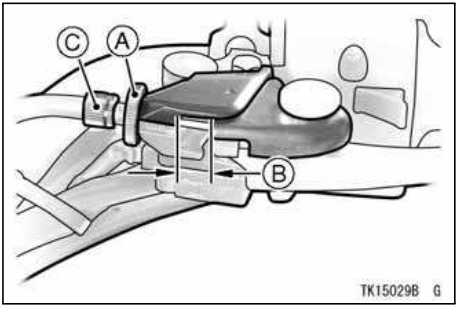
Due to friction plate wear and clutch cable stretch over a long period of use, the clutch operation should be checked each day before riding the motorcycle, and in accordance with the Periodic Maintenance Chart.

⚠ WARNING

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

Inspection

- Check that the clutch lever operates properly and that the inner cable slides smoothly. If there is any irregularity, have the clutch cable checked by an authorized Kawasaki dealer.
- Check the clutch lever play as shown in the figure.



A. Locknut
B. Clutch Lever Play
C. Adjuster

Clutch Lever Play

2 ~ 3 mm (0.08 ~ 0.12 in.)

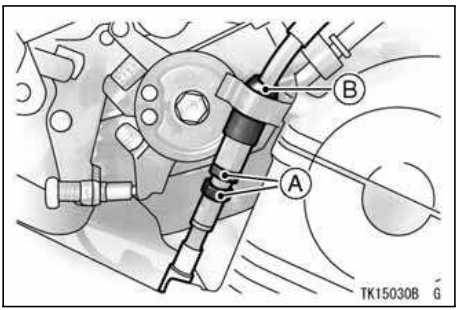
If the play is incorrect, adjust the lever play as follows.

Adjustment

⚠ 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.

- Loosen the locknut, and turn the adjuster so that the clutch lever will have the proper play.
- If it cannot be done, use the nuts at the lower end of the clutch cable.



A. Nuts
B. Clutch Cable

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

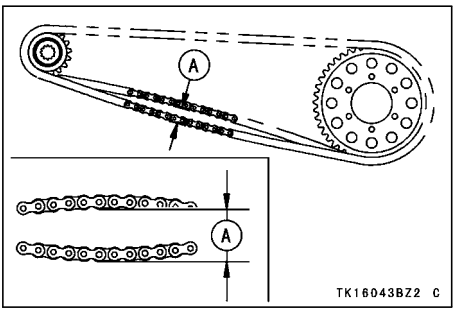
The drive chain slack and lubrication must be checked each day before riding the motorcycle, and in accordance with the Periodic Maintenance Chart for safety and to prevent excessive wear. If the chain becomes badly worn or maladjusted - either too loose or too tight - the chain could jump off the sprockets 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. Chain Slack

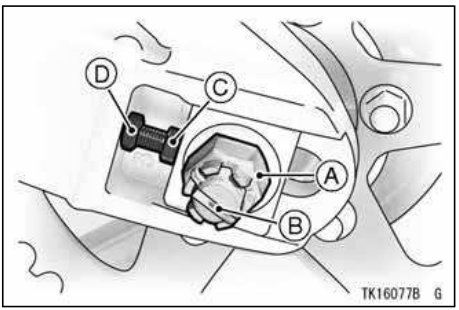
- If the drive chain is too tight or too loose, adjust it so that the chain slack will be within the standard value.

Drive Chain Slack

Standard	25 ~ 35 mm (1.0 ~ 1.4 in.)

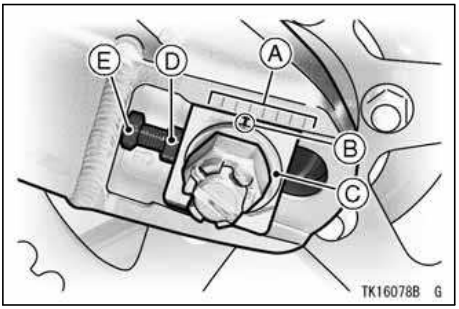
Chain Slack Adjustment

- Loosen the left and right chain adjuster locknuts.
- Remove the cotter pin, and loosen the axle nut.



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

- If the chain is too loose, turn out the left and right chain adjusters evenly.
- If the chain is too tight, turn in the left and right chain adjusters evenly.
- Turn out both chain adjusters 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 swingarm mark that the right indicator notch aligns with.



A. Marks
B. Notch
C. Indicator
D. Adjuster
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.
- Tighten the rear axle nut to the specified torque.

Tightening Torque

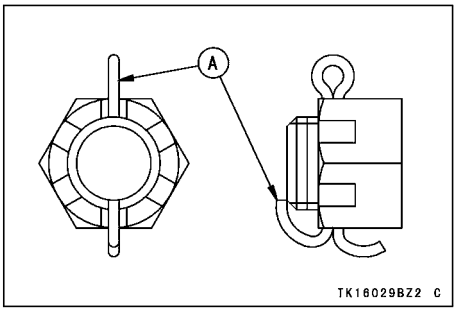
Axle Nut:
108 N·m (11 kgf·m, 80 ft·lb)

NOTE

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

- Rotate the wheel, measure the chain slack again at the tightest position, and readjust if necessary.

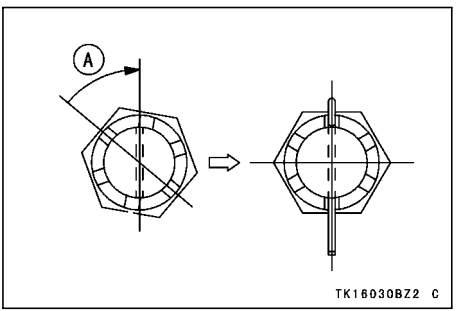
- Install a new cotter pin through the rear axle nut and axle, and spread its ends.



A. Cotter Pin

NOTE

- *When inserting the cotter pin, if the slots in the nut do not align with the cotter pin hole in the axle shaft, tighten the nut clockwise up to the next alignment.*
- *It should be within 30 degree.*
- *Loosen once and tighten again when the slot goes past the nearest hole.*



A. Turning Clockwise

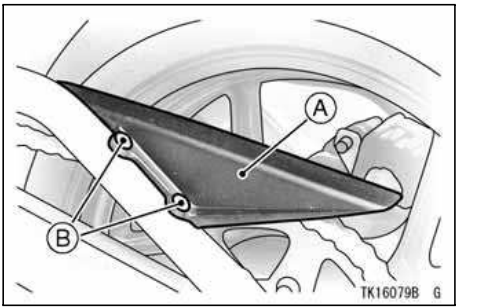
⚠ WARNING

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

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

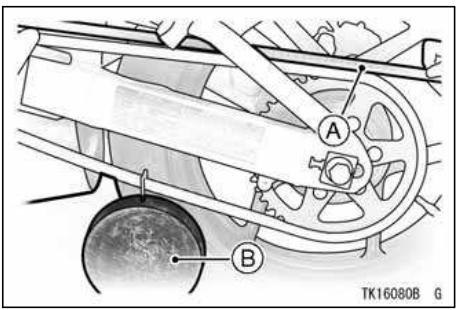
Wear Inspection

- Remove the bolts to take off the chain guide.



A. Chain Guide
B. Bolts

- 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.)

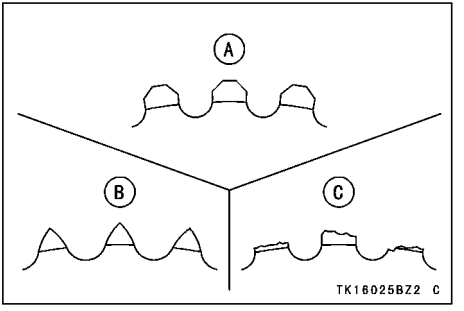
⚠ WARNING

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.*



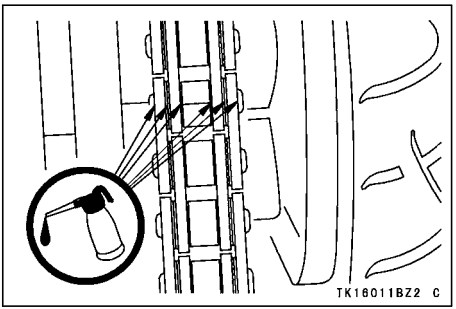
A. Good Teeth
B. Worn Teeth
C. Damaged Teeth

- 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.

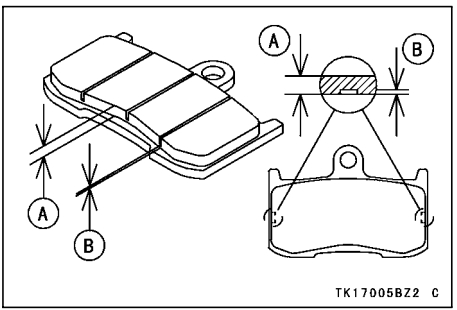


- If the chain is especially dirty, clean it using diesel oil or kerosine and then apply oil as mentioned above.

Brakes

Brake Wear Inspection

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

Fluid Requirement

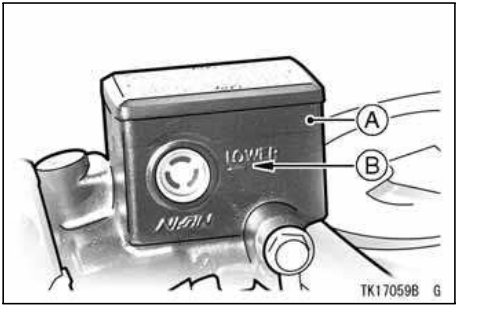
Use heavy-duty brake fluid only from a container marked DOT4.

CAUTION

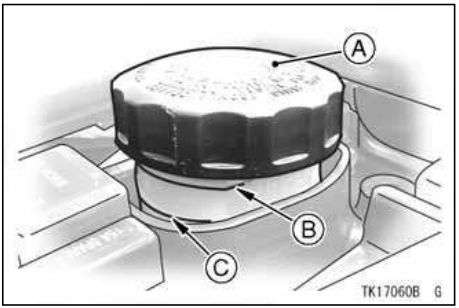
Do not spill brake fluid onto any painted surface.
Do not use fluid from a container that has been left open or that has been unsealed for a long time.
Check for fluid leakage around the fittings.
Check brake hose for damage.

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 seat) must be kept between the upper and lower level lines (reservoirs held horizontal).

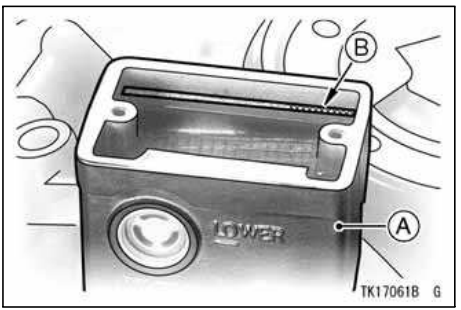


A. Front Brake Fluid Reservoir
B. Lower Level Line



A. Rear Brake Fluid Reservoir
B. Upper Level Line
C. 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.



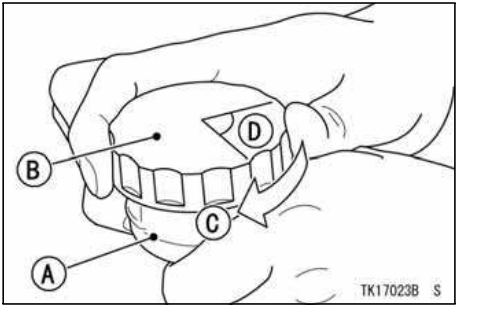
A. Front Brake Fluid Reservoir
B. Upper Level Line

⚠ 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.

NOTE

○ *First, tighten until slight resistance is felt indicating that the cap is seated on the reservoir body; then, tighten the cap an additional 1/6 turn while holding the brake fluid reservoir body.*



A. Reservoir
B. Cap
C. Clockwise
D. 1/6 turn

Fluid Change

Have the brake fluid changed by an authorized Kawasaki dealer.

Front and Rear 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 front brakes and rear brakes.

⚠ WARNING

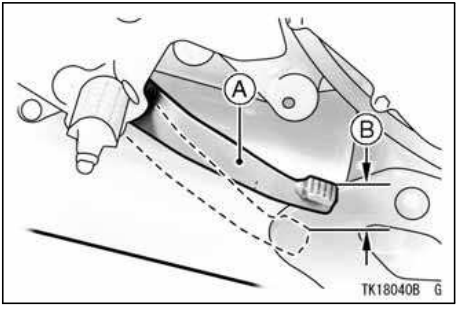
If the brake lever or pedal feels mushy when it is applied, there might be air in the brake lines or the brake may be defective. Since it is dangerous to operate the motorcycle under such conditions, have the brake checked immediately by an authorized Kawasaki dealer.

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 the proper pedal travel.



A. Brake Pedal
B. Pedal Travel

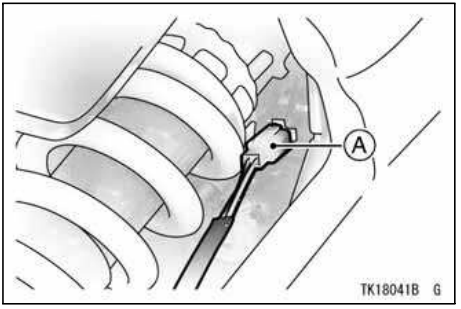
- If it does not, adjust the rear brake light switch.

Brake Pedal Travel

10 mm (0.4 in.)

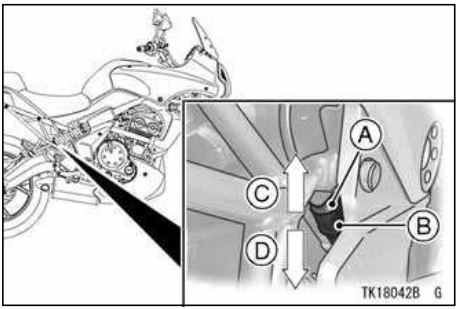
Adjustment

- Disconnect the connector.



A. Connector

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



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

- Connect the connector.

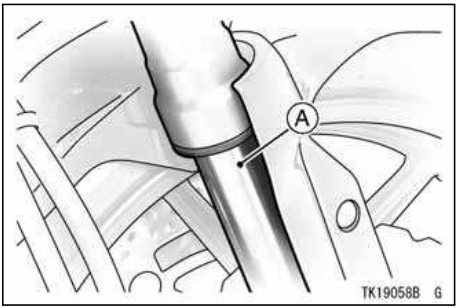
Front Fork

The front fork operation and oil leakage should be checked in accordance with the Periodic Maintenance Chart.

Front Fork Inspection

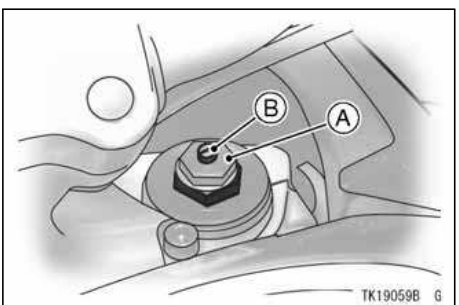
- Holding the brake lever, pump the front fork up and down by several times for inspection of smooth stroke.
- Visually inspect the front fork for oil leakage, scoring or scratches on the outer surface of the inner tube.

- If any doubt about the front fork, it should be done by an authorized Kawasaki dealer.



A. Inner Tube

On top of each front fork leg is a spring preload adjuster and on the spring preload adjuster of the right front fork leg is a rebound damping force adjuster so that the spring force and damping force can be adjusted for different riding and loading conditions. Weaker spring force and damping force are for comfortable riding, but they should be increased for high speed riding or riding on rough roads.



A. Spring Preload Adjuster
B. Rebound Damping Force Adjuster

Spring Preload Adjustment

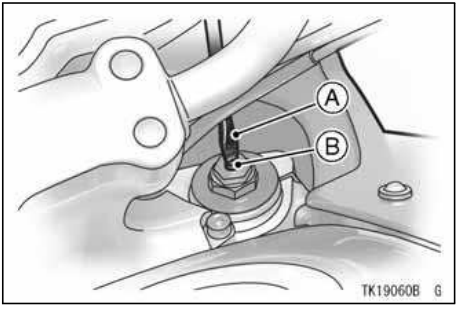
- Turn the spring preload adjuster into the nut to increase spring force and out to decrease spring force. The adjusting range is as follows.

Spring Preload Adjuster Adjusting Range	15 turns out*

*: out from the fully seated position

Rebound Damping Force Adjustment

- Turn the rebound damping force adjuster all the way into the spring preload adjuster with a screwdriver. This makes the damping force greatest.
- Turn out the adjuster to decrease damping force.



A. Screwdriver
B. Rebound Damping Force Adjuster

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

Spring Preload Adjuster	7 turns out*
Rebound Damping Force Adjuster	1 3/4 turns out*

*: out from the fully seated position

CAUTION

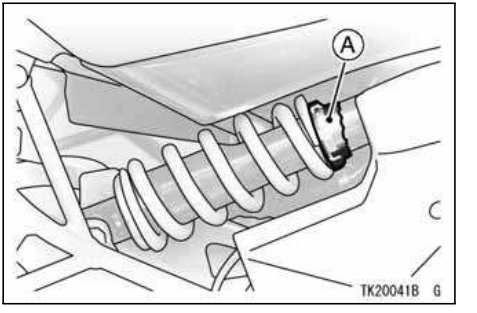
Do not force to turn the rebound damping force adjuster from the fully seated position, as the adjusting mechanism may be damaged.

Rear Shock Absorber

The rear shock absorber operation and oil leakage should be checked in accordance with the Periodic Maintenance chart.

Rear Shock Absorber Inspection

- Press down on the seat several times to check if the rear shock absorber stroke is smooth.
- Visually inspect the rear shock absorber for oil leakage.
- If any doubt about the rear shock absorber, it should be done by an authorized Kawasaki dealer.

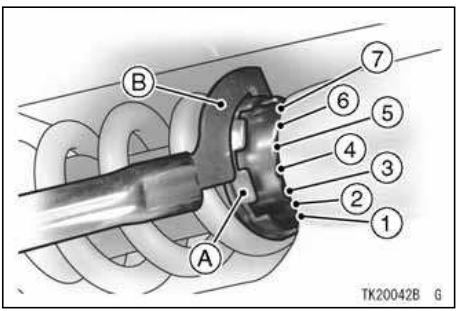


A. Rear Shock Absorber

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

Spring Preload Adjustment

The spring preload adjuster on the rear shock absorber has 7 positions.



A. Spring Preload Adjuster
B. Wrench

- In accordance with the following table, turn the preload adjuster with the wrench from the tool kit.

Position	1	2	3	4	5	6	7
Spring Action	Stronger ——→						

The standard setting position for an average-build rider of 68 kg (150 lb) with no passenger and no accessories is No. 5.

⚠ WARNING

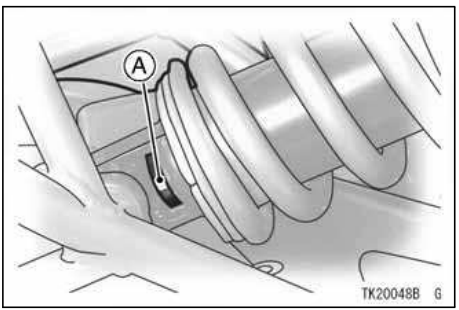
This unit contains high pressure nitrogen gas. Mishandling can cause explosion.
Read Service Manual for instructions.
Do not incinerate, puncture or open.

CAUTION

Be careful not to damage the motorcycle parts when adjusting the spring preload.

Rebound Damping Force Adjustment

The rebound damping force adjuster is located at the lower end of the rear shock absorber.



A. Rebound Damping Force Adjuster

- Turn the rebound damping force adjuster towards the H mark to make the damping force greatest.
- Turn the adjuster towards the S mark to decrease damping force.

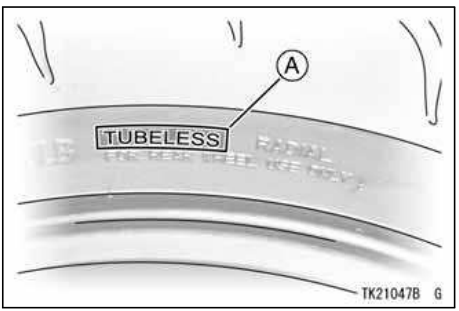
The standard setting positions of the rebound damping force adjuster and compression damping force adjuster for an average-build rider of 68 kg (150 lb) with no passenger and no accessories are as follows:

Rebound Damping Force Adjuster	5 clicks*

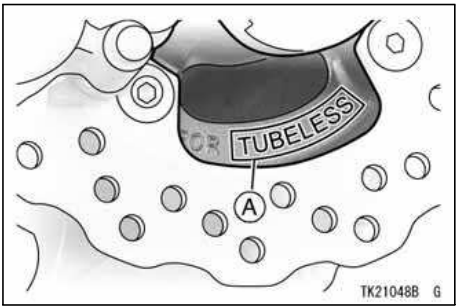
*: out from the fully seated position

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

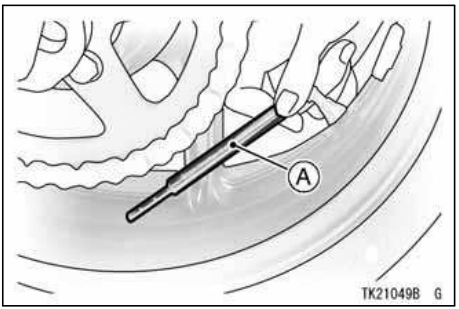
The tires, rims, and air valves on this motorcycle are designed only for tubeless type wheels. The recommended standard tires, rims, and air valves must be used for replacement.
Do not install tube-type tires on tubeless rims. The beads may not seat properly on the rim causing tire deflation.
Do not 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 180 kg (397 lb), including rider, passenger, baggage, and accessories.

- Remove the air valve cap.
- Check the tire pressure often, using an accurate gauge.
- Make sure to install the air valve cap securely.



A. Tire Pressure 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)

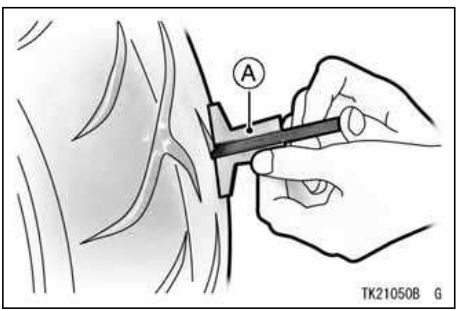
Front	225 kPa (2.25 kgf/cm², 32 psi)
Rear	250 kPa (2.50 kgf/cm², 36 psi)

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	—	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, and 180 km/h (110 mph) at any time after that.

NOTE

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

Standard Tire (Tubeless)

Front	Size: 120/70ZR17 M/C (58W) DUNLOP “D221FA G”
Rear	Size: 160/60ZR17 M/C (69W) DUNLOP “D221 G”

⚠ 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.

However, in order to maximize battery life and ensure that it will provide the power needed to start the motorcycle you must properly maintain the battery's charge. When used regularly, the charging system in the motorcycle helps keep the battery fully charged. If your motorcycle is only used occasionally or for short periods of time, the battery is more likely to discharge.

Due to their internal composition, batteries continually self discharge. The discharge rate depends on the

type of battery and ambient temperature. As temperatures rise, so does the discharge rate. Every 15°C (27°F) doubles the rate.

Electrical accessories, such as digital clocks and computer memory, also draw current from the battery even when the key is switched off. Combine such “key-off” draws with hot temperature, and a battery can go from fully charged to completely discharged in a matter of days.

Self-discharge		
Temperature	Approx. Number of Days From 100% Charged to 100% discharged	
	Lead -Antimony	Lead -Calcium
	Battery	Battery
40°C (104°F)	100 Days	300 Days
25°C (77°F)	200 Days	600 Days
0°C (32°F)	550 Days	950 Days

Current Drain		
Discharging Ampere	Days form 100% charged to 50% Discharged	Days form 100% charged to 100% Discharged
7 mA	60 Days	119 Days
10 mA	42 Days	83 Days
15 mA	28 Days	56 Days
20 mA	21 Days	42 Days
30 mA	14 Days	28 Days

In extremely cold weather the fluid in an inadequately charged battery can easily freeze, which can crack the case and buckle the plates. A fully charged

battery can withstand sub-freezing temperatures with no damage.

Battery Sulfation

A common cause of battery failure is sulfation.

Sulfation occurs when the battery is left in a discharged condition for an extended time. Sulfate is a normal by product of the chemical reactions within a battery. But when continuous discharge allows the sulfate to crystallize in the cells, the battery plates become permanently damaged and will not hold a charge. Battery failure due to sulfation is not warrantable.

Battery Maintenance

It is the owner's responsibility to keep the battery fully charged. Failure to do so can lead to battery failure and leave you stranded.

If you are riding your vehicle infrequently, inspect the battery voltage weekly using a voltmeter. If it drops below 12.8 volts, the battery should be charged using an appropriate charger (check with your Kawasaki dealer). If you will not be using the motorcycle for longer than two weeks, the battery should be charged using an appropriate charger. Do not use an automotive-type quick charger that may overcharge the battery and damage it.

Kawasaki-recommended chargers are:

OptiMate III
Yuasa 1.5 Amp Automatic charger
Battery Mate 150-9

If the above chargers are not available, use equivalent one.

For more details, ask your Kawasaki dealer.

Battery Charging

- Remove the battery from the motorcycle (see Battery Removal).
- Attach the leads from the charger and charge the battery at a rate that is 1/10th of the battery capacity. For example, the charging rate for a 10 Ah battery would be 1.0 ampere.
- The charger will keep the battery fully charged until you are ready to reinstall the battery in the motorcycle (see Battery Installation).

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

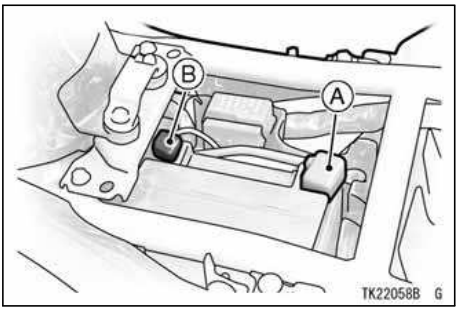
○ *If you charge the sealed battery, never fail to observe the instructions shown in the label on the battery.*

⚠ WARNING

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

Battery Removal

- Remove the seat.



A. (+) Terminal
B. (–) Terminal

- Disconnect the wires 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 wire connections are clean.

Battery Installation

- Place the battery in the battery case.
- Connect the capped wire to the (+) terminal, and then connect the black wire to the (–) terminal.

NOTE

○ *Install the battery in the reverse order of the Battery Removal.*

CAUTION

Installing the (–) cable to the (+) terminal of the battery or the (+) cable to the (–) terminal of the battery can seriously damage the electrical system.

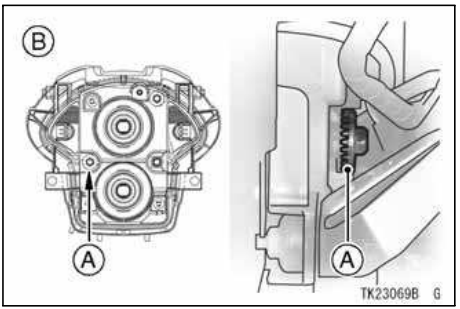
- Put a light coat of grease on the terminals to prevent corrosion.
- Cover the (+) terminal with its protective cap.
- Reinstall the parts removed .

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.

- Remove the left cowl in the same order as the right side.
- Turn the horizontal adjuster clockwise or counterclockwise until the beam points straight ahead.



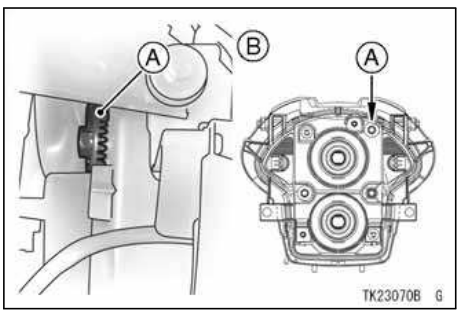
A. Horizontal Adjuster
B. View From Back Side

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.

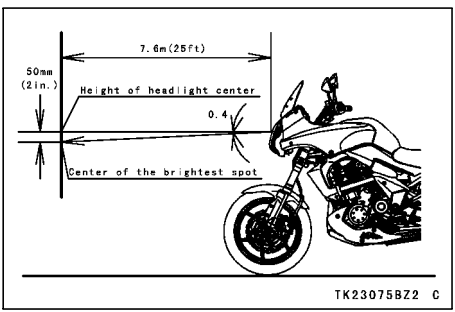
- Remove the right cowl.
- Turn the vertical adjuster clockwise or counterclockwise to adjust its vertical angle.



A. Vertical Adjuster
B. View From Back Side

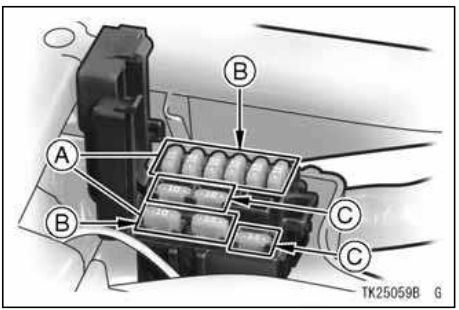
NOTE

○ *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.*



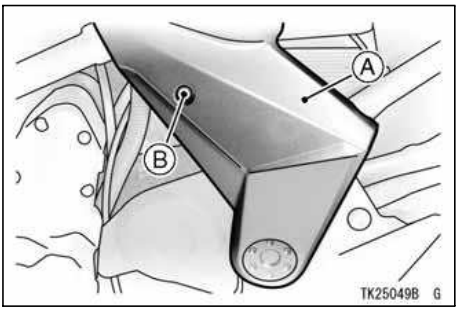
Fuses

Fuses are arranged in the fuse box located under the seat. The main fuse is mounted on the starter relay behind 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.



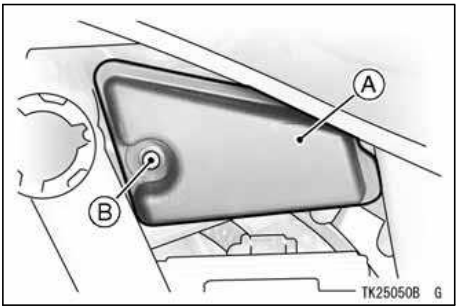
A. Fuse Box
B. Fuses
C. Spare Parts

- Remove the left side cover by removing the bolt.

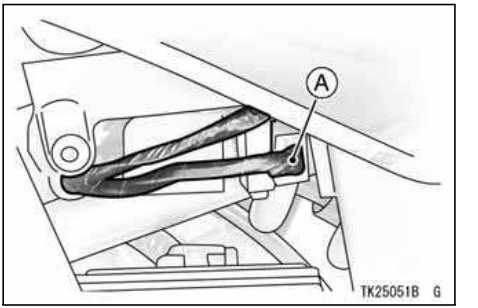


A. Left Side Cover
B. Bolt

- Remove the main fuse cover by removing the bolt.

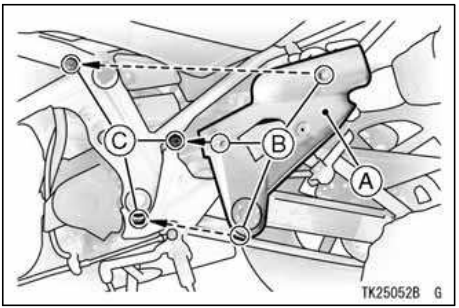


A. Main Fuse Cover
B. Bolt



A. Main Fuse

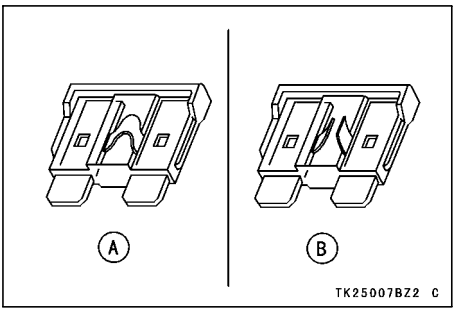
- Install the left side cover by fitting the receptacles into the holes and screwing in the bolt.



A. Left Side Cover
B. Receptacles
C. Holes

⚠ 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 and main fuse.



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

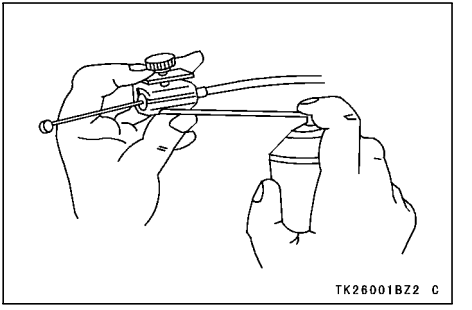
○ *A few drops of oil are effective to keep bolts and nuts from rusting and sticking. This makes removal easier. Badly rusted nuts, bolts, etc., should be replaced with new ones.*

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:

○ **(K)**Clutch Inner Cable
○ **(K)**Throttle Inner Cables



Apply grease to the following points:

○ **(K)**Clutch Inner Cable Upper End
○ **(K)**Throttle Inner Cable Upper Ends

(K) : Should be serviced by an authorized Kawasaki dealer.

NOTE

○ *After connecting the cables, adjust them.*

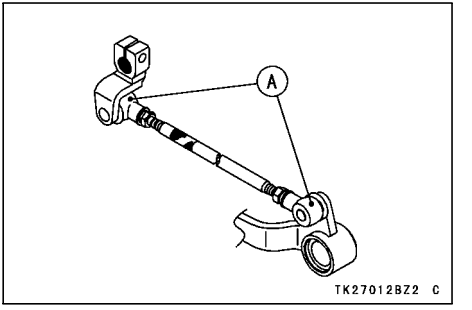
Cleaning Your Motorcycle

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.

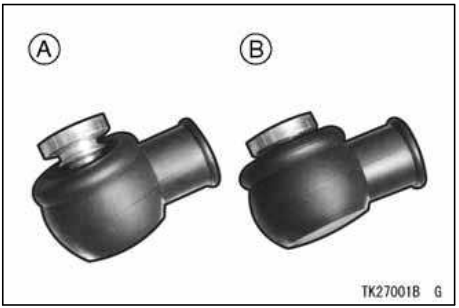
- Be sure the engine and exhaust are cool before washing.
- Avoid applying degreaser to seals, brake pads, and tires.
- Always use non-abrasive wax and cleaner/polisher.
- Avoid all harsh chemicals, solvents, detergents, and household cleaning products such as ammonia-based window cleaners.

- 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 windshield, 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, fuel system, brake components, electrical components, muffler outlets, and fuel tank openings.
- After cleaning your motorcycle, check the rubber boot covering the shift pedal ball joint for correct installation. Be sure the sealing lip of the rubber boot fits into the groove of the ball joint.



A. Rubber Boot

- If the boot is damaged, replace it with a new one. If the boot is not positioned in the groove correctly, replace it in the correct position.



A. Not position
B. Correct position

Washing Your Motorcycle

- Rinse your bike with cold water from a garden hose to remove any loose dirt.
- Mix a mild neutral detergent (designed for motorcycles or automobiles) and water in bucket. Use a soft cloth or sponge to wash your motorcycle. If needed, use a mild degreaser to remove any oil or grease build up.
- After washing, rinse your motorcycle thoroughly with clean water to remove any residue (residue from the detergent can damage parts of your motorcycle).
- Use a soft cloth to dry your motorcycle. As you dry, inspect your motorcycle for chips and scratches. Do not let the water air dry as this can damage the painted surfaces.
- Start the engine and let it idle for several minutes. The heat from the engine will help dry moist areas.
- Carefully ride your motorcycle at a slow speed and apply the brakes several times. This helps dry the brakes and restores them to normal operating performance.
- Lubricate the drive chain to prevent rusting.

NOTE

- *After riding in an area where the roads are salted or near the ocean, immediately wash your motorcycle with cold water. Do not use warm water as it accelerates the chemical reaction of the salt. After drying, apply a corrosion protection spray on all metal and chrome surfaces to prevent corrosion.*
- *Condensation may form on the inside of the headlight lens after riding in the rain or washing the motorcycle. To remove the moisture, start the engine and turn on the headlight. Gradually the condensation on the inside of the lens will clear off.*

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.

Windshield and Other Plastic Parts

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

CAUTION

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

Chrome and Aluminum

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

Leather, Vinyl, and Rubber

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

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

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

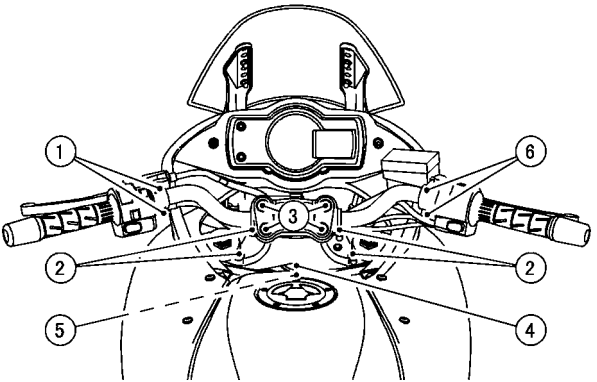
⚠ WARNING

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

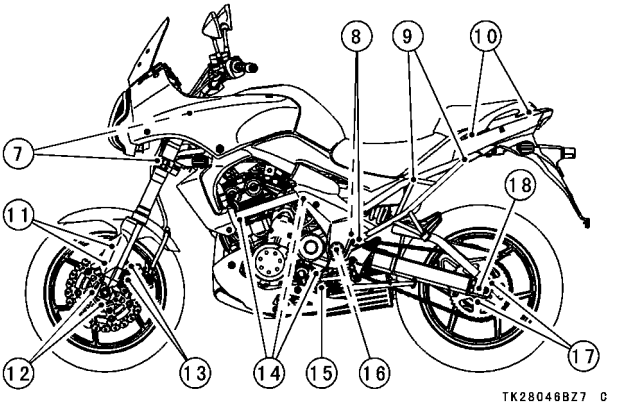
Bolt and Nut Tightening

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.

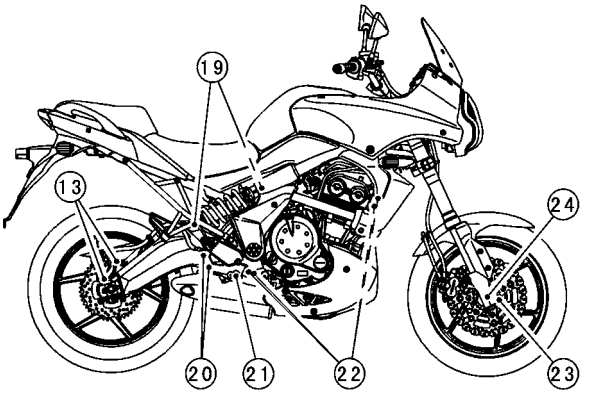
1. Clutch Lever Holder Bolt
2. Handle Bar Holding Nut
3. Handlebar Mounting Bolts
4. Stem Head Nut
5. Steering Nut
6. Front Brake Master Cylinder Clamp Bolt



7. Front Fork Clamp Bolts
8. Step Stay Mounting Bolt
9. Rear Frame Mounting Bolt
10. Grab Rail Mounting Bolt
11. Front Fender Mounting Bolts
12. Brake Disk Mounting Bolts
13. Caliper Mounting Bolts
14. Engine Mounting Bolts and Nuts
15. Side Stand Bolt
16. Swing Arm Pivot
17. Rear Sprocket Mounting Bolts
18. Rear Axle Nut



19. Rear Shock Absorber Mounting Bolts
20. Rear Master Cylinder Mounting Bolts
21. Brake Pedal Mounting Bolt
22. Muffler Mounting Bolts and Nuts
23. Front Axle Clamp Bolt
24. Front Axle



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STORAGE

Preparation for Storage:

- Clean the entire vehicle thoroughly.
- Run the engine for about five minutes to warm the oil, shut it off, and drain the engine oil.

⚠ WARNING

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

- Put in fresh engine oil.
- Empty the fuel from the fuel tank by the pump or siphon.

⚠ WARNING

Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition key to "OFF". Do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.
Gasoline is a toxic substance. Dispose of gasoline properly. Contact your local authorities for approved disposal methods.

- Empty the fuel system by running the engine at idle speed until the engine stalls. (If left in for a long time, the fuel will break down and could clog the fuel system.)
- 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 especially during cold weather.
- Tie plastic bags over the mufflers to prevent moisture from entering.

- Put a cover over the motorcycle to keep dust and dirt from collecting on it.

Preparation after Storage:

- Remove the plastic bags from the mufflers.
- Install the battery in the motorcycle and charge the battery if necessary.
- Fill the fuel tank with fuel.
- Check all the points listed in the Daily Safety Checks section.
- Lubricate the pivots, bolts, and nuts in General Lubrication section.

TROUBLESHOOTING GUIDE

Engine Does Not Start:

Starter Motor Won't Turn

- Engine stop switch off
- Transmission not in neutral
- Fuse blown
- Battery leads do not make good electrical contact with battery terminals
- Battery discharged

Engine Cranks, But Won't Start

- No fuel in tank
- Fuel line clogged
- Fuel broken down
- Choke is not used when engine is cold
- Engine flooded
- Spark plugs not in good contact
- Spark plugs fouled or wet
- Incorrect spark plug gap
- Incorrect valve clearance
- Battery discharged
- No first turning the ignition key to "OFF" when the motorcycle falls down

Engine Stalls:

Just When Shifting Into 1st Gear

- Side stand has been left down
- Clutch does not properly disengage

While Riding

- Choke is used too long after moving off
- Fuel tap is turned off
- No fuel in tank
- Fuel tank air vent is obstructed
- Overheating
- Battery discharged

OWNER SATISFACTION

(For Products Sold in the Continental United States of America Only)

Your satisfaction is important to your authorized Kawasaki dealer and to Kawasaki Motors Corp., U.S.A. If you have a problem concerning warranty or service, please take the following action:

Contact the owner and/or service manager of your authorized Kawasaki dealer. Fully explain your problem and ask for assistance in resolving the situation. The OWNER of the dealership is concerned with your satisfaction and your future business. For this reason the owner is in the best position to assist you. Also, all warranty and service matters are handled and resolved through the authorized Kawasaki dealer network.

If you are unsatisfied after working with your Kawasaki dealer and feel you still require further assistance, write to the address below. Please be certain to provide the model, product identification number, mileage or hours of use, accessories, dates that events occurred and what action has been taken by both you and your dealer. Include the name and address of the dealership. To assist us in resolving your inquiry, please include copies of related receipts and any other pertinent information including the names of the dealership personnel with whom you have been working in the resolution of your problem.

Upon receipt of your correspondence we will contact the dealership and work with them in resolving your problem.

In order to provide a permanent record, all warranty and service resolutions take place only through written correspondence.
Please send your correspondence to:

CONSUMER RELATIONS
KAWASAKI MOTORS CORP., U.S.A.
P. O. Box 25252
SANTA ANA, CA. 92799-5252
(949) 460–5688

REPORTING SAFETY DEFECTS

(For Products Sold in the Continental United States of America Only)

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Kawasaki Motors Corporation, U.S.A.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Kawasaki Motors Corporation, U.S.A.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800 -424-9393 (or 366-0123 in Washington, D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.

ENVIRONMENTAL PROTECTION

To protect our environment, properly discard used batteries, tires, engine oil, or other vehicle components that you might dispose of in the future. Consult your authorized Kawasaki dealer or local environmental waste agency for their proper disposal procedure.

MAINTENANCE RECORD

Owner Name.....

Address .....

Phone Number .....

Engine Number .....

Vehicle Number.....

Selling Dealer Name .....

Phone Number .....

Warranty Start Date .....

Note: Keep this information and a spare key in a secure location.

Date	Odometer Reading	Maintenance Performed	Dealer Name	Dealer Address

Date	Odometer Reading	Maintenance Performed	Dealer Name	Dealer Address

Date	Odometer Reading	Maintenance Performed	Dealer Name	Dealer Address

Date	Odometer Reading	Maintenance Performed	Dealer Name	Dealer Address

Date	Odometer Reading	Maintenance Performed	Dealer Name	Dealer Address

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