# KLR650 Motorcycle

# **OWNER'S MANUAL**

A Read this manual carefully. It contains safety information.

Kawasaki

# **Quick Reference Guide**

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

GENERAL INFORMATION

BREAK-IN

HOW TO RIDE THE MOTORCYCLE

SAFE OPERATION

MAINTENANCE AND ADJUSTMENT

**STORAGE** 

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.

# **A** DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

# **A** WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

## NOTICE

NOTICE is used to address practices not related to personal injury.

#### NOTE

 NOTE indicates information that may help or guide you in the operation or service of the vehicle.

# NOTICE

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

# (Australian model only)

# TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED

## Owners are warned that the law may prohibit:

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

#### **FOREWORD**

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.

All rights reserved. No part of this publication may be reproduced without our prior written permission.

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. Motorcycle & Engine Company

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## **SPECIFICATIONS**

#### **PERFORMANCE**

Maximum Hosepower 15.0 kW (20 PS) @4 500 r/min (rpm)

(VE) 32.0 kW (44 PS) @6 500 r/min (rpm)

Maximum Torque 40 N·m (4.1 kgf·m, 30 ft·lb) @3 000 r/min (rpm)

(VE) 50 N·m (5.1 kgf·m, 37 ft·lb) @5 500 r/min (rpm)

Minimum Turning Radius 2.4 m (94 in.)

#### **DIMENSIONS**

Overall Length 2 295 mm (90.4 in.)

Overall Width 960 mm (37.8 in.)

Overall Height 1 350 mm (53.1 in.)

Wheelbase 1 480 mm (58.3 in.)

Road Clearance 210 mm (8.3 in.)

Curb Mass 194 kg (428 lb)

(VE) 196 kg (432 lb)

#### **ENGINE**

Type DOHC, 4-valve, 1-cylinder, 4-stroke, liquid-cooled

Displacement 651 cm³ (39.7 cu in.)

Bore × Stroke 100.0 × 83.0 mm (3.94 × 3.27 in.)

Compression Ratio 9.8 : 1

Starting System Electric starter

Carburetion System KEIHIN CVK 40 × 1

Ignition System Battery and coil (transistorized ignition)

Ignition Timing 10° BTDC @1 300 r/min (rpm)  $\sim$ 

(Electronically advanced) 30° BTDC @4 000 r/min (rpm)

Spark Plugs NGK DPR8EA-9, ND X24EPR-U9

Lubrication System Forced lubrication (wet sump)

Engine Oil: Type API SG, SH, SJ, SL or SM with JASO MA, MA1 or MA2

SAE 10W-40

Capacity 2.1 L (2.2 US qt)

Coolant Capacity 1.5 L (1.6 US qt)

#### 12 SPECIFICATIONS

### **TRANSMISSION**

	5-speed, constant mesh, return shift
	Wet, multi disc
	Chain drive
Ratio	2.273 (75/33)
tio	2.867 (43/15)
	5.158 (Top gear)
1st	2.267 (34/15)
2nd	1.444 (26/18)
3rd	1.136 (25/22)
4th	0.955 (21/22)
5th	0.792 (19/24)
	28°
	112 mm (4.4 in.)
Front	90/90-21 M/C 54S
Rear	130/80-17 M/C 65S
	2nd 3rd 4th 5th

#### **SPECIFICATIONS 13**

Rim Size: Front  $21 \times 1.60$ 

Rear 17M/C × MT2.50

Fuel Tank Capacity 22 L (5.8 US gal)

#### **ELECTRICAL EQUIPMENT**

Battery 12 V 14 Ah (10 HR)

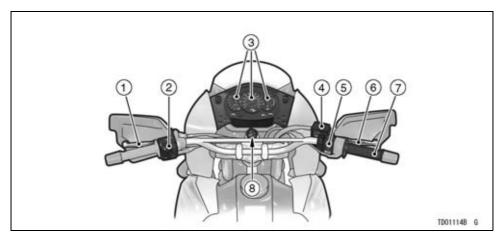
Headlight 12 V 55 W × 2/55 W (Hi/Lo)

Brake/Tail Light 12 V 21/5 W

(VE) Venezuela Model

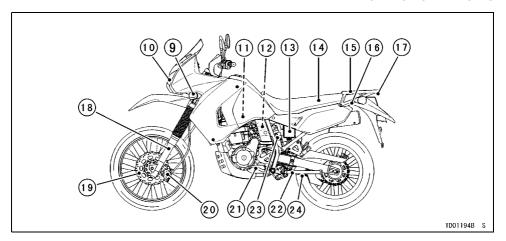
Specifications are subject to change without notice, and may not apply to every countries.

## **LOCATION OF PARTS**



- 1. Clutch Lever
- 2. Left Handlebar Switches
- 3. Meter Instruments
- 4. Brake Fluid Reservoir (Front)

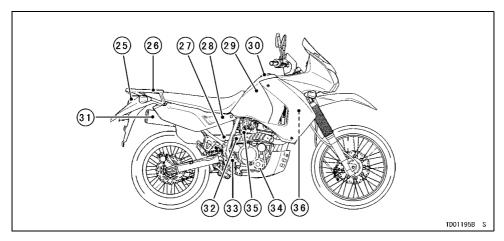
- 5. Right Handlebar Switches6. Front Brake Lever
- 7. Throttle Grip
- 8. Ignition Switch/Steering Lock



- 9. Turn Signal Light
- 10. Headlight
- 11. Spark Plugs
- 12. Main Fuse
- 13. Battery
- 14. Seat
- 15. Tool Kit/Storage Compartments
- 16. Helmet Hook

- 17. Tying Hooks 18. Front Fork
- 19. Brake Disc
- 20. Brake Caliper
- 21. Shift Pedal
- 22. Side Stand
- 23. Rear Shock Absorber
- 24. Drive Chain

#### 16 LOCATION OF PARTS



- 25. Tail/Brake Light
- 26. Rear Carrier
- 27. Brake Fluid Reservoir (Rear)
- 28. Air Cleaner
- 29. Fuel Tank
- 30. Fuel Tank Cap

- 31. Muffler
- 32. Rear Brake Light Switch
- 33. Rear Brake Pedal
- 34. Oil Level Inspection Window 35. Idle Adjusting Screw 36. Coolant Reserve Tank

## LOADING 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. 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

O 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.

#### 18 LOADING INFORMATION

The following general guidelines have been prepared to assist you in making your determinations.

- 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.
- You should instruct any passenger before riding to keep his feet on the passenger footpegs and hold on to the operator 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.
- 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.
- 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.

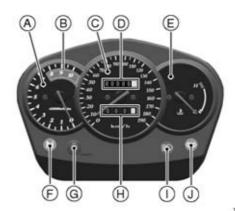
#### Maximum Load

Weight of rider, passenger, baggage, and accessories must not exceed 182 kg (401 lb).

#### GENERAL INFORMATION

#### **Meter Instruments**

- A. Tachometer
- B. Red Zone
- C. Speedometer
- D. Odometer
- E. Coolant Temperature Gauge
- F. Neutral Indicator Light
- G. Trip RESET Button
- H. Trip Meter
- I. High Beam Indicator Light
- J. Turn Signal Indicator Light



## **Speedometer and Tachometer:**

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

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

### NOTICE

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

# **Coolant Temperature Gauge:**

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

## NOTICE

Do not let the engine continue running when the gauge needle reaches the "H" line. Prolonged engine operation will result in severe damage from overheating.

# Indicator Lights:

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

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

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

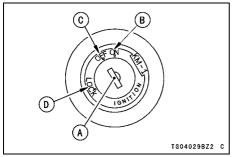
# Key

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

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

# Ignition Switch/Steering Lock

This is a three-position, key-operated switch. The key can be removed from the switch when it is in the OFF or LOCK position.



A. Ignition Switch/Steering Lock

- B. ON position
- C. OFF position
- D. LOCK 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.

#### NOTE

O The head, and tail lights are on whenever the ignition key is in the ON position. One headlight goes on when the ignition key is in the ON position. To avoid battery discharge, always start the engine immediately after turning the ignition key to "ON".

# To lock the steering:

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

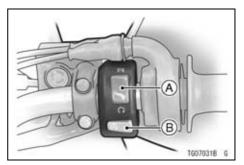
# Right Handlebar Switches Engine Stop Switch:

In addition to the ignition switch, the engine stop switch must be in the opposition for the motorcycle to operate.

The engine stop switch is for emergency use. If required, move the 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.



A. Engine Stop Switch

**B. Starter Button** 

#### 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.

# Left Handlebar Switches Dimmer Switch:

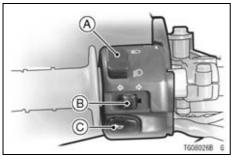
High or low beam can be selected with the dimmer switch. When the headlight is on high beam ( 
□ ), the high beam indicator light is lit.

High beam.....( 

□ ) 

#### NOTE

O 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

## **Turn Signal Switch:**

When the turn signal switch is turned to the left (  $\diamondsuit$  ) or right (  $\diamondsuit$  ), 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.

#### **Fuel Tank**

#### **Fuel Requirements:**

Your Kawasaki engine is designed to use only unleaded gasoline with a minimum octane rating shown below. Never use gasoline with an octane rating lower than the minimum specified by Kawasaki to prevent severe engine damage.

The octane rating of a gasoline is a measure of its resistance to detonation or "knocking". The term commonly used to describe a gasoline's octane rating is the Research Octane Number (RON).

## NOTICE

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 no recommended fuel may not be covered under your warrantv.

# Fuel Type and Octane Rating: (Except for Australia Specification)

Use clean, fresh unleaded gasoline with an octane rating equal to or higher than that shown in the table

#### 28 GENERAL INFORMATION

Fuel Type	Unleaded Gasoline
Minimum	Research Octane
Octane Rating	Number (RON) 91

# NOTICE

Do not use any fuel with an ethanol in this vehicle. It has not been tested and certified for use with such fuels. Damage to the engine and fuel system, or engine starting and/or performance problems may result from the use of improper fuel.

# (For Australia Specification)

Use clean, fresh unleaded gasoline with an octane rating equal to or higher than that shown in the table.

Fuel Type	Unleaded Gasoline
Ethanol Content	E10 or less
Minimum Octane Rating	Research Octane Number (RON) 91

### **NOTICE**

Do not use any fuel that contains more ethanol or other oxygenates than specified for E10 fuel\* in this vehicle. Damage to the engine and fuel system, or engine starting and/or performance problems may result from the use of improper fuel.

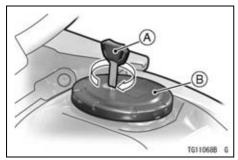
\*E10 means fuel containing up to 10% ethanol.

## Filling the Tank:

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

# (Fuel Tank Cap)

- Insert the ignition key into the fuel tank cap.
- Turn the key clockwise while pushing down the fuel tank cap.

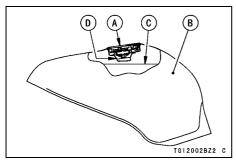


A. Ignition Key B. Fuel Tank Cap

- Open the fuel tank cap.
- Fill the fuel.
- Push the fuel tank cap down into place with the key inserted.
- The key can be removed by turning counterclockwise 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.
- ODo not push on the key to close the cap, or the cap cannot be locked.



A. Tank Cap B. Fuel Tank C. Top Level

### D. Filler Neck

# **A**WARNING

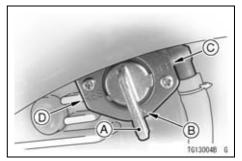
Gasoline is extremely flammable and can be explosive under certain conditions, creating the potential for serious burns. Turn the ignition switch to "OFF". Do not smoke. Make sure the area is well-ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light. Never fill the tank completely to the top. If the tank is filled completely to the top, heat may cause the fuel to expand and overflow through the vents in the tank cap. After refueling, make sure the tank cap is closed securely. If gasoline is spilled on the fuel tank, wipe it off immediately.

## NOTICE

Certain ingredients in gasoline may cause paint fading or damage. Be extra careful not to spill fuel during refueling.

# Fuel Tap

The fuel tap has three positions: ON, RES (reserve), and OFF. For normal operation, turn the tap lever to the ON position. If the fuel runs out with the tap in the ON position, the last approximately 1.9 L (0.5 US gal) of fuel can be used by turning the tap lever to RES.



- A. Tap Lever
- B. ON position
- C. OFF position
- D. RES position

Turn the fuel tap lever to the OFF position when the fuel tank is removed for maintenance and adjustments or the motorcycle is stored for long time.

#### NOTE

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

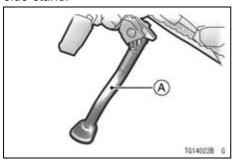
# **A**WARNING

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

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

#### Stand

The motorcycle is equipped with a side stand.



A. Side Stand

#### NOTE

OWhen using the side stand, turn the handlebar to the left

Do not sit on the motorcycle while it is on its side stand. Always kick the stand fully up before sitting on the motorcycle.

#### NOTE

OThe 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.

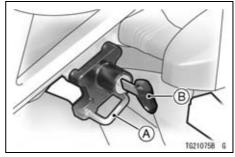
#### **Helmet Hook**

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

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

# **A** WARNING

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



A. Helmet Hook
B. Ignition Switch Key

#### Rear Carrier

The motorcycle is equipped with a carrier on the rear

Vehicle Total Payload (must not exceed).	182 kg (401 lb)
(must not exceed).	102 113 (101 111)

Rear Carrier Maximum Load Capacity	10 kg (22 lb)
------------------------------------	---------------

# A WARNING

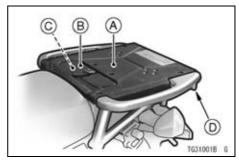
Overloading the motorcycle and failure to adjust speed for additional cargo could result in loss of control and an accident resulting in injury or death. Never exceed the rear carrier load limit of 10 kg (22 lb); it is designed for light items and overloading can affect handling due to changes in weight distribution and aerodynamic forces. Speed must also be adjusted to suit various load, road and weather conditions.

### **Tool Kit Container/Tool Kit**

The tool kit container is located on the rear carrier, use the container to keep the tool kit that should be kept with the motorcycle. The kit contains tools that can be helpful in making roadside repairs, adjustments, and some maintenance procedures explained in this manual.

## **Tying Hooks**

When tying up light loads to the rear carrier, use the tying hooks located under the rear carrier.



- A. Rear Carrier
- **B. Tool Kit Container**
- C. Tool Kit
- D. Tying Hook

### **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)

#### NOTE

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

# **A** WARNING

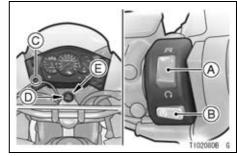
New tires are slippery and may cause loss of control and injury. A break-in period of 160 km (100 miles) is necessary to establish normal tire traction. During break-in, avoid sudden and maximum braking and acceleration, and hard cornering.

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 an authorized Kawasaki dealer.

## **HOW TO RIDE THE MOTORCYCLE**

## Starting the Engine

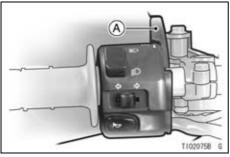
- Turn the fuel tap lever to the ON position.
- Check that the engine stop switch is in the O position.
- Turn the ignition key to "ON".
- Make sure the transmission is in neutral.



- A. Engine Stop Switch
- B. Starter Button
- C. Neutral Indicator Light
- D. Ignition Switch
- E. ON position
- If the engine is cold, pull the choke lever all the way.

#### NOTE

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



A. Choke Lever

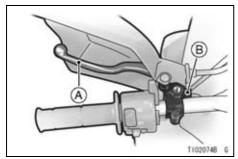
 Leaving the throttle completely closed, push the starter button with the clutch lever pulled in until the engine starts.

### NOTICE

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

- Off the engine is flooded, crank the engine over with the throttle fully open until the engine starts.
- The motorcycle is equipped with a starter lockout switch. This switch prevents the electric starter from operating when the clutch is engaged and the transmission is not in neutral



A. Clutch Lever B. Starter Lockout Switch

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

#### NOTE

Olf you drive the motorcycle before the engine is warmed up, return the choke to the off position as soon as your start moving.

### NOTICE

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

#### 42 HOW TO RIDE THE MOTORCYCLE

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

## **Jump Starting**

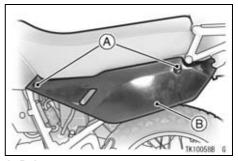
If your motorcycle battery is "run down", it should be removed and charged. If this is not practical, a 12 volt booster battery and jumper cables may be used to start the engine.

# **A** DANGER

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

## Connecting Jumper Cables

• Remove the left and right side cover by unscrew the bolts.

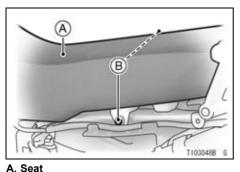


A. Bolts

B Left Side Cover

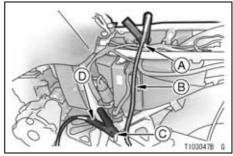
#### 44 HOW TO RIDE THE MOTORCYCLE

 Unscrew the bolt on both side and remove the seat.



B. Bolt

 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.

# **A** DANGER

Batteries contain sulfuric acid that can cause burns and produce hydrogen gas which is highly explosive. Do not make this last connection at the carburetor or battery. Take care not to touch the positive and negative cables together, and do not lean over the battery when making this last connection. Do not connect to 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.

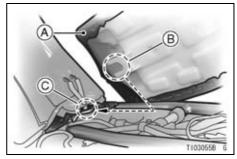
### NOTICE

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.

#### NOTE

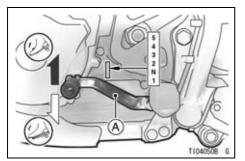
○ To fix the seat, place the slot into the tab.



- A. Seat
- B. Slot
- C. Tab

## **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

- O 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.
- For smooth riding, each gear position should cover the proper rate of speed shown in the table.
- Open the throttle part way, while releasing the clutch lever.

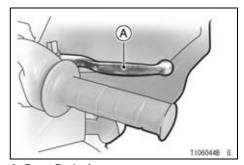
# **A** WARNING

Downshifting to a lower gear at high speed causes engine rpm to increase excessively, potentially damaging the engine and it may also cause the rear wheel to skid and cause an accident. Downshifting should be done below 5 000 rpm for each gear.

## Braking

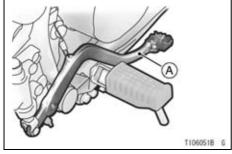
- Close the throttle completely, leaving the clutch engaged (except when shifting gears) so that the engine will help slow down the motorcycle.
- Shift down one gear at a time so that you are in 1st gear when you come to a complete stop.
- When stopping, always apply both brakes at the same time. Normally the front brake should be applied a little more than the rear. Shift down or fully disengage the clutch as necessary to keep the engine from stalling.
- Never lock the brakes, or it will cause the tires to skid. When turning a corner, it is better not be brake at all. Reduce your speed before you get into the corner

 For emergency braking, disregard downshifting, and concentrate on applying the brakes as hard as possible without skidding.



A. Front Brake Lever

#### 50 HOW TO RIDE THE MOTORCYCLE



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.

## 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 cloqued air cleaner may allow dirt and dust to enter the carburetor and stick the throttle open.

2. During removal of the air cleaner, dirt is allowed to enter and jam the carburetor

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

# **A** WARNING

Operating or parking the vehicle near flammable materials can cause a fire, and can result in property damage or severe personal injury.

Do not idle or park your vehicle in an area where tall or dry vegetation, or other flammable materials could come into contact with the muffler or exhaust pipe.

# **A** WARNING

The engine and exhaust system get extremely hot during normal operation and can cause serious burns. Never touch a hot engine, exhaust pipe, or muffler during operation or after stopping the engine.

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

### NOTICE

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.

# **A** WARNING

Gasoline is extremely flammable and can be explosive under certain conditions, creating the potential for serious burns. Turn the ignition switch "OFF". Do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.

 Lock the steering to help prevent theft.

## **Catalytic Converter**

This motorcycle is equipped with a catalytic converter in the exhaust system. The converter reacts with carbon monoxide, hydrocarbons and nitrogen oxides to convert them into carbon dioxide, water, nitrogen and oxygen 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.

# **A**WARNING

Operating or parking the vehicle near flammable materials can cause a fire, and can result in property damage or severe personal injury.

Do not idle or park your vehicle in an area where tall or dry vegetation, or other flammable materials could come into contact with the muffler or exhaust pipe.

# **A** WARNING

The engine and exhaust system get extremely hot during normal operation and can cause serious burns. Never touch a hot engine, exhaust pipe, or muffler during operation or after stopping the engine.

- 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 the cylinder misfiring. Under this 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.

# **NOTICE**

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

#### 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. Gloves and suitable footwear should also be used for added protection in case of a mishap.

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. When riding always keep both hands on the handlebars and both feet on the footpegs. Removing your hands from the handlebars or feet from the footpegs while riding can be hazardous. If you remove even one hand or foot, you can reduce your ability to control the motorcycle.

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.

In general your actions should be smooth as sudden acceleration, braking or turning may cause loss of control, especially when riding in wet conditions or on loose roadway surfaces, when the ability to maneuver will be reduced.

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.

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 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.

# **A** WARNING

Failure to perform these checks before operation may result in serious damage or an accident. Always perform daily checks before operation.

# A DANGER

Exhaust gas contains carbon monoxide, a colorless, odorless poisonous gas.

Inhaling carbon monoxide can cause serious brain injury or death. Do not run the engine in enclosed areas. Operate only in a well-ventilated area.

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

#### **60 SAFE OPERATION**

Front	150 kPa (1.5 kg/cm², 21 psi)						
Rear	Up to 97.5 kg (215 lbs) Load	150 kPa (1.5 kg/cm², 21 psi)					
Neal	97.5 ~ 182 kg (215 ~ 401 lbs) Load	200 kPa (2.0 kg/cm², 28 psi)					

Install the air valve cap.

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  $2 \sim 3$  mm (0.08  $\sim$  0.12 in.).

Clutch ....... Clutch lever play  $8 \sim 12$  mm (0.31  $\sim 0.47$  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, Indicator Lights) and horn work.

#### **SAFE OPERATION 61**

Engine stop switch	Stops engine.
Side stand	Returns to its fully up position by spring tension.
	Returns spring not weak or not damaged.

## **Additional Considerations for OFF Road 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.

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

**Fuel:** Have sufficient fuel for the high fuel consumption 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.

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



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.

#### **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	Whiche comes first	ever	ver *Odometer Reading km × 1 000 (mile × 1 000) →						See Page
	Operation (Engine Item)	Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	
	Air cleaner element - clean				•		•		•	91
K	Valve clearance - inspect			Every 42 000 km (26 000 mile)						
	Throttle control system (play, smooth return, no drag) - inspect	year	•		•		•		•	94
K	Choke operation - inspect	year	•		•		•		•	98
	Idle speed - inspect		•		•		•		•	98
	Fuel leak (fuel hose and pipe) - inspect	year	•		•		•		•	_

#### **66 MAINTENANCE AND ADJUSTMENT**

	Frequency	Whiche comes first	ever	*Odometer Reading km × 1 000 (mile × 1 000)					See Page	
	Operation (Engine Item)	Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	
	Fuel hoses damage - inspect	year	•		•		•		•	ı
	Fuel hoses installation condition - inspect	year	•		•		•		•	-
	Coolant level - inspect		•		•		•		•	84
	Coolant leak - inspect	year	•		•		•		•	83
	Radiator hose damage - inspect	year	•		•		•		•	82
	Radiator hoses installation condition - inspect	year	•		•		•		•	82
K	Balancer chain tension - adjust				•		•		•	_

### 2. Periodic Inspection (Chassis Related Items)

Frequency	Whichever *Odometer Reading comes km × 1 000 (mile × 1 000) first →							See Page	
Operation (Chassis Items)	Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	
Clutch and drive train:	train:								
Clutch operation (play, engagement, disengagement) - inspect		•		•		•		•	99
Drive chain lubrication condition - inspect #		every 600 km (400 mile)							
Drive chain slack - inspect #		every 1 000 km (600 mile)							102
Drive chain wear - inspect #				•		•		•	106
K Drive chain guide wear - inspect				•		•		•	_

#### **68 MAINTENANCE AND ADJUSTMENT**

	Frequency	Whiche comes first	ever	*Odometer Reading km × 1 000 (mile × 1 000)						See Page
	Operation (Chassis Items)	Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	
W	heels and tires:									
	Tire air pressure - inspect	year			•		•		•	118
	Wheels/tires damage - inspect				•		•		•	119
	Tire tread wear, abnormal wear - inspect				•		•		•	119
K	Wheel bearings damage - inspect	year			•		•		•	-
K	Spoke tightness and rim runout - inspect		•	•	•	•	•	•	•	_

Frequency	Whichever comes first	⁄er ➡			*Odometer Reading km × 1 000 (mile × 1 000)					
Operation (Chassis Items)	Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)		
Brake system:										
Brake fluid leak - inspect	year	•	•	•	•	•	•	•	110	
Brake hoses damage - inspect	year	•	•	•	•	•	•	•	110	
Brake pad wear - inspect #			•	•	•	•	•	•	109	
Brake hose installation condition - inspect	year	•	•	•	•	•	•	•	_	
Brake fluid level - inspect	6 months	•	•	•	•	•	•	•	110	

#### 70 MAINTENANCE AND ADJUSTMENT

	Frequency	Whichev comes first	ver →	*Odometer Reading km × 1 000 (mile × 1 000)					See Page	
	Operation (Chassis Items)	Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	
	Brake operation (effectiveness, play, drag) - inspect	year	•	•	•	•	•	•	•	112
	Brake light switch operation - inspect		•	•	•	•	•	•	•	113
Sı	uspensions:									
K	Front forks/rear shock absorber operation (damping and smooth stroke) - inspect				•		•		•	115
K	Front forks/rear shock absorber oil leak - inspect	year			•		•		•	115

	Frequency	Whichev comes first	ver →	*Odometer Reading km × 1 000 (mile × 1 000)						See Page
	Operation (Chassis Items)	Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	
K	Uni-trak rocker arm bearings - lubricate						•			-
K	Uni-trak rocker arm operation - inspect				•		•		•	-
K	Uni-trak tie rods operation - inspect				•		•		•	-
K	Uni-trak tie rods bearings - lubricate						•			_
K	Swing arm pivot - lubricate						•			-
Steering system:										
K	Steering play - inspect	year	•		•		•		•	-

	Frequency	Whichev comes first	er →					neter Re (mile × ′		See Page
	Operation (Chassis Items)	Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	
K	Steering stem bearings - lubricate	2 years					•			1
Electrical system:										
	Lights and switches operation - inspect	year			•		•		•	1
	Headlight aiming - inspect	year			•		•		•	128
	Side stand switch operation - inspect	year			•		•		•	-
	Engine stop switch operation - inspect	year			•		•		•	_
	Battery electrolyte level - inspect	6 months		•	•	•	•	•	•	122

Frequency	Whichever comes first	/er ➡					neter Re (mile × ′		See Page
Operation (Chassis Items)	Every	1 (0.6)	6 (3.75)	12 (7.5)	18 (11.25)	24 (15)	30 (18.75)	36 (22.5)	
Chassis:									
Chassis parts - lubricate	year			•		•		•	_
Bolts and nuts tightness - inspect		•		•		•		•	_

# 3. Periodic Replacement

	Frequency	Whicheve comes first	*Odometer Reading km × 1 000 (mile × 1 000)					See Page
	Change/Replacement Items	Every	1 (0.6)	12 (7.5)	24 (15)	36 (22.5)	48 (30)	
	Air cleaner element # - replace	2 years						90
	Engine oil # - change	year	•	•	•	•	•	77
	Oil filter - replace	year	•	•	•	•	•	77
K	Fuel hoses - replace	5 years						ı
K	Coolant - change	3 years				•		87
K	Radiator hoses and O-rings - replace	3 years				•		-
K	Brake hoses - replace	4 years						-
K	Brake fluid (front and rear) - change	2 years			•		•	112

Frequency	Whichever comes first	*Odometer F			1 000	See Page	
Change/Replacement Items	Every	1 (0.6)	12 (7.5)	24 (15)	36 (22.5)	48 (30)	
K Rubber parts of master cylinder and caliper - replace	4 years					•	_
K Spark plug - replace			•	•	•	•	88

# **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.

# **A** 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. Check the oil level before each ride and change the oil according to the periodic maintenance chart in the Owner's Manual.

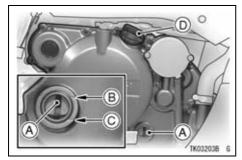
### Oil Level Inspection

 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.

# **NOTICE**

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 inspection window. With the motorcycle held level, the oil level should come up between the upper and lower level lines next to the oil level inspection window.



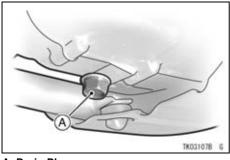
- A. Oil Level Inspection Window
- B. Upper Level Line
- C. Lower Level Line
- D. Oil Filler Cap

- 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.

## Oil and/or Oil Filter Change

- Warm up the engine thoroughly, and then stop it.
- Set the motorcycle up on its side stand.
- Place an oil pan beneath the engine.

• Remove the engine oil drain plug.



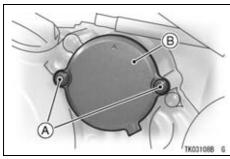
A. Drain Plug

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

# **AWARNING**

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

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

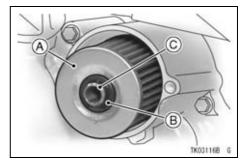


A. Bolts **B** Oil Filter Cover

- Pull off the element with the element mounting pin.
- Pull the mounting pin off the element.
- Replace the element with a new one.
- Apply a little engine oil to the grommets on both side of the element, and

push the mounting pin into the element. Be careful that the grommets do not slip out of place.

 Install them with the smaller end of the pin inside.



- A. Element
- B. Grommet
- C. Mounting Pin
- Apply a little engine oil to the grommet. and install the oil filter cover and tighten its bolts.

 After the oil has completely drained out, install the engine oil drain plug with its gasket. Proper torque for it is shown in the table.

#### NOTE

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

#### NOTE

- O Replace the any gasket with a new one.
- Fill the engine up to the upper level line with a good quality motor oil specified in the table.
- Start the engine.
- Check the oil level and for oil leakage.

## **Tightening Torque**

Engine Oil Drain Plug:

29 N·m (3.0 kgf·m, 21 ft·lb)

### Recommended Engine Oil

Type: API SG, SH, SJ, SL or SM

with JASO MA, MA1 or MA2

Viscosity: SAE 10W-40

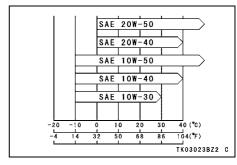
#### NOTE

O 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: 1.9 L (2.0 US qt) [when filter is not removed] 2.0 L (2.1 US qt) [when filter is removed] 2.1 L (2.2 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.

# **A** WARNING

The cooling fan spins at high speed and can cause serious injuries. Keep your hands and clothing away from the cooling fan blades at all times.

## NOTICE

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.

# MARNING

Coolant containing corrosion inhibitors for aluminum engines and radiators include harmful chemicals for human body. Drinking coolant can result in serious injury or death. coolant in accordance with the instructions of the manufacturer.

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

### NOTICE

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.

## **NOTICE**

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

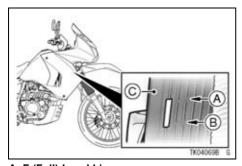
○ A permanent type of antifreeze is installed in the cooling system when shipped. It is colored green and contains ethylene glycol. It is mixed at 50% and has the freezing point of −35°C (−31°F).

## 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.

#### NOTE

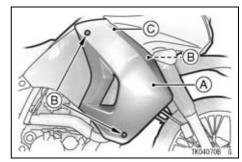
O Check the level when the engine is cold (room or atmospheric temperature).



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

### Coolant Filling

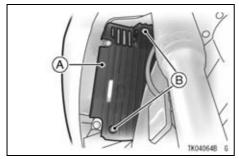
 If the amount of coolant is insufficient, remove the right shroud by unscrewing the bolts and add coolant into the reserve tank.



- A. Right Shroud
- B. Bolt
- C. Projection

#### NOTE

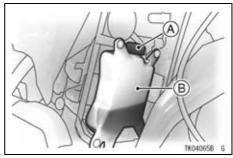
- O The right shroud has a projection at the top of the right shroud. When removing the shroud, push the top of shroud to the front.
- Remove the reserve tank cover by removing the screws.



A. Reserve Tank Cover

B. Screws

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



A. Cap

- B Reserve Tank
- Install the cap.
- Install the upper right inner cowl and tighten the bolt.

#### 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.

## NOTICE

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

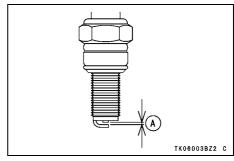
Have the coolant changed by an authorized Kawasaki dealer

# **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 only by an authorized Kawasaki dealer. **Spark Plug** 

Standard Plug	NGK DPR8EA-9 or ND X24EPR-U9					
Plug Gap	0.8 ~ 0.9 mm (0.031 ~ 0.035 in.)					
Tightening Torque	14 N·m (1.4 kaf·m. 10.0 ft·lb)					



A. Plug Gap

#### Valve Clearance

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

## NOTICE

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 an authorized Kawasaki dealer

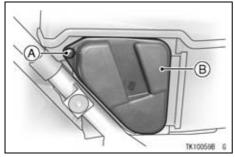
#### Air Cleaner

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

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

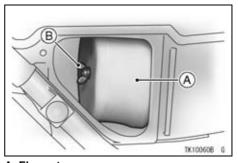
#### Element Removal

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



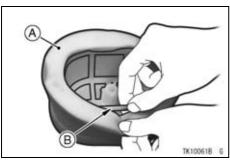
A. Air Cleaner Cover Screw
B. Air Cleaner Cover

 Remove the wing bolt, and take out the element.



A. Element B. Wing Bolt

Remove the element from the frame.



**A** Flement **B** Frame

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

# A WARNING

If dirt or dust is allowed to pass through into the carburetor, the throttle may stick or become inoperable resulting in a hazardous operating condition.

# **NOTICE**

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

#### NOTE

O Element installation is performed in the reverse order of removal.

## Element Cleaning

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

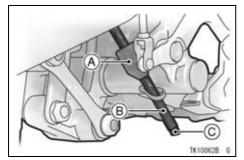
- Squeeze it dry in a clean towel. Do not wring the element or blow it dry; the element can be damaged.
- Check all the parts of the element for visible damage.
- If any of the parts of the element are damaged, replace them.
- After cleaning, saturate the element with a high-quality foam-air-filter oil, squeeze out the excess, then wrap it in a clean towel and squeeze it as dry as possible.
- Be careful not to tear the element.

# **A** WARNING

Gasoline and low flash-point solvents are extremely flammable and may explode, causing severe burns. Do not use gasoline or a low flash-point solvent to clean the element. Clean the element in a well-ventilated area. Be sure there are no sparks or flame in the work area, including any appliance with a pilot light.

### Oil Draining

 Inspect the transparent reservoir below the swingarm pivot section on the right side of the motorcycle to see if any oil has run down from the air cleaner housing.



- A. Reservoir
- **B** Drain Hose
- C. Plug

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

# A WARNING

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

## **Throttle Control System**

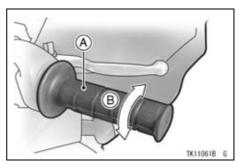
Check the throttle grip play in accordance with the Periodic Maintenance Chart, and adjust it if necessary.

# Throttle Grip -

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

# Inspection

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



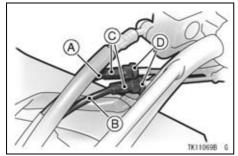
- A. Throttle Grip
  B. Throttle Grip Play
- Throttle Grip Play

 $2 \sim 3 \text{ mm} (0.08 \sim 0.12 \text{ in.})$ 

• If there is improper play, adjust it.

## Adiustment

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

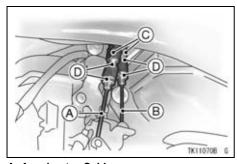


- A. Accelerator Cable
- B. Decelerator Cable
- C. Adjusting Nuts
- D. Locknuts

 Turn the accelerator cable adjusting nut until  $2 \sim 3 \text{ mm} (0.08 \sim 0.12 \text{ in.}) \text{ of}$ throttle grip play is obtained. Tighten the locknut.

### NOTE

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



A. Accelerator Cable

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

# **A**WARNING

Too much cables play can prevent throttle operation and cause an accident resulting in serious injury or death. When adjusting the throttle or replacing the cables, be sure the upper ends of the outer cables are fully seated in their adjusting nuts, or they could slip into place later, creating enough grip play to prevent throttle operation.

 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.



Operation with improperly adjusted, incorrectly routed, or damaged cables could result in an unsafe riding condition. Be sure the control cables are adjusted and routed correctly, and are free from damage.

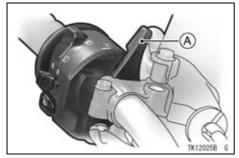
#### Choke Lever

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

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

### Inspection

 Check that the choke lever returns properly and that the inner cable slides smoothly. If there is any irregularity, in accordance with the Periodic Maintenance Chart have the choke cable checked by an authorized Kawasaki dealer.



A. Choke Lever

## Idle Speed

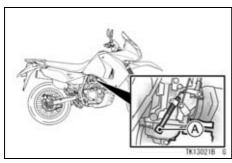
The idle speed should be performed in accordance with the Periodic Maintenance Chart or whenever the idle speed is disturbed.

## Adjustment

- Start the engine, and warm it up thoroughly.
- Adjust the idle speed by turning the idle adjusting screw.

### Idle Speed

1 200 ~ 1 400 r/min (rpm)



A. Idle Adjusting Screw

# **A** WARNING

Operation with damaged cables could result in an unsafe riding condition. Replace damaged control cables before operation.

#### 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.

# MARNING

The engine and exhaust system get extremely hot during normal operation and can cause serious burns. Never touch a hot engine or an exhaust pipe during clutch adjustment.

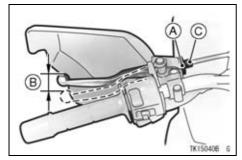
### Inspection

• 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.

### **Clutch Lever Play**

 $8 \sim 12 \text{ mm } (0.31 \sim 0.47 \text{ in.})$ 



- A. Locknut
- **B. Clutch Lever Play**
- C. Adjuster

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

## Adjustment

 Loosen the locknut, and turn the adjuster so that the clutch lever will have the proper play.

# **A** WARNING

Too much cable play can prevent clutch disengagement and cause an accident resulting in serious injury or death. When adjusting the clutch or replacing the cable, 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.

- Tighten the locknut.
- If it cannot be done, have the clutch cable adjusted by an authorized Kawasaki dealer.

#### NOTE

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

#### **Drive Chain**

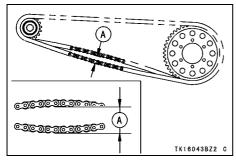
The drive chain slack and lubrication must be checked each day before riding the motorcycle, and in accordance with the Periodic Maintenance Chart for safety and to prevent excessive wear. If the chain becomes badly worn or maladjusted - either too loose or too tight - the chain could jump off the sprockets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

# A 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. Inspect the chain for damage and proper adjustment before each ride.

## Chain Slack Inspection

- Set the motorcycle up on its side stand.
- Rotate the rear wheel to find the position where the chain is tightest. 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.

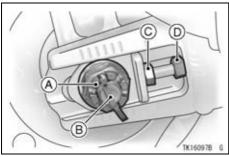
#### **Drive Chain Slack**

Standard	35 ~ 45 mm (1.4 ~ 1.8 in.)
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## Chain Slack Adjustment

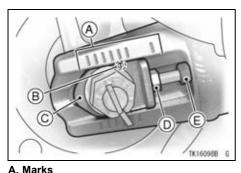
Loosen the left and right chain adjuster locknuts.

• 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. Warks
- B. Notch
- C. Indicator D. Adjuster
- E. Locknut

## NOTE

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

# **A** WARNING

Misalignment of the wheel will result in abnormal wear, and may result in an unsafe riding condition. Align the rear wheel using the marks on the swingarm or measuring the distance between the center of the axle and swingarm pivot.

- Tighten both chain adjuster locknuts.
- Tighten the rear axle nut to the specified torque.

## **Tightening Torque**

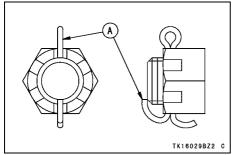
Axle Nut:

98 N·m (10 kgf·m, 72 ft·lb)

#### NOTE

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

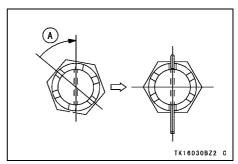
- Rotate the wheel, measure the chain slack again at the tightest position, and readjust if necessary.
- Install a new cotter pin through the rear axle nut and axle, and spread its ends.



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.
- OIt should be within 30 degrees.
- O Loosen once and tighten again when the slot goes past the nearest hole.



A. Turning Clockwise

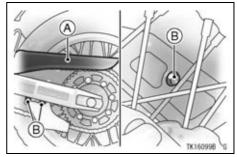
# **A** WARNING

A loose axle nut can lead to an accident resulting in serious injury or death. Tighten the axle nut to the proper torque and install a new cotter pin.

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

## Wear Inspection

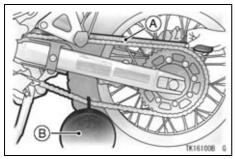
 Remove the bolts to take off the chain cover.



A. Chain Guide B. Bolts

- Stretch the chain taut either by using the chain adjusters, or by hanging a 10 kg (22 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

319 mm (12.6 in.)



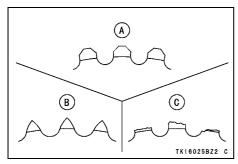
For safety, use only the standard chain. It is an endless type and should not be cut for installation; have it installed by an authorized Kawasaki dealer.

- 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

O Sprocket wear is exaggerated for illustration. See Service Manual for wear limits

#### 108 MAINTENANCE AND ADJUSTMENT

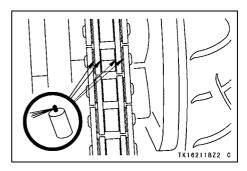


- A. Good Teeth B. Worn Teeth
- C. Damaged Teeth
- If there is any irregularity, have the drive chain and/or the sprockets replaced by an authorized Kawasaki dealer

#### Lubrication

Lubrication is necessary after riding through rain or on wet roads, or any time that the chain appears dry. Use a lubricant for sealed chains to prevent deterioration of chain seals. If the chain is especially dirty, clean it using a cleaner for sealed chains following the instructions supplied by the chain cleaner manufacturer.

 Apply lubricant to the sides of the rollers so that it will penetrate to the rollers and bushings. Apply lubricant to the seals so that the seals will be coated with lubricant. Wipe off any excess lubricant.

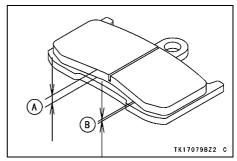


• Wipe off any lubricant that gets on the tire surface.

#### **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.)

#### 110 MAINTENANCE AND ADJUSTMENT

#### 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 DOT3 or 4.

## NOTICE

Do not spill brake fluid onto any painted surface.

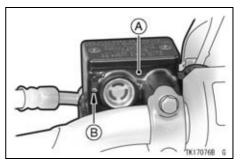
Do not use fluid from a container that has been left open or that has been unsealed for a long time.

Check for fluid leakage around the fittings.

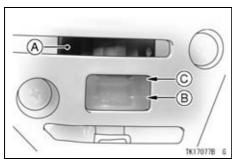
Check brake hose for damage.

## Fluid Level Inspection

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



A. Front Brake Fluid Reservoir B. Lower Level Line

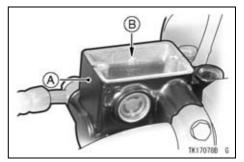


A. Rear Brake Fluid Reservoir

- B. Lower Level Line
- C. Upper Level Line

#### **MAINTENANCE AND ADJUSTMENT 111**

 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

# **A** WARNING

Mixing brands and types of brake fluid can reduce the brake system's effectiveness and cause an accident resulting in injury or death. Do not mix two brands of brake fluid. Change the brake fluid in the brake line completely if the brake fluid must be refilled but the type and brand of the brake fluid that is already in the reservoir are unidentified.

## Fluid Change

Have the brake fluid changed by an authorized Kawasaki dealer.

#### Front 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.

# **A** WARNING

Air in the brake lines diminish braking performance and can cause an accident resulting in injury or death. 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. Have the brake checked immediately by an authorized Kawasaki dealer.

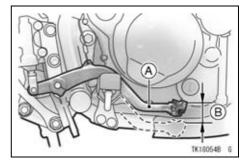
## **Brake Light Switches**

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.

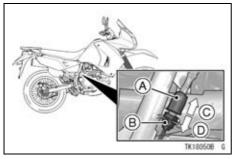
#### **Brake Pedal Travel**

10 mm (0.4 in.)

#### 114 MAINTENANCE AND ADJUSTMENT

## Adjustment

 To adjust the rear brake light switch, move the switch up or down.



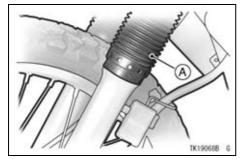
- A. Rear Brake Light Switch
- **B.** Adjusting Nut
- C. Lights sooner
- D. Lights later

## NOTICE

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

#### Front Fork

The front fork operation and oil leakage should be checked in accordance with the Periodic Maintenance Chart by an authorized Kawasaki dealer.



A Front Fork

#### Rear Shock Absorbers

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

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

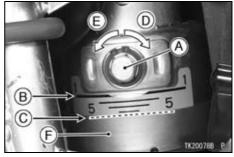
## Rear Spring Preload Adjustment

The spring preload adjuster on the rear shock absorber has 5 positions.

- Remove the left side cover.
- Adjust the spring preload by turning adjusting bolts as follows.
- OWhen changing the adjuster position from 1st to 5th in numerical order  $(1st\rightarrow 2nd\rightarrow 3rd\rightarrow 4th\rightarrow 5th)$ , turn the adjusting bolt clockwise
- OWhen changing the adjuster position from 5th to 1st in numerical order  $(5th\rightarrow 4th\rightarrow 3rd\rightarrow 2nd\rightarrow 1st)$ , turn the adjusting bolt counterclockwise.

## NOTICE

When the spring preload adjuster is at the position of the 1st or 5th, do not turn the adjusting bolt in opposite direction of the above procedures. The spring preload adjuster will be damaged by the shock.

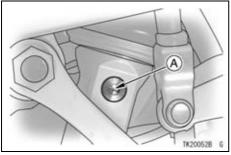


- A. Adjusting Bolt
- B. 1st Position C. 5st Position
- D. Turn Clockwise
- E. Turn Counter Clockwise
- F. Rear Shock Absorbers

Position	1	2	3	4	5
Spring Action	——→ Strong				

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 all the way clockwise with a screwdriver to make the damping force greatest.

 Turn the adjuster counterclockwise to decrease damping force.

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	3rd Position	
Rebound Damping Force Adjuster	1 turn*	

\*: out from the fully clockwise position

#### 118 MAINTENANCE AND ADJUSTMENT

## Wheels Tires -

## Payload and Tire Pressure

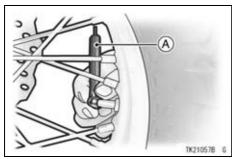
Failure to maintain proper inflation pressures or observe payload limits for your tires may adversely affect handling and performance of your motorcycle and can result in loss of control. The maximum recommended load in addition to vehicle weight is 182 kg (401 lb), including rider, passenger, baggage, 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.

#### 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).
- O Tire pressure is affected by changes in ambient temperature and altitude, and so the tire pressure should be checked and adjusted when your riding involves wide variations in temperature or altitude.



A. Tire Pressure Gauge

## Tire Air Pressure (when cold)

Front	150 kPa (1.5 kgf/cm², 21 psi)		
Rear	Up to 97.5 kg Load (215 lbs)	150 kPa (1.5 kgf/cm², 21 psi)	
	97.5 ~ 182 kg Load (215 ~ 401 lbs)	200 kPa (2.0 kgf/cm², 28 psi)	

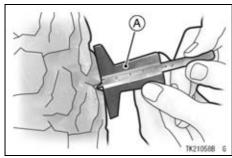
## Tire Wear, Damage

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.

## Minimum Tread Depth

Front and Rear	2 mm (0.08 in.)



#### A. Tire Depth Gauge

- 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

O Have the wheel balance inspected whenever a new tire is installed.

# **A** WARNING

Tires that have been punctured and repaired do not have the same capabilities as undamaged tires and can suddenly fail, causing an accident resulting in serious injury or death. Replace damaged tires as soon as possible. To ensure safe handling and stability, use only the recommended standard tires for replacement, inflated to the standard pressure. If it is necessary to ride on a repaired tire, do not exceed 100 km/h (60 mph) until the tire is replaced.

## NOTE

 When operating on public roadways, keep maximum speed under traffic law limits. O Most counters may have their own regulations requiring a minimum tire thread depth; be sure to follow them.

## Standard Tire for Australian model

Front	DUNLOP 90/90-21 M/C 54S TRAILMAX
Rear	DUNLOP 130/80-17 M/C 65S TRAILMAX

## Standard Tire for Venezuela model

Front	DUNLOP 90/90-21 M/C 54S K750
Rear	DUNLOP 130/80-17 M/C 65S K750

# A WARNING

Mixing tire brands and types can adversely affect handling and cause an accident resulting in injury or death. Always use the same manufacturer's tires on both front and rear wheels.

# MARNING

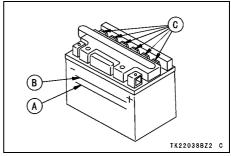
New tires are slippery and may cause loss of control and injury. A break-in period of 160 km (100 miles) is necessary to establish normal tire traction. During break-in, avoid sudden and maximum braking and acceleration, and hard cornering.

## **Battery**

Battery Electrolyte Level Inspection

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

- Remove the battery from the motorcycle (see Battery Removal).
- Check that the electrolyte level in each cell is between the upper and lower level lines.



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

 If the electrolyte level is low in any cells, remove the battery filler caps and fill with distilled water until the electrolyte level in any cells reaches the upper level line.

## NOTICE

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

## **Battery Charging**

 Remove the battery from the motorcycle (see Battery Removal).

## NOTICE

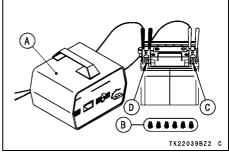
Always remove the battery from the motorcycle for charging. If the battery is charged while still installed, battery electrolyte may spill and corrode the frame or other parts of the motorcycle.

#### **MAINTENANCE AND ADJUSTMENT 123**

- Before charging, check the electrolyte level in each cell. If the electrolyte level is low in any cell, fill to above the lower level line but not up to the upper level line since the level rises during charging.
- Remove the caps from all the cells, and connect the battery charger leads to the battery terminals (red to +, black to -).

## **A** DANGER

Batteries produce hydrogen gas which can cause an explosion. Charge the battery in well-ventilated area. Keep sparks, flame, and cigarettes away from the battery during charging. When using a battery charger, connect the battery to the charger before turning on the charger. This procedure prevents sparks at the battery terminals which could ignite any battery gasses.



- A. Battery Charger
- B. Filler Caps
- C. (+) terminal
- D. (-) terminal
- 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.

## NOTICE

Do not use a high rate battery charger, as is typically employed at automotive service stations. unless the charging rate can be reduced to the level required for motorcycle batteries. Charging the battery at a rate higher than specified may ruin the battery. Charging at a high rate causes excess heat which can wrap the plates and cause internal shorting. Higher-than-normal charging rates also cause the plate to shed active material. posits will accumulate, and can cause internal shorting. If the temperature of the electrolyte rises above 45°C (115°F) during charging, reduce the charging rate to lower the temperature, and increase charging time proportionately.

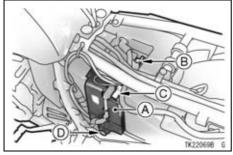
Make	Siam Furukawa
Туре	FB14L-A2

- After charging, check the electrolyte level in each cell. If the level has fallen, add distilled water to bring it back up to the upper level line.
- Install the caps on the cells.
- Install the battery.

#### 126 MAINTENANCE AND ADJUSTMENT

## Battery Removal

- Remove the side covers.
- Remove the seat.
- Disconnect the leads from the battery, first from the (–) terminal and then the (+) terminal.
- Take off the battery holder.



- A. Battery Holder
- B. (+) terminal
- C. (-) terminal
- D. Screw

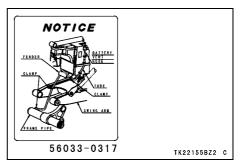
- Take the battery out.
- Clean the battery using a solution of baking soda and water. Be sure that the lead connections are clean.

## Battery Installation

- Put the battery in the battery case and route the battery vent hose as shown on the caution level attached to the tool kit compartment lid.
- Connect the capped lead to the (+) terminal, and then connect the black lead to the (-) terminal.
- Put a light coat of grease on the terminals to prevent corrosion.
- Cover the (+) terminal with its protective cap.
- Route the battery vent hose correctly.

## NOTICE

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



- The battery vent hose should be routed into the holder on the battery holder
- Reinstall the parts removed.

#### NOTE

OLeaving the battery connected causes the electrical components to make the battery discharged, resulting the over discharge of the battery. In this case, the repair or replacement of the battery is not included in the warranty. If you do not drive for four weeks or more, disconnect the battery from the vehicle.

## **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.

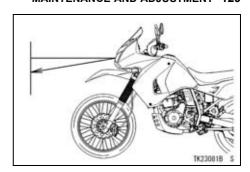
## Vertical Adjustment

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.

Horizontal adjuster and vertical adjuster adjustment should be done by an authorized Kawasaki dealer.

#### NOTE

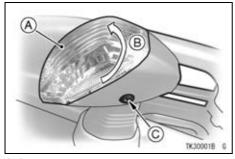
- On high beam, the brightest point should be slightly below horizontal with the motorcycle on its wheels and the rider seated. Adjust the headlight to the proper angle according to local regulations.
- ODo not allow anything to cover the headlight lens when the headlight is on. If covered, heat can build up in the headlight lens causing lens discoloration or melting, as well as damage to the item covering the lens.



#### 130 MAINTENANCE AND ADJUSTMENT

## **Rear Turn Signal Light**

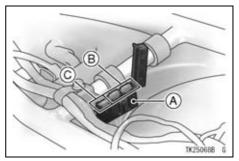
To replace the bulb of the rear turn signal light, remove the screw and lightly twist the lens counterclockwise.



- A. Lens
- **B.** Counterclockwise
- C. Screw

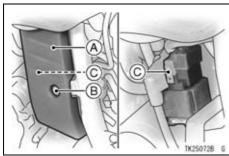
#### **Fuses**

Fuses are located under the seat. The main fuse is mounted on the starter relay behind the 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 cover by unscrewing the screw.



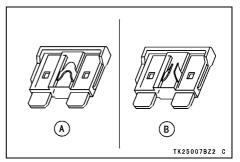
A. Cover

**B. Screw** 

C. Main Fuse

# **A** WARNING

Substituting fuses can cause wiring to overheat, catch fire and/or fail. Do not use any substitute for the standard fuse. Replace the blown fuse with a new one of the correct capacity, as specified on the fuse 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

OA 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.

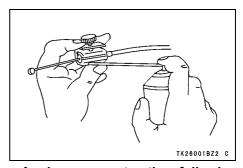
# Apply engine oil to the following pivots:

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

Rear Brake Rod Joint

# Lubricate the following cables with a pressure cable luber:

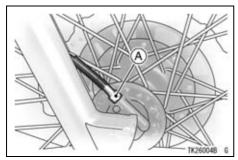
- (K)Clutch Inner Cable
- (K)Throttle Inner Cables



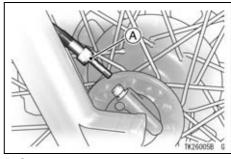
# Apply grease to the following points:

- (K)Clutch Inner Cable Upper End
- (K)Throttle Inner Cable Upper Ends
- Speedometer Inner Cable

- (K): Should be serviced by an authorized Kawasaki dealer.
  - \*: Grease the lower part of the inner cable sparigly.



A. Speedometer Cable



A. Grease

#### NOTE

- O After connecting the cables, adjust them
- Olnsert the speedometer inner cable into the speedometer gear housing while turning the wheel so that the slot in the end of the cable will seat in the tongue of the speedometer pinion.

## **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.



Build-up of debris or flammable material in and around the vehicle chassis, engine, and exhaust can cause mechanical problems and increase the risk of fire.

When operating the vehicle in conditions that allow debris or flammable material to collect in and around the vehicle, inspect the engine, electrical component and exhaust areas frequently. If debris or flammable materials have collected, park the vehicle outside and stop the engine. Allow the engine to cool, then remove any collected debris. Do not park or store the vehicle in an enclosed space prior to inspecting for build-up of debris or flammable materials.

- 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 lens, 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.

## 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.

#### 136 MAINTENANCE AND ADJUSTMENT

- 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

- O 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.
- O 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.

## Semi-gloss Finish

To clean the semi-gloss finish;

 When washing the motorcycle, always use a mild neutral detergent and water.

- The semi-gloss finish effect may be lost when the finish is excessively rubbed
- If any doubt, consult an authorized Kawasaki dealer.

#### 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.

## NOTICE

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.

## **A** WARNING

Rubber protectants can be slippery and, if used on the tread area, cause loss of traction resulting in accident causing injury or death. Do not apply rubber protectant to any tread area.

## **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.

## **A** WARNING

Engine 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 furl tank, and empty the carburetor by connecting a suitable hose to the fitting at the bottom of the carburetor and unscrewing the drain screw next to the fitting. (If left in for a long time, the fuel will break down and could clog the carburetor).

# **A** WARNING

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

# **A** WARNING

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

Reduce tire pressure by about 20%.

- Set the motorcycle on a box or stand so that both wheels are raised off the ground. (If this cannot be done, put boards under the front and rear wheels to keep dampness away from the tire rubber.)
- Spray oil on all unpainted metal surfaces to prevent rusting. Avoid getting oil on rubber parts or in the brakes.
- Lubricate the drive chain and all the cables.
- Remove the battery, and store it where it will not be exposed to direct sunlight, moisture, or freezing temperatures. During storage it should be given a slow charge (one ampere or less) about once a month. Keep the battery well charged 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 Checks section.
- Lubricate the pivots, bolts, and nuts in General Lubrication section.

## OWNER SATISFACTION

## (For Products Sold in Australia Only)

Your satisfaction is important to your authorized Kawasaki dealer and to Kawasaki Motors Pty., Ltd. 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 an independent business person and 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 WRITTEN 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:

### **Customer Relations:**

Technical Services Department KAWASAKI MOTORS Pty. Ltd. LOCKED BAG 802. ERMINGTON, NSW, 1700. A.C.N. 002 840 315.

E-mail: info@Kawasaki.com.au

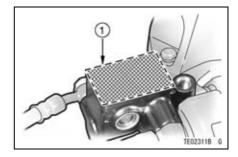
## **ENVIRONMENTAL PROTECTION**

To help preserve the environment, properly discard used batteries, tires, oils and fluids, 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. This also applies to disposal of the entire vehicle at the end of its life.

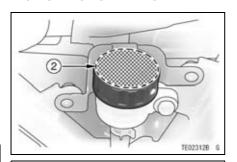
All warning labels which are on your vehicle are repeated here. Read labels on your vehicle and understand them thoroughly. They contain information which is important for your safety and the safety of anyone else who may operate your vehicle. Therefore, it is very important that all warning labels be on your vehicle in the locations shown. If any label is missing, damaged, or worn, get a replacement from your Kawasaki dealer and install it in the correct position.

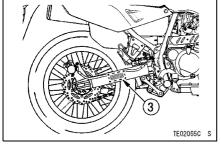
## **NOTE**

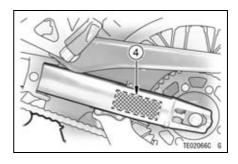
O The sample warning labels in this section have part numbers to help you and your dealer obtain the correct replacement.  Refer to the actual vehicle label for model specific data grayed out in the illustration.



1. Brake Fluid (Front)

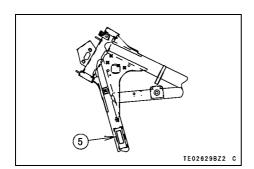


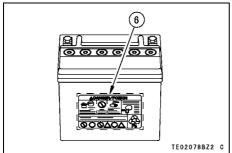


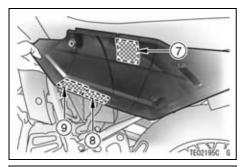


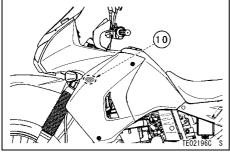
- 2. Brake Fluid (Rear)
- 3. Tire and Load Data
- 4. Important Drive Chain Information

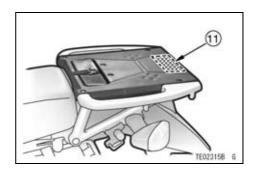
- \*5. Stationary Noise Test Information
  - 6. Battery Poison/Danger
  - \*: Only on Australian model











- 7. Battery Vent Hose
- \*\*8. Noise Emission Control Information
- \*\*9. Vehicle Emission Control Information
- 10. Radiator Cap Danger
- 11. Carrier Caution

\*\*: only on Venezuela model

(1)

USE ONLY DOT3 OR 4 BRAKE
FLUID FROM A SEALED CONTAINER.

CLEAN FILLER CAP
BEFORE RENOVING.
WARNING
UTILISER DU LIQUIDE
DE FREIN DOT3 OU 4.

TE03652DN9 C

(3)

TIRE AND LOAD DATA

The stability and hadding characteristics of this metarcetic could become ensule by the use of unproper fire initiation resource, oversign fires, usualitable reflacement for the stability of the stability of

56053-0046 TE03449D S

(2)



TE03491DN9 C

## (3) only on Venezuela model

TIRE AN	D LOAD DATA	
The stability and handling sharmateristics of thi tire inflation pressures, aremoon tires, unsuitable down to the limit, replace the bire with a pressure specified.	replacement tires, or overloadin	g. Hen tire tread sears
Air Pressure(Cold)	Size & Make Type	Minimum Tread Depth
Front 150kPa(1.5kgf/cm².21psi)	DUNLOF 90/90-21W/C 54S K 75 O	2 mm(0.08in)
Up to 97.5kg Load   15.0k Pa   (215 lbs)   (15kg/kg/2kgs)   97.5~182kg Load   20.0k Pa   (215~401 lbs)   (20kg/kg/2kgs)	DUNLOP 130/80-17M/C 65S K 750	2 mm(0.08in)

56037-1981 TE03654D S (4)

#### 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 500km(400mi) and adjusted as often as necessary to keep chain slack at about 35~45mm(.4~4] 8in measured midway between sprockets on the lower chain run with the motorcycle on the side stand. The standard chain is an DAIDO D10520PV2 with estimated service life of 1500m450004kg0400~2800mi), 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 319mm(12.58in), measured over a 20-link portion pulled straight with 98K(10kgf, 2016f) of tension. See the Owner's Manual for chain information.

56033-0375

TE03682CN8 C

## (5) only on Australian model

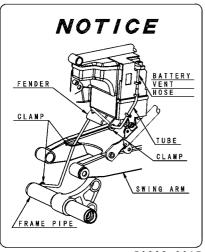
STATIONARY NOISE TEST INFORMATION
TESTED SSS dB(A) AT SSSSS r/min
SILENCING SYSTEM :KAWASAKI HEAVY
INDUSTRIES,LTD.
IDENTIFICATION : SSSSSS

TE03477DN9 C

## (6)



(7)



56033-0317

## (8) only on Venezuela model

TE03304D S

## (9) only on Venezuela model



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#### WARNING

Rear Carrier Maximum Load Capacity 10kg (22 lbs.)

- Never exceed the rear carrier load fimit of 10kg (22lbs.). It is designed for light items, and overloading can affect handling due to changes in weight distribution and aerodynamic forces.
- Do not exceed the vehicle speed of 130km/h(80mph) when carrying a load of more than 5kg(11lbs.)
  on the carrier.
- 3. Never exceed the total vehicle capacity load limit as shown in the Owner's Manual and Tire
- never exceed the total venicle capacity load limit as shown in the uwner's manual and lift information label.
- Overloading and failure to adjust speed to compensate for addition of cargo may result in loss of control and an accident. Speed must also be adjusted to suit various load and weather conditions.

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