



Kawasaki



**KZ1000 POLICE
Motorcycle Operator's Manual**

FOREWORD

Welcome to the Kawasaki KZ1000 Police motorcycle, a machine expressly designed and developed to meet the special demands of police motorcycle duty. Like all Kawasaki products, it is the result of advanced engineering, exhaustive testing, and continuous striving for superior reliability, safety and performance.

To ensure the motorcycle a long life of trouble-free service, it must be given proper care and maintenance as outlined in this Operator's Manual. Detailed service information can be found in the Service Manual, which is available from any Kawasaki Dealer

NOTICE

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

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

⚠ WARNING

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

CAUTION

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



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Emission Control Information

To protect the environment in which we all live, Kawasaki has incorporated two emission control systems in compliance with applicable regulations of the United States Environmental Protection Agency.

1. Crankcase Emission Control System

This system eliminates the release of crankcase vapors into the atmosphere. The vapors are routed through an oil separator to the intake side of the engine. While the engine is operating, the vapors are drawn into the combustion chamber, where they are burned.

2. Exhaust Emission Control System

This system reduces the amount of pollutants discharged into the atmosphere by the exhaust. The fuel and ignition systems have been carefully designed and constructed to ensure an efficient engine with low exhaust pollutant levels. Also, extra air is allowed controlled entry to the exhaust system to help complete the combustion of the exhaust gases.

3. High Altitude Performance Adjustment Information

High altitude adjustment is not required for this motorcycle.

Maintenance and Warranty

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

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

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

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

Tampering with Noise Control System

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

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

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

Consumer Information

Vehicle Minimum Stopping Distance on Dry Pavement

These figures indicate braking performance that can be met or exceeded by the vehicle to which they apply, without locking the wheels, under different conditions of loading. The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.

Description of vehicle to which this table applies: Model KZ1000:POLICE

A. Fully Operational Service Brake

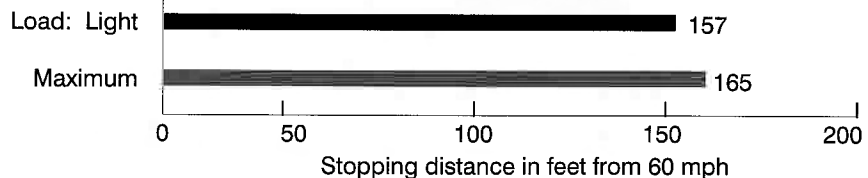


TABLE OF CONTENTS

Specifications	4	Safe Operation	25
Loading Information	6	Safe Riding Technique	25
Location of Caution Labels	7	Additional Considerations for	
Serial Number Locations	8	High Speed Operation	25
Location of Parts	9	Daily Pre-Ride Inspection	26
General Information	11	Maintenance and Adjustment	27
Brake Lever and Pedal	11	Periodic Maintenance Chart	28
Choke Knob	11	Engine Oil	29
Clutch Lever	11	Ignition System	30
Dimmer Switch	12	Spark Plugs	30
Electric Accessory Leads	12	Kawasaki Clean Air System	30
Electric Starter	12	Valve Clearance	31
Engine Stop Switch	12	Air Cleaner	31
Fairing Storage	13	Throttle	31
Floating Carrier	13	Carburetors	32
Fuel Gauge	13	Clutch	32
Fuel Tank	13	Shift Pedal	33
Fuels Types	14	Drive Chain	33
Fuel Tank Cap	15	Brakes	35
Fuel Tap	15	Brake Light Switches	36
Fuses	16	Steering	37
Hazard Switch	16	Front Fork	37
Horn Button	16	Rear Shock Absorbers	38
Ignition Switch	16	Wheels	38
Indicator Lights	17	Swing Arm	39
Keys	17	Battery	40
Light Switch	17	Headlight Beam	41
Pursuit Switch	17	Fuel System	41
Saddlebags	18	General Lubrication	42
Seat	18	Throttle Cable Adjustment	44
Shift Pedal	18	Bolt and Nut Tightening	46
Siren Button	18	Cleaning	47
Siren Switch	19	Preparation for Washing	47
Speedometer	19	Where To Be Careful	47
Stands	19	After Washing	47
Tachometer	19	Storage	48
Throttle Grip	20	Preparation for Storage	48
Tool Kit	20	Removal from Storage	48
Turn Signal Switch	20	Troubleshooting Guide	49
Breaking In	21	Maintenance Record	50
How to Operate the Motorcycle	22	Wiring Diagram	51
Starting the Engine	22	Operator Training	53
Moving Off	23	Configuration Alterations and	
Shifting Gears	23	Modifications	55
Braking	23	Motorcycle Checkout Riding Procedure ...	57
Stopping the Engine and Parking	24	Checkout After Tire Service	59
Stopping the Motorcycle		Replacement Tires	61
In an Emergency	24	Critical Maintenance Items	62

SPECIFICATIONS

Performance

Climbing Ability	30 Degrees
Braking Distance	50.3 m (165 ft) from 60 mph (maximum load)
Minimum Turning Radius	2.8 m (9.19 ft)

Dimensions

Overall Length	2,290 mm (90.1 in.)
Overall Width	895 mm (35.2 in.)
Overall Height	1,560 mm (61.4 in.)
Wheelbase	1,535 mm (60.4 in.)
Ground Clearance	160 mm (6.3 in.)
Dry Weight	270 kg (595 lbs)
Seat Height	780 mm (30.7 in.)
Fuel Tank Capacity	15 l (4.0 gal)

Engine

Type	4-stroke, 4-cylinder, DOHC
Displacement	998 cc (60.9 cu. In.)
Bore x Stroke	69.4 x 66.0 mm (2.73 x 2.60 in.)
Compression Ratio	9.2:1
Fuel	Gasoline with Antiknock Index Rating equal to or higher than 87 (minimum)
Starting	Electric starter
Carburetors	Mikuni carburetors, BS34x4
Ignition System	Battery and coil (Transistorized)
Spark Plugs	NGK BR8ES or ND W24ESR-U
Lubrication	Forced lubrication (wet sump)
Engine Oil	API, SE, SF, or SG API, SH, or SJ with JASO MA SAE, 10W40, 10W50, 20W40, 20W50
Engine Oil Capacity	3.7 l (3.9 qt)

Transmission

Type	5-speed, constant mesh, return shift
Clutch	Wet, multi-disc
Primary Reduction Ratio	1.732:1 (97/56)
Final Reduction Ratio	2.706:1 (46/17)
Overall Drive Ratio	4.874:1@ top gear
Gear Ratio:	
1st	2.642:1 (37/14)
2nd	1.833:1 (33/18)
3rd	1.421:1 (27/19)
4th	1.174:1 (27/23)
5th	1.040:1 (26/25)

Frame

Castor	63 Degrees
Trail	114 mm (4.5 in.)
Tire (front):	Dunlop F16 MN90-18 M/C 65H 4PR Tubeless
Tire (rear):	Dunlop K327MG MR90-18 M/C 71H 4PR Tubeless
Tire Pressure (front and rear):	2.53 kg/cm ² (36 psi)

Electrical Equipment

Battery	12V 20A YTX20L-BS
Headlight	12V 60/55W (Quartz-halogen)
Tail/Brake Light	12V 5/21W (3/32 CP)
Pursuit Lights	12V 37.5W
Identification Lights	12V 2W
Turn Signal/Position Lights	12V 23/8W
Turn Signal Lights	12V 23W
Instrument Lights	12V 3.4W
Pursuit Indicator Light	12V 3.4W
Hazard Flasher Indicator Light	12V 3.4W
Neutral Indicator Light	12V 3.4W
Turn Signal Indicator Lights	12V 3.4W
High Beam Indicator Light	12V 3.4W
Oil Pressure Warning Light	12V 3.4W
Horn	12V 3A
Fuses	30A (Main)
	10A (Headlight, Taillight, Instrument Lights)
	10A (Horn, Brake Light, Turn Signals)
	10A (Electric Accessory Leads in Fairing)
	10A (Electric Accessory Leads under Seat, Siren)

LOADING INFORMATION

The maximum allowable payload for this motorcycle is 159 kg (350 lbs). The payload is calculated by adding the weight of the rider, radio, speaker, siren, baggage, and any additional equipment. Note that there are specific payload weight limits for certain locations on the motorcycle. Refer to the Loading Information label located in the left saddlebag and on this page.

⚠ WARNING

Incorrect loading, improper installation or use of equipment, or modification of your motorcycle may result in an unsafe riding condition. Before you ride the motorcycle, make sure you have followed these instructions.

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

NOTE:

o Because a motorcycle is sensitive to changes in weight and aerodynamic forces, you must use extreme care in carrying cargo, and/or in the fitting of additional equipment. The following general guidelines have been prepared to assist you in making your determinations.

1. All baggage should be carried as low as possible to reduce the effect on the motorcycle's center of gravity. Baggage weight should also be distributed equally on both sides of the motorcycle. Do not carry baggage that extends beyond the rear of the motorcycle.
2. 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.
3. Do not overload the floating carrier. Overloading can affect handling due to changes in weight distribution and aerodynamic forces. Do not install anything on the carrier that extends beyond the carrier base.

4. Do not install accessories or carry baggage that impairs the performance of the motorcycle. Make sure that you have not adversely affected any lighting component, ground clearance, banking capability (i.e., lean angle), control operation wheel travel, front fork movement, or any other aspect of the motorcycle's operation.
5. Weight attached to the handlebars or front forks will increase the mass of the steering assembly and can result in an unsafe riding condition.
6. 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 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.

LOADING INFORMATION
(IMPORTANT - Read Before Riding)

WARNING MOTORCYCLE STABILITY AND HANDLING CHARACTERISTICS MAY BE RENDERED UNSAFE BY OVERLOADING, IMPROPER LOAD DISTRIBUTION, IMPROPER ADDITION OF ACCESSORIES, IMPROPER TIRE INFLATION PRESSURES, OVERWORN TIRES OR UNSUITABLE REPLACEMENT TIRES.

This motorcycle is designed to carry one person and baggage. Before riding, make sure the motorcycle is not overloaded and that the load is distributed according to the following instructions. The diagram below shows those locations where payload may be carried on the motorcycle.

PAYLOAD WEIGHT LIMITS			
Total Payload must not exceed	159 kg (350 lbs)	Total RH/LH	134
(includes driver, and all accessories and baggage in locations, A, B, C, & D)		Location 'B' Payload must not exceed	Each 6.8 kg (15 lbs)
Location 'A' Payload (on Floating Carrier) must not exceed	16 kg (35 lbs)	(includes all accessories and baggage in location B)	13.6 kg (30 lbs)
(includes all accessories and baggage in location A)		Location 'C' and 'D' Payload must not exceed	Each 3.7 kg (8 lbs)

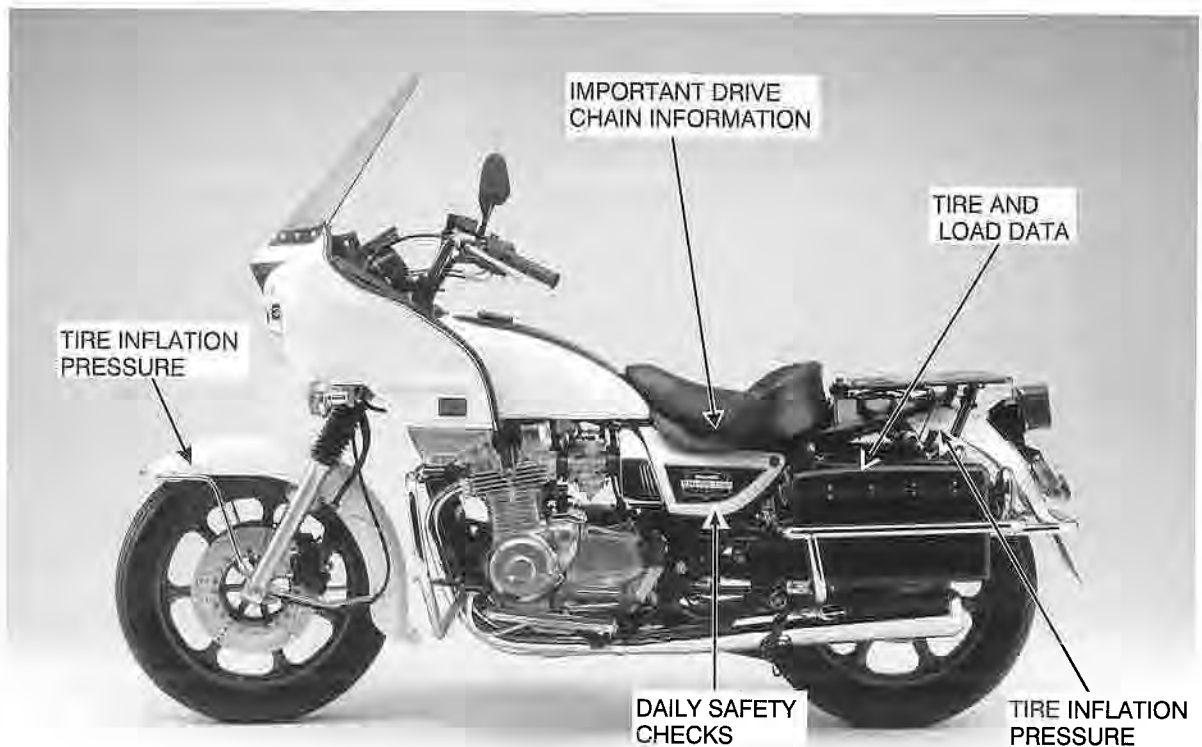
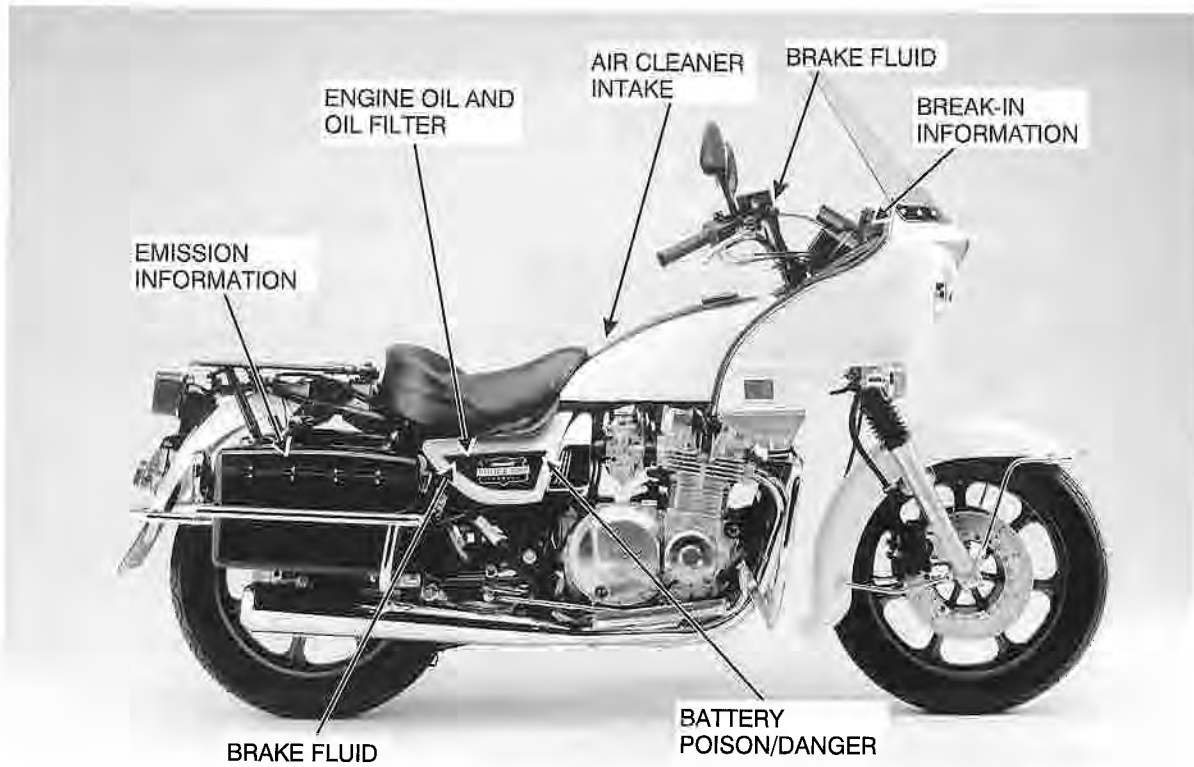
NOTE Standard equipment on this motorcycle includes a windshield, fenders, front guard, baggage rack, and low saddlebags with seats. These standard items are included in the curb weight of the motorcycle. The Payload Weight Limits given above are for additions over and above these standard components.

TIRE INFORMATION

When tire tread wears down to the limit, replace with only standard tires. Maintain tire inflation pressures specified.

Tire	Make Type	Size	Tread Depth Limit (Minimum)	Air Pressure (Cold)
Front	DUNLOP F16	MN90-18	2mm (0.08 in.)	36 psi (2.5 Kg/cm ²)
Rear	K327MG	MR90-18	2mm (0.08 in.)	36 psi (2.5 Kg/cm ²)

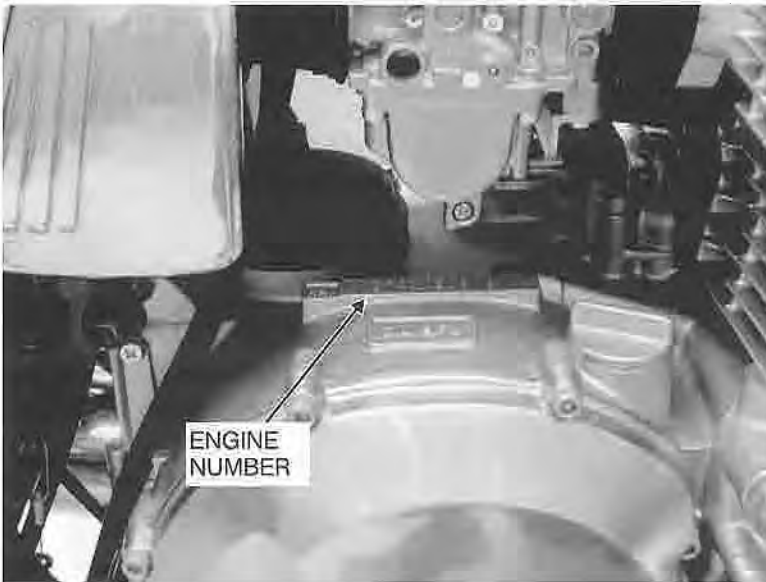
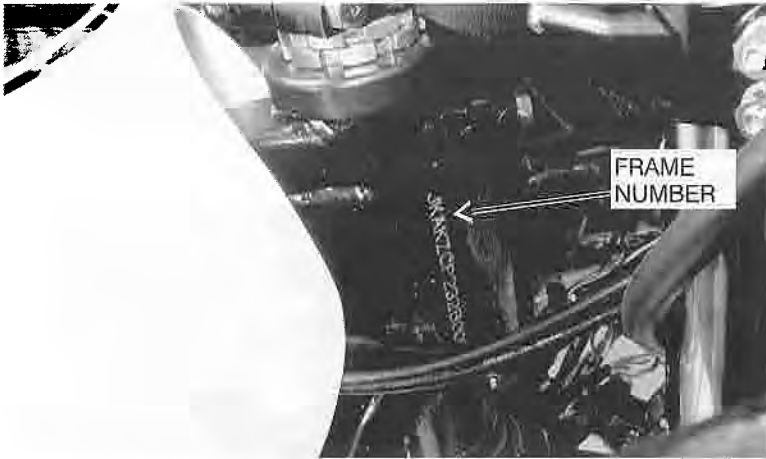
LOCATION OF CAUTION LABELS



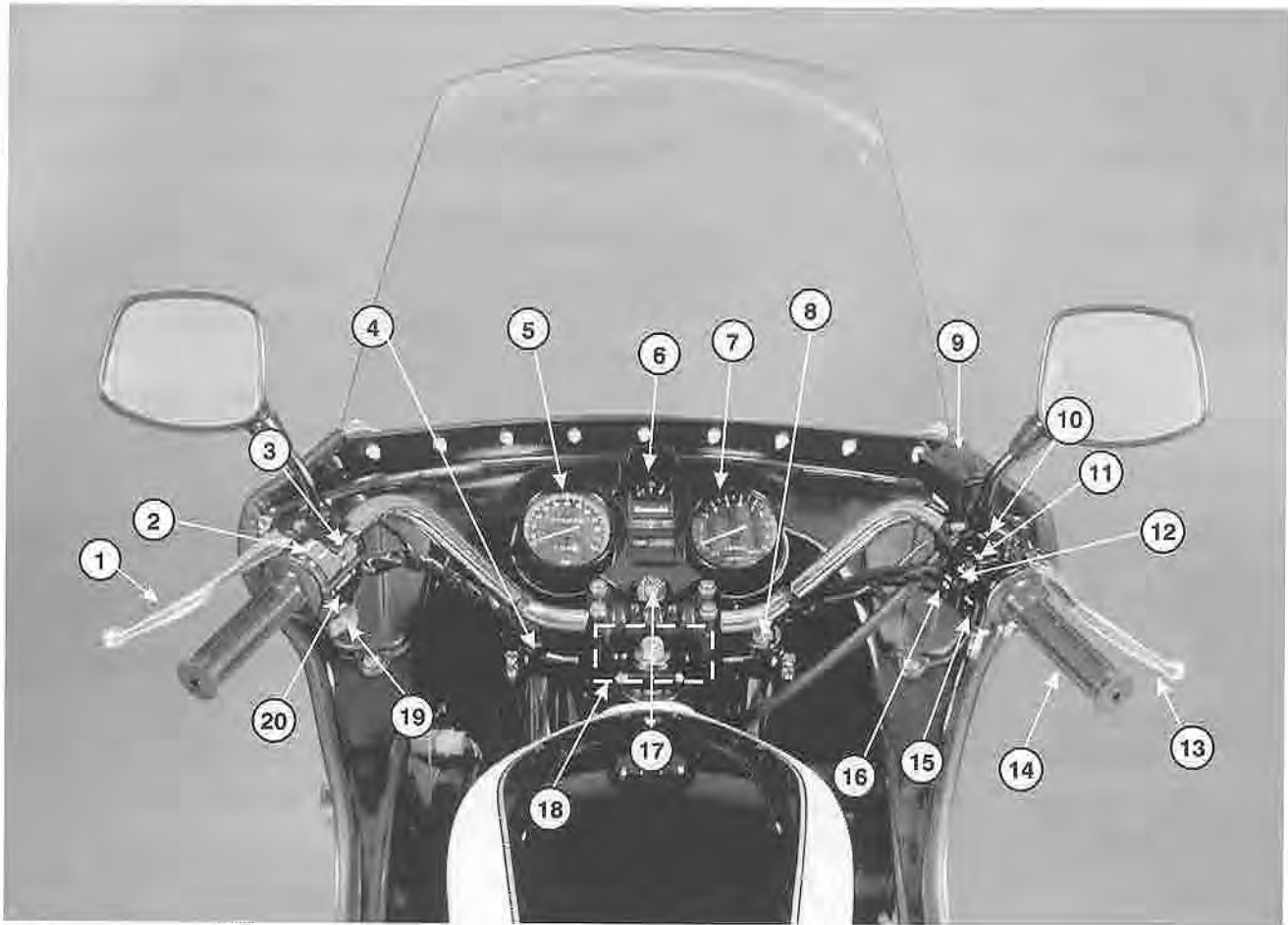
SERIAL NUMBER LOCATIONS

The engine and frame serial numbers are used to register the motorcycle. They are the only means of identifying a particular motorcycle from others of the same model type.

These serial numbers may be needed by your dealer when ordering parts.



LOCATION OF PARTS



- | | |
|---|--------------------------|
| 1. Clutch Lever | 11. Pursuit Light Switch |
| 2. Dimmer Switch | 12. Headlight Switch |
| 3. Hazard Switch | 13. Front Brake Lever |
| 4. Front Fork Air Valve | 14. Throttle Grip |
| 5. Speedometer | 15. Starter Button |
| 6. Fuel Gauge; Turn Signal, Pursuit, and High Beam Indicator Lights | 16. Siren Switch |
| 7. Tachometer; Oil Pressure, Neutral, Hazard Indicator Lights | 17. Ignition Switch |
| 8. Front Fork Air Valve | 18. Radio Speaker |
| 9. Front Brake Fluid Reservoir | 19. Horn/Siren Button |
| 10. Engine Stop Switch | 20. Turn Signal Switch |
- (Continued Next Page)



- | | | |
|----------------------|------------------------------------|--------------------------------|
| 21. Brake Disc | 28. Seat Lock | 33. Rear Brake Master Cylinder |
| 22. Brake Caliper | 29. Saddlebag | 34. Rear Brake Light Switch |
| 23. Toe Shift Pedal | 30. Identification Lights | 35. Rear Brake Pedal |
| 24. Heel Shift Pedal | 31. Rear Turn Signal/Hazard Lights | 36. Engine Guard |
| 25. Choke Knob | 32. Floating Carrier | 37. Front Turn Signal Light |
| 26. Fuel Tap | | 38. Pursuit Light |
| 27. Sidestand | | |



GENERAL INFORMATION

Brake Lever and Pedal

The lever on the right side of the handlebar operates the front brake, and the foot pedal on the right side operates the rear brake.

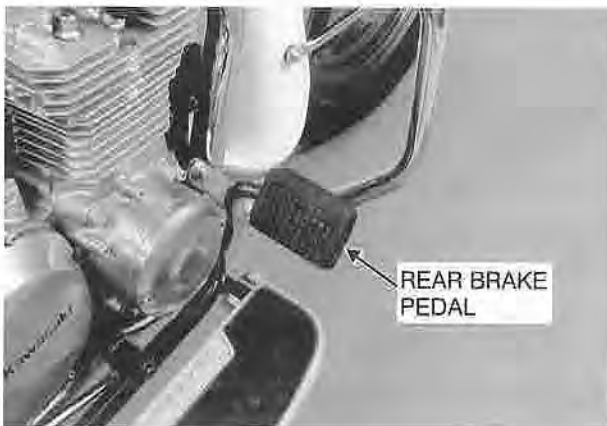
When stopping, always apply both brakes at the same time if stopping quickly; normally the front brake should be applied a little more than the rear. When turning a corner it is better not to brake at all, but if this is unavoidable, use only the rear brake.



The front and rear brakes are hydraulic disc types. The reservoirs must be kept filled with disc brake fluid or the brakes will not operate.

Refer to Brakes in the Maintenance and Adjustment chapter for of recommended brake fluid and for other important brake information.

When either the front or rear brake is applied, the brake light illuminates. The front brake employs an electrical switch that requires no adjustment, but the rear brake light switch should be adjusted if necessary.



Choke Knob

To provide a rich starting mixture when the engine is cold, there is a choke knob on the left side of the carburetors.

Refer to Starting the Engine in the How to Operate the Motorcycle chapter for choke use instructions.

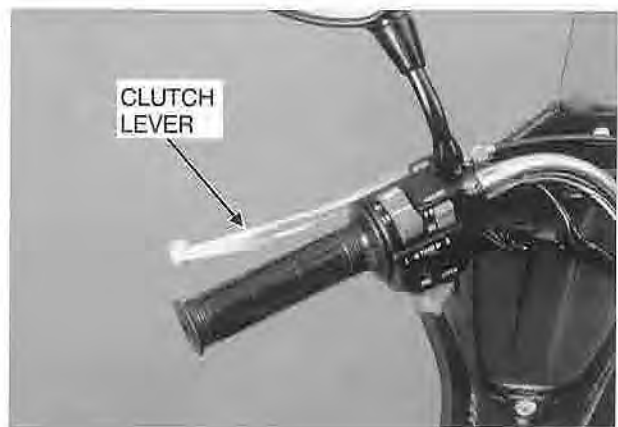


Clutch Lever

The clutch lever on the left side of the handlebar disengages the clutch when pulled in.

NOTE:

- o A starter lockout switch is built into the clutch lever holder. The clutch lever must be pulled in for the electric starter to operate.



Dimmer Switch

High or low beam can be selected with the dimmer switch. When the headlight is on high beam, the blue indicator light on the instrument panel comes on.

HI High Beam
LO Low Beam



Electric Accessory Leads

12V battery voltage is supplied to the electric accessory leads regardless of ignition switch position.

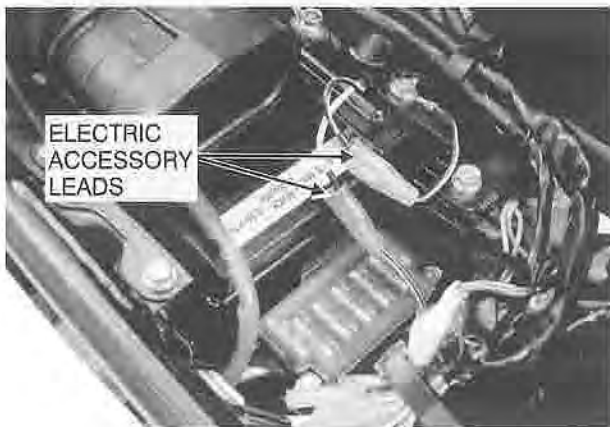
WARNING

Take care not to pinch any lead between the seat and the frame or between other parts to avoid a short circuit.

CAUTION

Whenever you leave the motorcycle, stop using the electric accessories.

Be careful not to completely discharge the battery. For example, if current of 20 amperes is continuously taken out with the engine stopped, even a fully charged battery may become totally discharged in about 20 minutes.



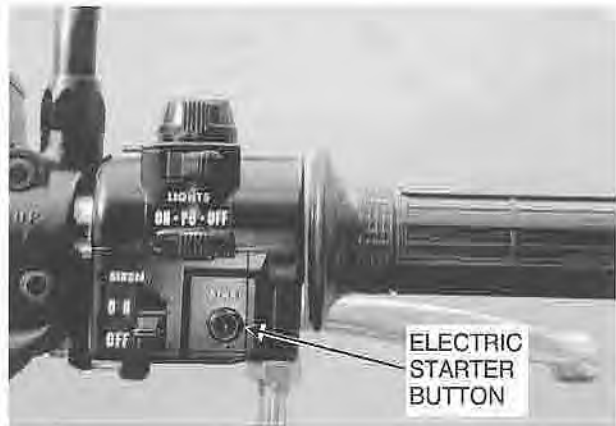
Electric Accessory Leads

Location	Polarity	Lead Color
Under Seat	+	White/Black
	-	Yellow/Black
Inside Fairing	+	White/Blue
	-	Yellow/Black

Maximum current: 10A

Electric Starter

The START button is located on the right side of the handlebar, and operates the electric starter when pushed with the clutch lever pulled in.



Engine Stop Switch

In addition to the ignition switch being on, the engine stop switch must be in the RUN position for the engine to start.

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

NOTE:

- o 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.



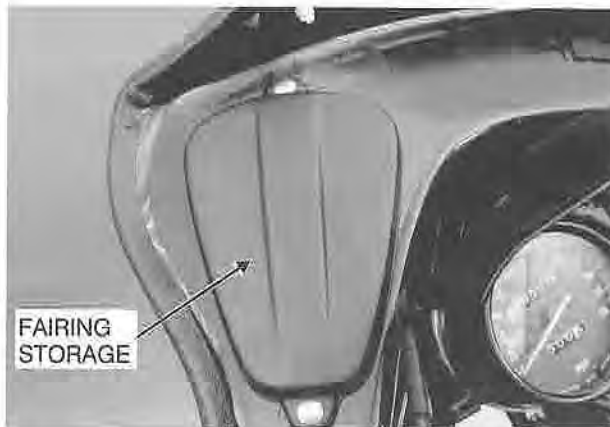
Fairing Storage

There are two small storage pouches in the fairing, each covered by a snap-on lid. When preparing to ride this motorcycle, make sure the lids are securely snapped in place. Do not open the lids while moving.

WARNING

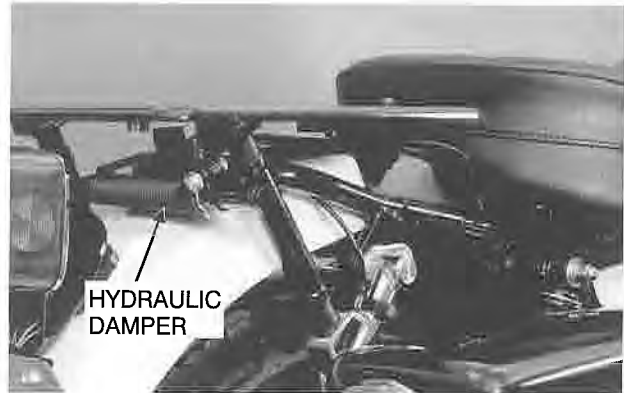
Keep fairing lids securely snapped in place when riding. The sudden detachment of a lid and loss of a piece of clothing or other object from a storage pouch could distract the rider or interfere with the steering mechanism and cause an accident.

Do not store clothing or other objects in the area between the movable parts of the steering mechanism (including handlebar, front fork, etc.) and the fixed parts of the chassis (including fairing, fuel tank, frame, etc). A loose object, which lodges in the steering mechanism, could cause loss of control and a serious accident.



Floating Carrier

The radio rack is a floating carrier, specially designed to move from side to side to help damp any oscillations of the motorcycle. The movement of the carrier itself is controlled by a hydraulic damper mounted horizontally below the rack toward the rear. The floating carrier must be free to move at all times and the hydraulic damper must resist carrier rotation. Do not fasten anything to the carrier that might prevent it from performing this function.



Fuel Gauge

The fuel gauge shows the amount of fuel in the fuel tank. When the needle comes near the E (empty) position, turn the fuel tap lever to RES, and refuel at the earliest opportunity.

NOTE:

- o Make certain that the fuel tap is turned to ON (Not RES), after filling up the fuel tank.



Fuel Tank

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

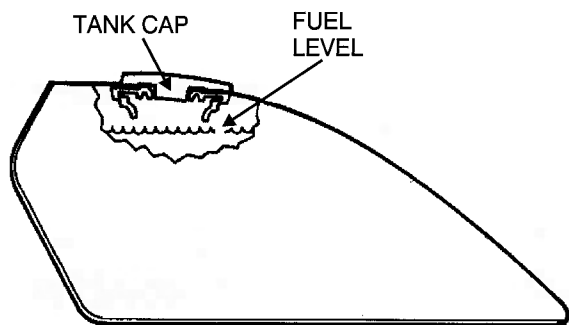
WARNING

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

Never fill the tank so the fuel level rises into the filler neck. If the tank is 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.



Fuel Type

Fuel Requirement:

Use clean, fresh unleaded gasoline with a minimum Antiknock Index of 87. The Antiknock Index of a gasoline is a measure of its resistance to detonation or "knocking." The Antiknock Index is an average of the research octane number (RON) and Motor Octane Number (MON) as shown in the table. The Antiknock Index is posted on service station pumps in the U.S.A.

Octane Rating Method		Minimum Rating
Antiknock Index	$\frac{(\text{RON} + \text{MON})}{2}$	87
Research Octaine number (RON)		92

Fuels Containing Oxygenates:

Gasoline frequently contains oxygenates (alcohols and ethers), especially in areas of the U.S. and Canada which are required to sell such reformulated fuels as part of a strategy to reduce exhaust emissions.

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

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

CAUTION

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

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

NOTE:

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

CAUTION

Never use gasoline with an octane rating lower than the minimum specified by Kawasaki.

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

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

Never use "gasohol" with more than 10% ethanol or more than 5% methanol. Gasoline containing methanol must also be blended with cosolvents and corrosion inhibitors.

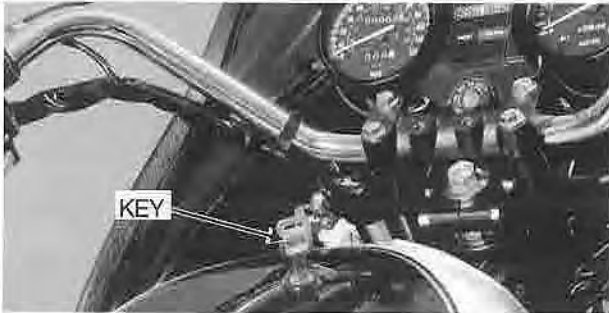
Certain ingredients of gasoline may cause paint fading or damage. Be extra careful not to spill gasoline or gasoline oxygenate blends during refueling.

When not operating your Kawasaki for 30 to 60 days, mix a fuel stabilizer (such as STA-BIL) with the gasoline in the fuel tank. Fuel stabilizer additives retard oxidation of the fuel which minimizes gummy deposits.

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

Fuel Tank Cap

To open the fuel tank cap, insert the ignition switch key into the lock and turn it to the right. To close the fuel tank cap, push it down into place with the key inserted. The key can be removed by turning it to the left to the original position.



NOTE:

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

Fuel Tap

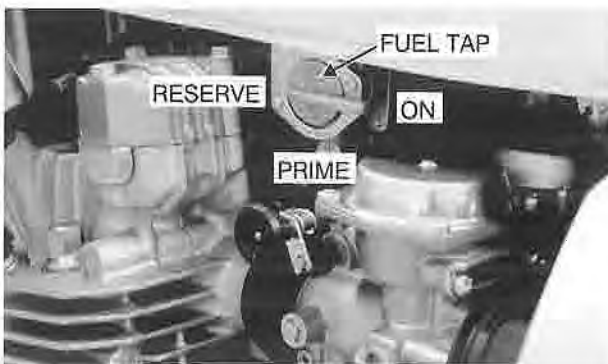
The fuel tap is an automatic type which shuts off the fuel supply when the engine is stopped in the ON or RES position.

The fuel tap has three position: ON, RES (RESERVE), and PRI (PRIME). If the fuel runs out with the tap in the ON position, turn the tap to PRI, leave it for a few seconds, and then turn it to RES. The last 2.1 l (0.5 U.S. gal) of fuel can be used by turning the fuel tap to RES.

The PRI position bypasses the automatic control and is useful for priming the engine after running out of gas, or for completely draining the tank.

NOTES:

- o Since riding distance is limited when on RES, refuel at the earliest opportunity.
- o Make certain that the fuel tap is turned to ON (Not RES), after filling up the fuel tank.
- o To start a cold engine after the motorcycle has been stored a long time, first turn the tap to PRI, leave it for a moment, and return it to ON.



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.

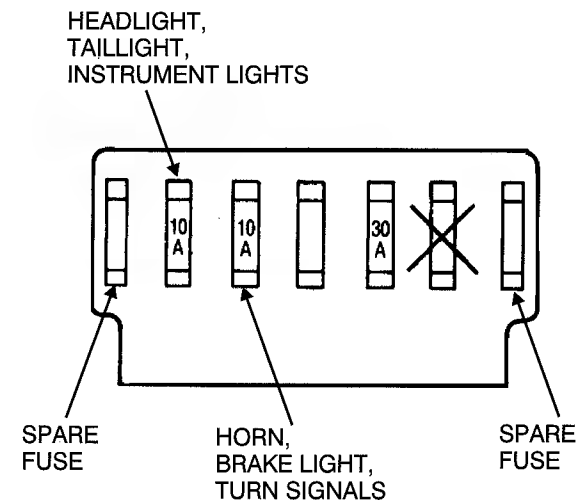
Be careful not to touch the hot engine while operating the fuel tap.

Fuses

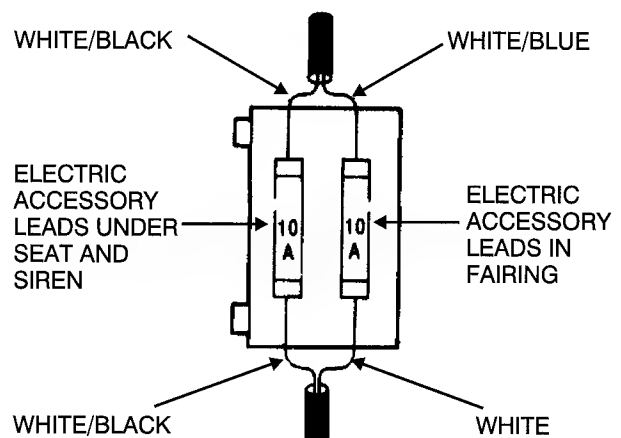
The fuses are located under the seat. The main fuse box is between the battery and rear fender. The electric accessory/siren fuse holder is just to the right of the main fuse box.

The circuits protected by each fuse are as indicated. The main fuse is 30A; all others are 10A.

Main Fuse Box



Accessory/Siren Fuse Holder



If a fuse blows during operation, inspect the electrical system to determine the cause and then replace the fuse.

WARNING

Do not use any substitute for the standard fuse. Replace the fuse with one of the correct capacity, as specified, for each circuit.

Hazard Switch

When parked on the road shoulder, the hazard flasher can be turned on by pushing the hazard switch. The rear turn signals will flash on and off together; the front signals do not flash. The hazard flasher will operate regardless of ignition switch position.

CAUTION

Do not leave the hazard flasher on for a long time or the battery might become discharged. Avoid operation for more than 30 minutes.



Horn Button

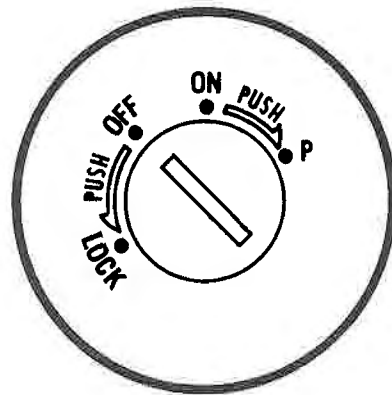
The horn/siren button is located on the left side of the handlebar. To operate the horn, push the button to the left.



Ignition Switch

This is a four-position, key-operated switch. The key can be removed from the switch in the OFF, LOCK, OR P (PARK) position.

OFF	Engine off. The electric accessory leads, siren and hazard flasher may be operated. All other electrical circuits are off.
ON	Engine on. All electrical equipment may be operated.
LOCK	Steering locked. Engine off. The electric accessory leads, siren and hazard flasher may be operated. All other electrical circuits are off.
P (PARK)	Steering locked. Engine off. The taillight and identification lights are on. The electric accessory leads, siren and hazard flasher may be operated. All other electrical circuits are off.



To turn the switch to the LOCK or P (PARK) position follow these steps.

1. Turn the handlebar fully left or right.
2. Push down on the key.
3. Turn the key to LOCK or P.

NOTE:

- o Do not leave the switch in the P (PARK) position for a long time (one hour) or the battery may become totally discharged.

Indicator Lights

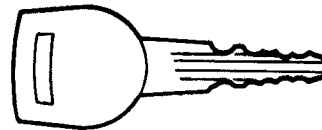
The indicator lights are located in the switch panel and tachometer.



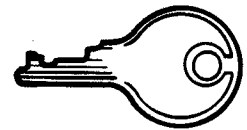
1. **Neutral Indicator Light**
When the transmission is in neutral, the green indicator light is on.
2. **High Beam Indicator Light**
When the headlight is on high beam, the blue indicator light is on.
3. **Oil Pressure Warning Light**
Anytime the ignition switch is on but the engine is not producing sufficient oil pressure, the red warning light comes on. The light should go off immediately after the engine starts, and remain off as long as the engine is running. If the lights comes while the engine is running, stop the engine immediately to avoid serious damage. Determine the cause and correct it before further operation.
4. **Pursuit Indicator Light**
When the pursuit lights are turned on, the red indicator light comes on.
5. **Hazard Flasher Indicator Light**
When the hazard flasher is operating, the orange indicator light in the tachometer face flashes on and off.
6. **Left Turn Signal Indicator Light**
When the turn signal switch is turned to the left, the left orange indicator light flashes on and off.
7. **Right Turn Signal Indicator Light**
When the turn signal switch is turned to the right, the right orange indicator light flashes on and off.

Keys

This motorcycle is equipped with two keys. One key is for the ignition switch, fuel tank cap, and seat lock. The second key is for the saddlebag latches.



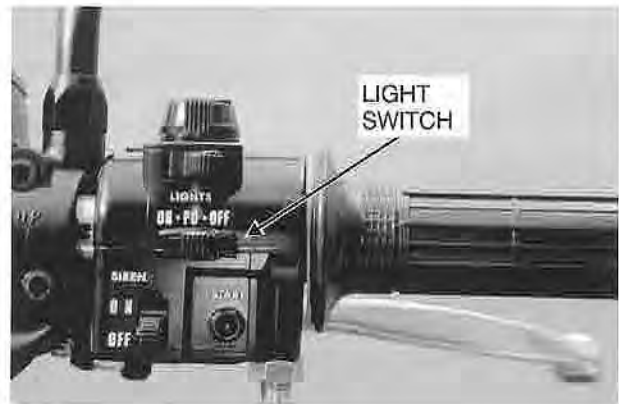
IGNITION SWITCH,
FUEL TANK,
SEAT LOCK



SADDLEBAG
LATCHES

Light Switch

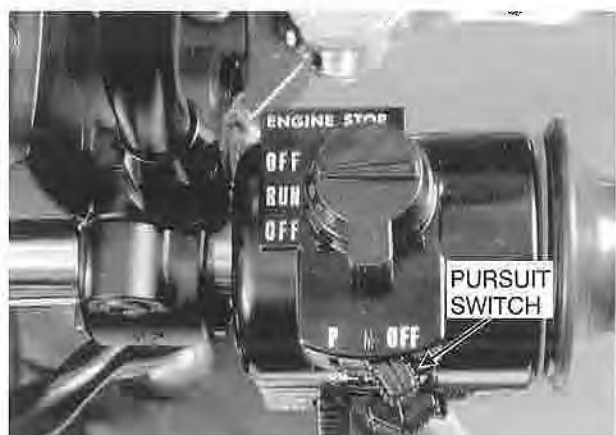
The light switch on the right side of the handlebar operates the lights when the ignition switch is turned ON.



OFF	Lights off.
PO	With the ignition switch ON, position: Taillight Identification Lights Position Lights Instrument Lights
ON	With the ignition switch ON this switch position turns on the headlight. The lights turned on by the PO position remain on.

Pursuit Switch

Pushing the pursuit switch to the P (PURSUIT) position turns on the red pursuit lights in the fairing.



Saddlebags

This motorcycle is equipped with two saddlebags. The lids are opened by releasing the two latches and may be locked if desired using the saddlebag key. When preparing to ride this motorcycle, make sure the lids are securely latched. Do not attempt to open the lids while moving.



⚠ WARNING

Keep saddlebag lids securely latched when riding. The sudden opening of a lid and loss of clothing or other objects from a saddlebag could distract the rider and cause an accident. In addition, clothing or other objects could fall into the rear wheel or drive chain which could result in rear wheel lockup and loss of control.

Seat

The seat can be raised for access to the electric accessory leads, fuses, battery and air cleaner.

To open the seat, insert the ignition switch key into the seat lock and turn it to the right. The seat locks automatically when closed.



Shift Pedal

The transmission is a 5-speed, return shift type with neutral halfway between 1st and 2nd gears. A rocker-type shift linkage, with toe and heel pedals, is employed.



To shift to the next higher gear; disengage the clutch (i.e., pull the clutch lever in), push down the heel pedal as far as it will go, then release it. To shift to the next lower gear; disengage the clutch, push the toe pedal down as far as it will go, and then release it. If the engine is stopped, disengaging the clutch while shifting will help shifting back to neutral.

When the transmission is in neutral, the green neutral indicator light will be lit.

CAUTION

Make it a point when shifting to push down the shift pedal fully. If shifting is done carelessly, the transmission may jump out of gear, causing overrev damage to the engine.

The transmission is equipped with an automatic neutral finder. To use the automatic neutral finder, shift down to first gear, then shift up while standing still. The transmission will shift only into neutral.

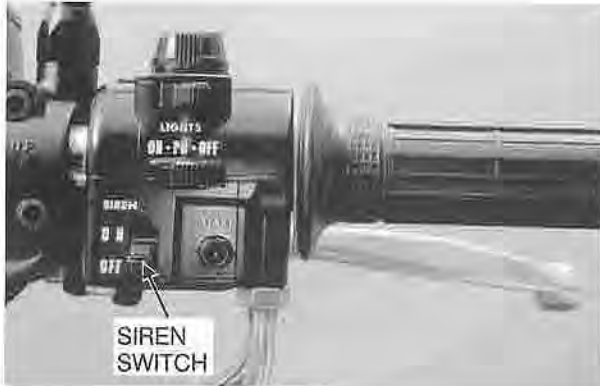
Siren Button

The horn/siren button is located on the left side of the handlebar. To operate the siren intermittently, as you would the horn, push the button to the right. This button operates only if the siren is equipped with the "yelp" feature.



Siren Switch

To operate the siren continuously, push the siren switch located on the right side of the handlebar up to ON.



Speedometer

The speedometer shows the speed of the motorcycle in one mph increments. The odometer shows the total distance the motorcycle has been ridden. The trip meter shows the distance traveled since it was last reset to zero. Turn the knob on the left side of the speedometer counterclockwise to reset the trip meter.



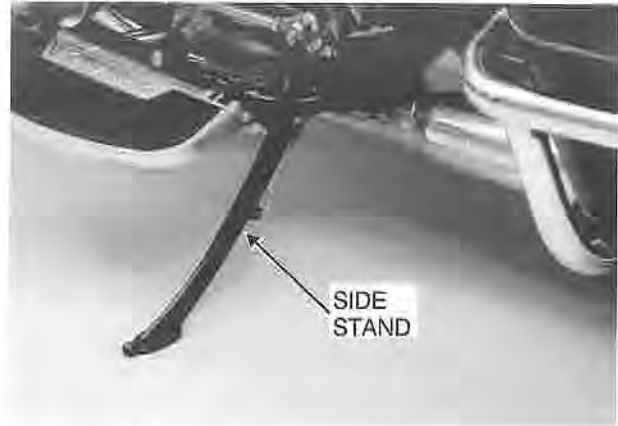
Stands

The motorcycle is equipped with two stands: a center stand and a side stand.

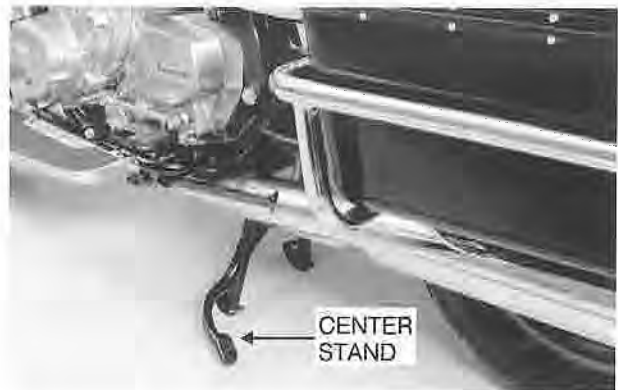
Whenever the side stand is used, be sure to kick the stand up before sitting on the motorcycle.

⚠ WARNING

Leaving the side stand down while riding could cause an accident. When using the side stand, have the handlebar turned to the left.



To set the motorcycle up on the center stand, step down firmly on the stand and lift the motorcycle up and to the rear using the saddlebag guard as a handhold.



Tachometer

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

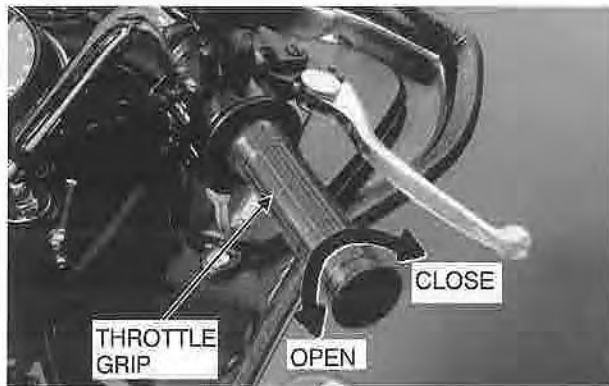
CAUTION

Engine 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.



Throttle Grip

The right handlebar grip controls the throttle. Viewed from the right grip end, twisting it counterclockwise opens the throttle, which raises engine speed; twisting it clockwise lowers engine speed.



Tool Kit

The tool kit is located in the saddlebag. The minor adjustments and replacement of parts explained in this manual can be performed with these tools.

Turn Signal Switch

The turn signals are operated by the turn signal switch located on the left side of the handlebar.

When the switch is operated, one of the turn signal indicator lights flashes on and off together with the turn signals.

L Left
R Right

The turn signal switch is automatically cancelled after it has first been on for 4 seconds, and then the motorcycle has traveled an additional 50 m (164 ft).



BREAK-IN PERIOD

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 rpm during the break-in period.

Distance Traveled	Maximum Engine rpm
0 — 800 km (0 — 500 mi.)	4,000 rpm
800 — 1,600 km (500 — 1,000 mi.)	6,000 rpm

- Do not start moving or race the engine immediately after starting it, even if the engine is already warm. Run the engine for two or three minutes at idle speed to give the oil a chance to reach all the engine parts.
- Do not race the engine while the transmission is in neutral.

In addition to the above, at 800 km (500 mi) it is extremely important that the initial maintenance service be performed by a competent mechanic following the procedures in the Service Manual and Service Manual Supplement.

HOW TO OPERATE THE MOTORCYCLE

Starting the Engine

NOTE:

- o Before operating this vehicle refer to the Daily Pre-ride Inspection.
- Turn the engine stop switch to RUN.



- Turn the ignition switch ON.
- Make certain the transmission is in neutral. The green neutral indicator light should be lit.



- If the engine is already warm or on hot days [higher than 35° C (95° F)], open the throttle part way instead of using the choke, and then start the engine.
- If the engine is cold, pull the choke knob to the on position, leaving the throttle completely closed.



- Push the electric starter button with the clutch lever pulled in until the engine starts.

NOTE:

- o This motorcycle is equipped with a starter lockout switch. The clutch lever must be pulled in for the electric starter to operate.



- Push the choke knob to the halfway position after the length of time shown in the table.

Ambient Temperature

10° C (50° F) — 35° C (95° F)	Immediately
Below 10° C (50° F)	About 30 seconds

NOTE:

- o With the ignition switch on, make certain the oil pressure warning light is lit before the engine starts, and goes off after the engine is started.
- * If the engine is flooded, push the electric starter button with the throttle fully open until the engine starts.
- * If the motorcycle will not be ridden until the engine is completely warm, push the choke completely off as soon as the engine is warm enough to idle without using the choke.
- * If the motorcycle will be ridden off before the engine is warm enough to idle, push the choke completely off after riding for 15 seconds.

CAUTION

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

Moving Off

- Check that the side stand is up.
- Pull the clutch lever.
- Shift into 1st gear.
- Open the throttle slightly 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 throttle to keep it from stalling.

NOTE:

- o *This motorcycle is equipped with a side stand switch. This switch is designed so that the engine stops if the transmission is shifted into gear when the stand has been left down. Also, the engine will not start in gear with the side stand down even though the electric starter does operate when the clutch lever is pulled in.*

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

⚠ WARNING

When shifting down to a lower gear, do not shift at such a high speed that the engine rpm jumps excessively. Not only can this cause engine damage, but the rear wheel may skid and cause an accident. Downshifting should be done below 5,000 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 finally in 1st gear just when you get completely stopped.
- When stopping always apply both brakes at the same time if stopping quickly; normally the front brake should be applied a little more than the rear. Downshift or fully disengage the clutch as necessary to keep the engine from stalling or to stop more quickly.

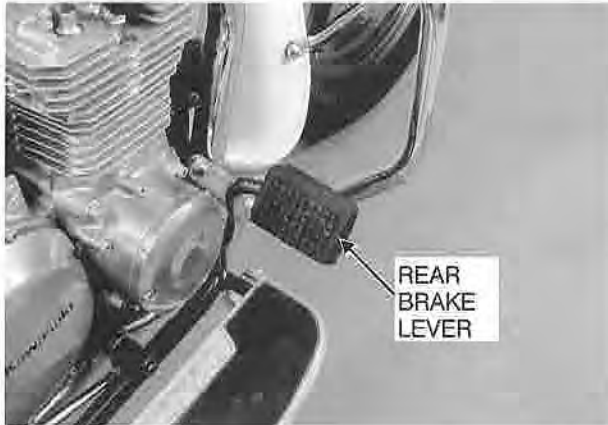


- Never lock the brakes and cause the tires to skid. When turning a corner it is better not to brake at all, but if this is unavoidable, use only the rear brake.
- For emergency braking, disregard downshifting, and concentrate on applying the brakes as hard as possible without skidding.

Gear Position		1st	2nd	3rd	4th	5th
Vehicle Speed	Mph (kph)	0 — 12 (0 — 20)	12 — 19 (20 — 30)	19 — 25 (30 — 40)	25 — 31 (40 — 50)	Over 31 (Over 50)

NOTE:

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



Stopping the Engine and Parking

- Close the throttle completely.
- Shift the transmission into neutral.
- Turn the ignition switch OFF.
- Support the motorcycle on a firm, level surface with the side or center stand.

CAUTION

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

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

WARNING

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

- Turn the handlebar fully left or right. Lock the steering by turning the ignition switch to LOCK or P (PARK).

NOTES:

- o The P (PARK) position turns on the taillight and identification lights for greater visibility when stopping for a short time (less than an hour) on the road at night.
- o Do not leave the switch at P (PARK) for too long, or the battery will discharge.
- Remove the key from the ignition switch.

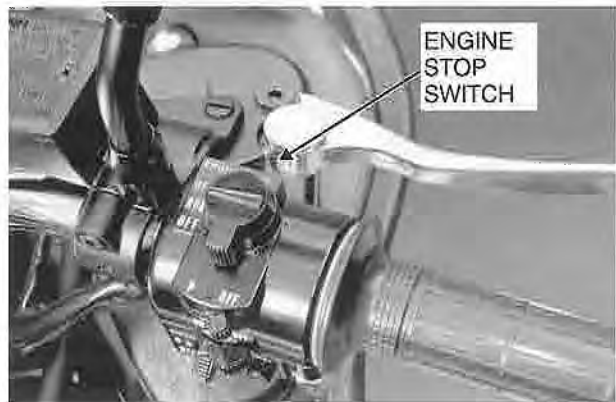
WARNING

Do not permit children or other persons who are unfamiliar with motorcycles to sit on a parked motorcycle or lean against it. The stand may be retracted accidentally, and the falling motorcycle could injure someone.

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 operator, properly maintain your motorcycle and become thoroughly familiar with its operation. Improper maintenance and insufficient riding can create a dangerous situation known as throttle failure. Two of the most common causes of throttle failure are:

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



In an emergency situation such as throttle failure, your motorcycle may be stopped by disengaging the clutch and applying the brakes. Once this stopping procedure is initiated, the engine stop switch may be used to stop the engine. If the engine stop switch is used, turn off the ignition switch after stopping the motorcycle.

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 and rider comfort and control.

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 false sense of security.

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

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

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

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

On rainy days, 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 slipping the rear wheel from too rapid acceleration or deceleration.

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

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

On rough roads, exercise caution, slow down, and grip the fuel tank with your 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 a rpm to avoid damage to the engine from overrevving.

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

Additional Considerations for High Speed Operation

Brakes: The importance of the brakes, especially during high-speed operation, cannot be overemphasized. Check to see that they are correctly adjusted and functioning properly.

Steering: Steering that is not adjusted properly may cause loss of control. Inspect the steering to verify proper adjustment.

Tires: High-speed operation is hard on tires, and good tires are crucial for riding safety. Make sure your vehicle is equipped with the specified tires. Examine their overall condition, inflate to the proper pressure, and check the wheel balance.

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

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

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

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

WARNING

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

DAILY PRE-RIDE INSPECTION

In order to ride more enjoyably and more safely, the daily inspection should never be neglected. Since engine trouble or a severe accident may be prevented through carrying out these simple checks and correcting any trouble; make it a habit each day before riding to check the following:

Gasoline	Gasoline in tank.
Windshield	Mounted securely.
Handlebar	Mounted securely.
Seat	Pins securely in place with safety clips.
Footboards	Fold upward freely.
Engine oil	Oil level correct.
Tires	Check for wear, cracks, damage and proper air pressure. Air pressure (front and rear): 2.53 kg/cm ² (36 psi). Make sure your vehicle is equipped with the specified tires.
Drive chain	Check overall condition; chain slack 30-40 mm (1.2-1.6 in.); oil as necessary.
Brakes	Fluid up to level line; no damage to brake lines or fittings; brake light functioning.
Clutch	Clutch lever play about 2-3 mm (0.08-0.12 in.); operates smoothly.
Steering	Check that the steering turns freely but has no play. No binding of control cables.
Front fork	Functions properly; no oil leakage.
Rear shock absorbers	Function properly; no oil leakage.
Electrical equipment	Check that the headlight, pursuit lights, turn signals, tail/brake light, I.D. lights, horn, and siren function properly.
Engine	No abnormal engine noise.
Floating carrier	The floating carrier must be free to rotate; the damper must function properly. Check for leaks. Rubber mounts not cracked.

If any irregularities are found during the above checks, refer to the Maintenance and Adjustment Section, or consult a Kawasaki Dealer or other qualified technician to make the corrections necessary for safe operation.

MAINTENANCE AND ADJUSTMENT

The maintenance and adjustments outlined in this chapter 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.**

The operator's manual must be used with the base service manual and the service manual supplement listed below. Read the supplement and the base manual for complete information on proper service procedures on KZ1000 Police models.

Manual	Part Number
KZ1000 Service Manual	99924-1026-03
KZ1000 Police Service Manual Supplement	99963-0061

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

A basic knowledge of mechanics, the proper use of tools, and workshop procedures must be understood in order to carry out maintenance and repair satisfactorily. Whenever the rider has insufficient experience or doubts in their ability to do the work, all adjustments, maintenance, and repair should be carried out by qualified mechanics. If you are in doubt as to the adjustment or vehicle operation, please ask your authorized Kawasaki Dealer to check the motorcycle.

----- Periodic Maintenance Chart -----

Frequency		Whichever comes first ↓ Every	*Odometer Reading) Miles (Kilometers)						
			500 (800)	3,000 (5,000)	6,000 (10,000)	9,000 (15,000)	12,000 (20,000)	15,000 (25,000)	18,000 (30,000)
EMISSIONS RELATED	Operation								
	Carburetor synchronization -- check †		●	●	●	●	●	●	●
	Idle speed -- check †		●	●	●	●	●	●	●
	Throttle grip play -- check †		●	●	●	●	●	●	●
	Spark plug -- clean and gap †		●	●	●	●	●	●	●
	Valve clearance -- check †		●	●	●	●	●	●	●
	Air system -- check †			●	●	●	●	●	●
	Air cleaner element -- clean			●		●		●	
	Air cleaner element -- replace	5 cleanings			●		●		●
	Timing advancer -- lubricate				●		●		●
	Fuel system -- clean				●		●		●
Cylinder head nuts -- Torque		●		●		●		●	

Operation	Frequency	*Odometer Reading Miles (Kilometers)							
	Whichever comes first ↓ Every	500 (800)	3,000 (5,000)	6,000 (10,000)	9,000 (15,000)	12,000 (20,000)	15,000 (25,000)	18,000 (30,000)	
NON-EMISSION RELATED	Brake light switch -- check †		●	●	●	●	●	●	●
	Brake lining wear -- check †			●	●	●	●	●	●
	Brake fluid level -- check †	month	●	●	●	●	●	●	●
	K Brake fluid -- change †	year			●		●		●
	Clutch -- adjust		●	●	●	●	●	●	●
	Steering play -- check †		●	●	●	●	●	●	●
	Drive chain wear -- check †			●	●	●	●	●	●
	Front fork oil seal -- clean			●	●	●	●	●	●
	Nuts, bolts, fasteners -- check †		●		●		●		●
	Tire wear -- check †			●	●	●	●	●	●
	Engine oil -- change	year	●	●	●	●	●	●	●
	Oil filter -- replace		●		●		●		●
	General lubrication -- perform			●	●	●	●	●	●
	K Front fork oil -- change				●		●		●
	K Swing arm pivot -- lubricate	2 years			●		●		●
	K Wheel bearing -- lubricate	2 years					●		
	K Steering stem bearing -- lubricate	2 years					●		
	K Master cylinder cup and dust seal -- replace	2 years							
	K Caliper piston seal and dust seal -- replace	2 years							
	K Brake hose -- replace	4 years							
	K Fuel hose -- replace	4 years							
	Drive chain -- lubricate	Every 400 mi. (600 km)							
	Drive chain slack -- check †	Every 500 mi. (800 km)							
	Shock absorber -- check †		●	●	●	●	●	●	●
	Speedometer gear -- lubricate	2 years					●		
	Replace Shock absorbers								●

K : Should be serviced by an authorized Kawasaki Dealer

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

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

Engine Oil

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

⚠ WARNING

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

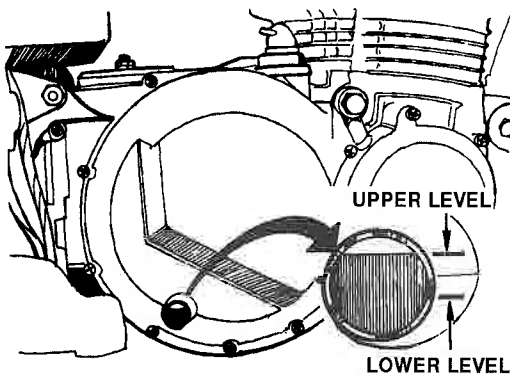
Oil Level Inspection

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

CAUTION

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

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



- * If the oil level is too high, remove the excess oil, using a syringe or some other suitable device.

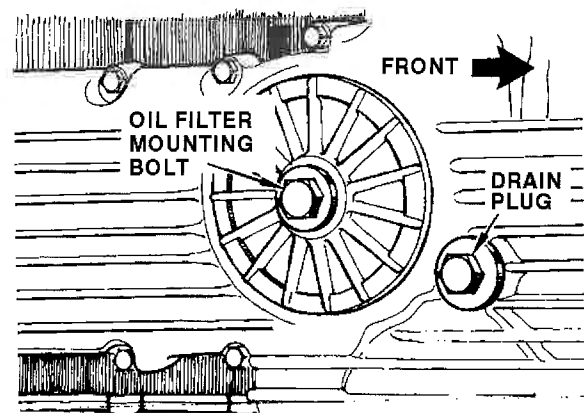
If the oil level is too low, add the correct amount of oil through the oil filler opening. Use the same type and make of oil that is already in the engine.

CAUTION

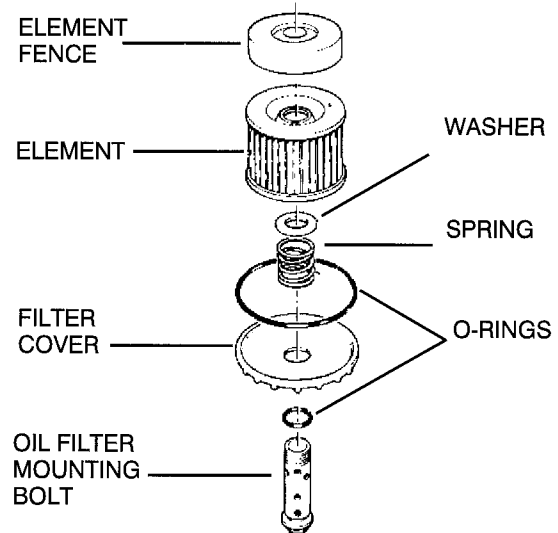
If the engine oil gets extremely low or if the oil pump or oil passages clog up or otherwise do not function properly, the oil pressure warning indicator will light. If this light stays on when the engine is running, stop the engine immediately and find the cause.

Oil and/or Oil Filter Change

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



- With the motorcycle perpendicular to the ground, let the oil completely drain.
- If the oil filter is to be changed, remove the oil filter mounting bolt and drop out the oil filter.
- Replace the oil filter element with a new one.



NOTE:

- o Check for O-ring damage. If necessary, replace them with new ones.

- Apply a little engine oil to the O-ring on the filter mounting bolt, fit the filter cover on the bolt, and install the spring and flat washer.
- Apply a little engine oil to the grommets on both sides of the element, and turn the filter to work the element into place. Be careful that the element grommets do not slip out of place.
- Install the element fence on the bolt.
- Install the oil filter, tightening its mounting bolt to the specified torque.
- After the oil has completely drained out, install the engine drain plug with its gasket. Proper torque for it is shown in the table.

NOTE:

o *Replace the gasket with a new one.*

- Fill the engine up to the upper level with a high quality motor oil specified in the table.
- Check the oil level.

Tightening Torque

Engine Drain Plug	3.0 kg-m (22 ft-lbs)
Oil Filter Mounting Bolt	2.0 kg-m (14.5 ft-lbs)

Engine Oil

Grade	AP, SE, SF, or SG, API, SH, or SJ with JASO MA
Viscosity	SAE 10W40, 10W50, 20W40, or 20W50
Capacity	3.0 l (3.2 U.S. qt) [when filter is not removed] 3.7 l (3.9 U.S. Qt) [when filter is removed]

Ignition System

This motorcycle has a transistorized ignition system which has no moving parts in the electrical circuit. Consequently, there are no parts except an automatic timing advancer that require periodic maintenance.

Automatic Timing Advancer:

Lubrication

In accordance with the Periodic Maintenance Chart, the timing advancer should be lubricated by a competent mechanic following the instructions in the Service Manual.

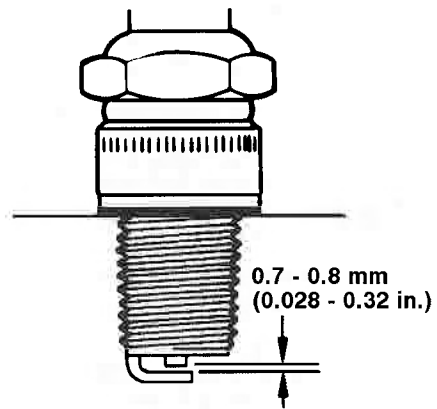
Spark Plugs

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

Spark Plug

Standard Plug	NGK BR8ES ND W24ESR-U
Plug Gap	0.7 — 0.8 mm (0.028 — 0.032 in.)
Tightening Torque	2.8 kg-m (20.ft-lbs)

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



Kawasaki Clean Air System

Inspect the clean air system in accordance with the Periodic Maintenance Chart.

The Kawasaki clean air system feeds air through a reed valve to the exhaust port of each cylinder. This extra air in the exhaust system decreases two pollutants: carbon monoxide and unburned hydrocarbons. A vacuum operated valve shuts off the pulsed secondary air system during deceleration to prevent back-firing in the mufflers.

Valve Clearance

Valve and valve seat wear decreases valve clearance, which changes valve timing.

CAUTION

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

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

Inspection and adjustment should be done only by a competent mechanic following the instructions in the Service Manual.

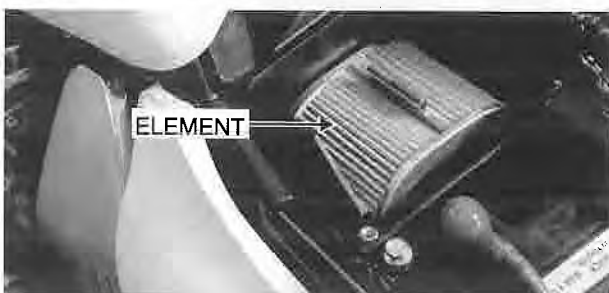
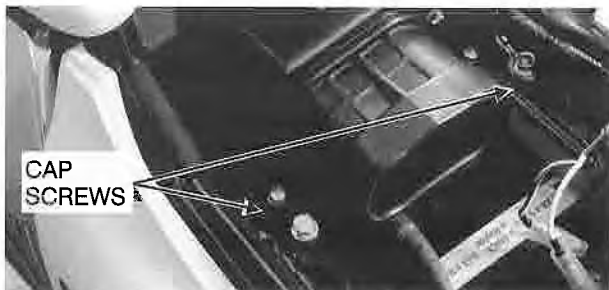
Air Cleaner

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

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

Element Removal

- Unlock the seat and open it.
- Remove the air cleaner cap screws.
- Remove the air cleaner cap, and pull out the element.



- Insert a clean, lint-free towel into the air cleaner housing to keep dirt or other foreign material from entering.
- Inspect the element and sponge gasket for damage. If any part of the element is damaged, the element must be replaced or it will allow dirt into the carburetors.

WARNING

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

CAUTION

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

Element Cleaning

- Clean the element in a bath of a high flash-point solvent.
- Dry the element with compressed air or by shaking it. Don't oil the element, or carburetion will be upset.

WARNING

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

Throttle

If the throttle grip has excessive play due to either cable stretch or incorrect adjustment, it will cause a delay in throttle response, especially at low engine speed. On the other hand, if the throttle grip has no play, the throttle will be hard to control, and the idle speed will be erratic. Check the throttle grip play periodically in accordance with the Periodic Maintenance Chart, and adjust the play if necessary.

Inspection

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

Adjustment

- Refer to Throttle Cable Adjustment following Throttle Cable Lubrication on page 44.



Carburetors

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

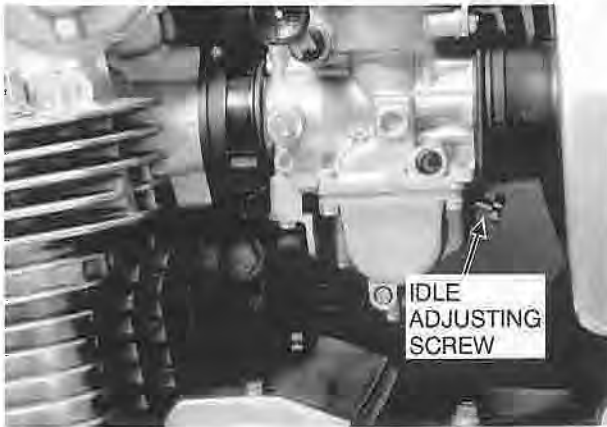
The following procedure covers the idle speed adjustment. Carburetor synchronization should be done only by a competent mechanic using vacuum gauges, following the instructions in the Service Manual.

NOTE:

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

Idle Speed Inspection and Adjustment

- Start the engine, and warm it up thoroughly.
- Adjust the idle speed to 950 - 1,050 rpm by turning the idle adjusting screw.



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

⚠ WARNING

Operation with a damaged cable could result in an unsafe riding condition.

Clutch

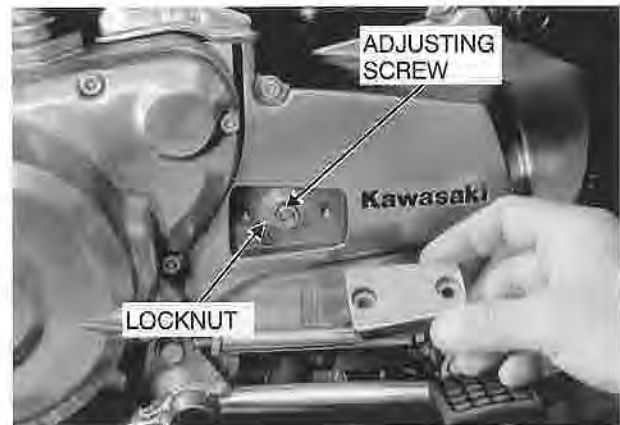
Due to the friction plate wear and clutch cable stretch over a long period of use, the clutch must be adjusted in accordance with the Periodic Maintenance Chart.

⚠ WARNING

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

Adjustment

- Remove the clutch release adjustment cover.

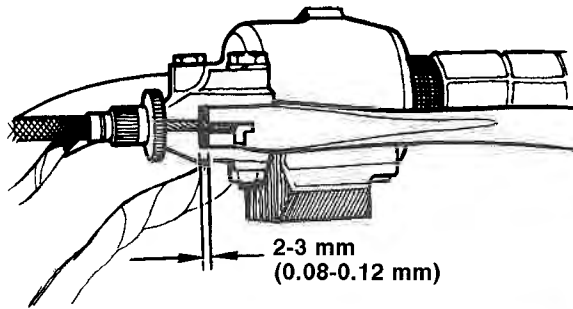


- Loosen the locknuts, and turn in fully the clutch cable adjusters to give the cable plenty of play.



- Loosen the locknut, and turn the clutch release adjusting screw counterclockwise until it becomes hard to turn.
- Turn the release adjusting screw clockwise $\frac{1}{4}$ turn from that point, and tighten the locknut.

- Turn the clutch cable adjusters so that the clutch lever will have 2 - 3 mm (0.08 - 0.12 in.) of play as shown.



⚠ WARNING

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

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

Shift Pedal

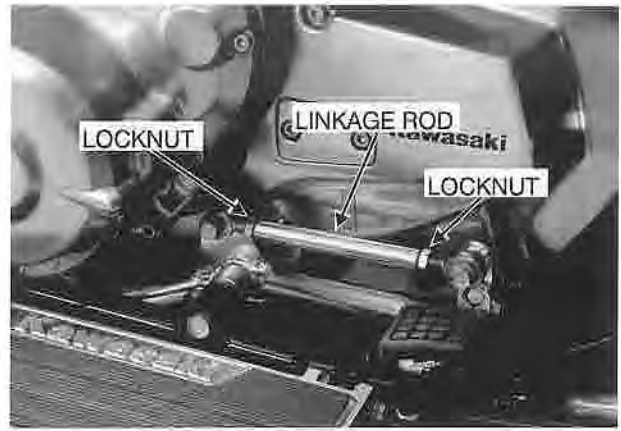
The shift pedal must be positioned so it can be pressed down completely when upshifting and downshifting. The pedal should not contact the frame or any other part of the motorcycle when moved through its entire range of operation.

The tops of both pedal ends should be the same distance from the footboard.



Adjustment

- Loosen both locknuts and turn the linkage rod to position the pedals correctly.
- Tighten the locknuts securely.



Drive Chain

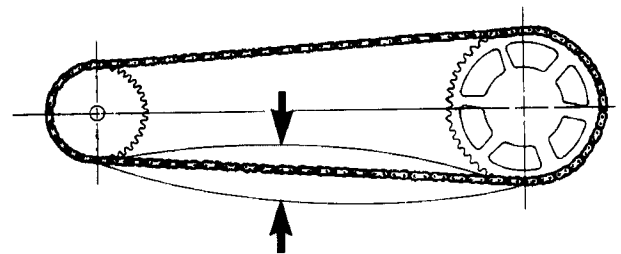
The drive chain must be checked, adjusted, and lubricated in accordance with the Periodic Maintenance Chart for safety and to prevent excessive wear. If the chain becomes worn or misadjusted - either too loose or too tight - the chain could jump off the sprockets or break.

⚠ WARNING

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

Slack Inspection

- Set the motorcycle up on its center stand.
- Rotate the rear wheel to find the position where the chain is tightest, and measure the vertical movement midway between the sprockets.
- * 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

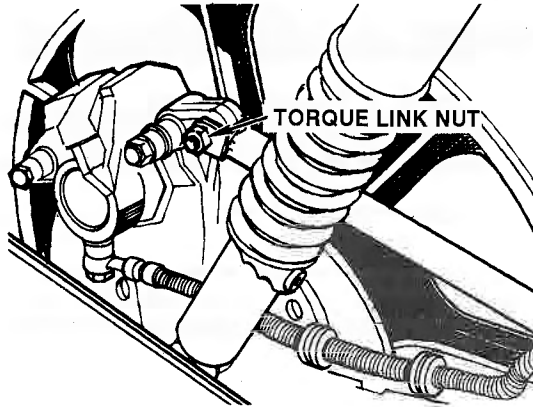
Standard	30 — 35 mm (1.2 — 1.4 in.)
Too tight or Too loose	Less than 30 mm (1.2 in.) More than 40 mm (1.6 in.)

Adjustment

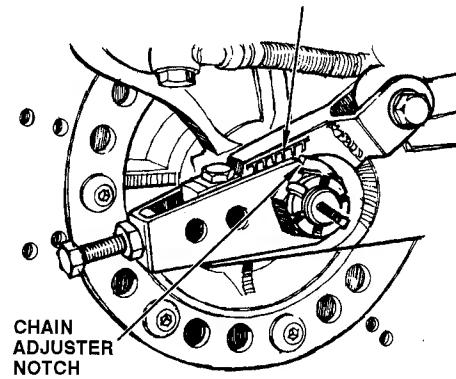
- Loosen the rear torque link nut.

CAUTION

Do not forget to loosen the torque link nut.



SWINGARM MARKS



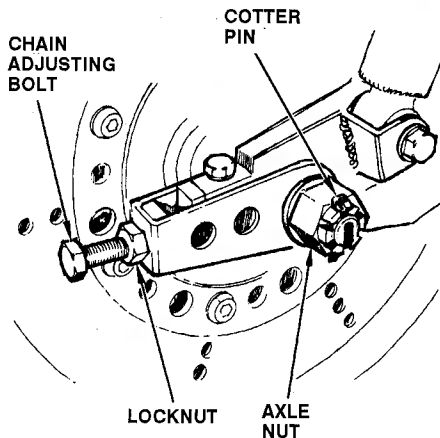
NOTE:

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

WARNING

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

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



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

Torque Values

Axle Nut	12.0 kg-m (87 ft-lbs)
Torque Link Nut	3.0 kg-m (22 ft-lbs)

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

WARNING

If the axle and torque link nuts are not securely tightened, an unsafe riding condition may result.

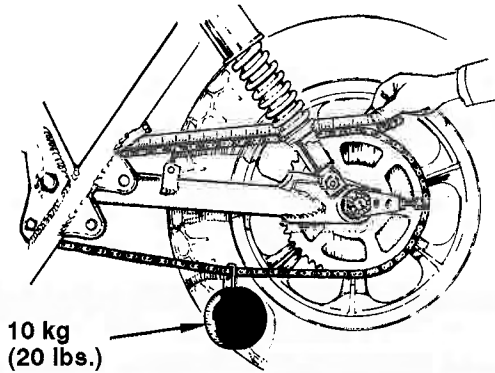
- * If the chain is too tight, back out the left and right chain adjusting bolts evenly and kick the wheel forward until the chain is too loose.
- Turn both chain adjusting bolts evenly until the drive chain has the correct amount of slack. To keep the chain and wheel properly aligned, the notches on the left and right chain adjusters should align with the same marks on each side of the swingarm.

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

Wear Inspection

- Stretch the chain taut either by using the chain adjusters, or by hanging a 10 kg (20 lbs) weight on the chain.

- Measure the length of 20 links. If the distance from the center of the 1st pin to the 21st pin is more than 323 mm (12.7 in.), the chain should be replaced.

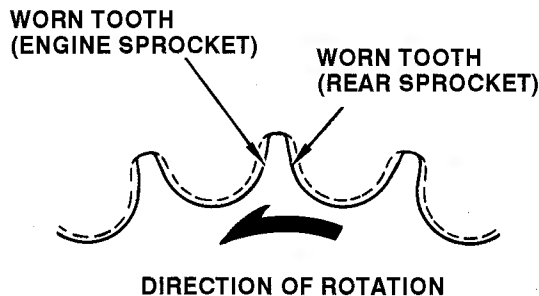


⚠ WARNING
For safety, use only the standard chain. It is an endless type and should not be cut for installation; have it installed by an authorized Kawasaki Dealer.

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

NOTE:

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

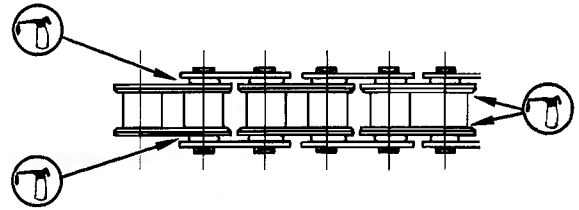


- * If there is any irregularity, have the drive chain and/or the sprockets replaced by an authorized Kawasaki Dealer.

Lubrication

Lubrication is also necessary after riding through rain or on wet roads, or any time that the chain appears dry. Use a specialized chain lubricant on the chain. If a specialized chain lubricant is not available, a heavy oil such as SAE 90 is preferred to a lighter oil because it will stay on the chain longer and provide better lubrication.

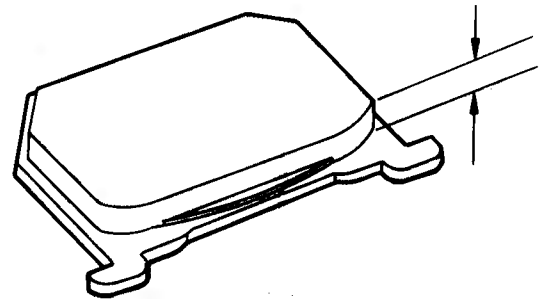
- Apply oil to the sides of the rollers so that it will penetrate to the rollers and bushings. Wipe off any excess oil.



Brakes

Brake Wear Inspection

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



Disc Brake Fluid

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

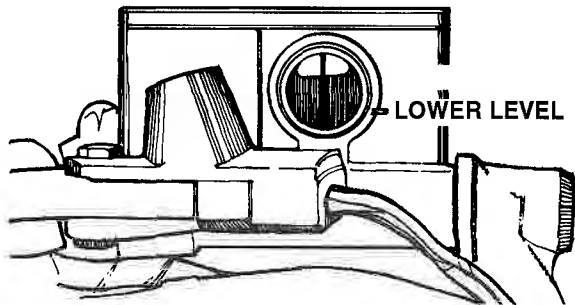
Fluid Requirement

Use extra heavy-duty brake fluid only from a container marked D.O.T. 4.

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

Fluid Level Inspection

- The brake fluid level in the front reservoir must be kept above the lower level line (reservoir held horizontal).
- Fill the reservoir above lower level line.
- The rear reservoir has both upper and lower level lines. Keep the fluid level between them.
- o **Do not mix two brands of fluid. Change the brake fluid in the brake line completely if the brake fluid must be refilled but the type and brand of brake fluid that already is in the reservoir is 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 brake lever and pedal action or adjustment.

⚠ WARNING

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

Brake Light Switches

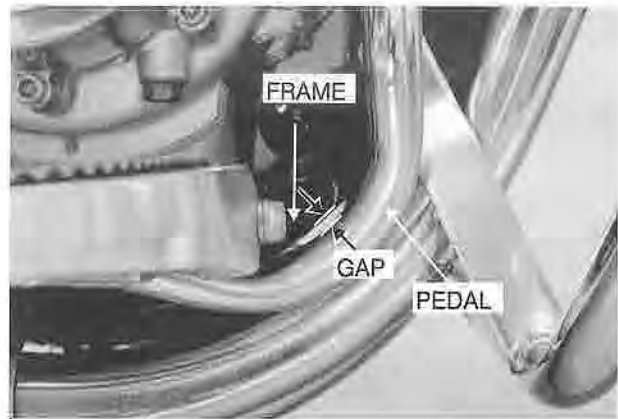
When either the front or rear brake is applied, the brake light goes on. The front brake light switch requires no adjustment, but the rear brake light switch should be adjusted in accordance with the Periodic Maintenance Chart.

Brake Pedal Position:

Before checking the rear brake light switch adjustment, inspect for correct pedal position.

Inspection

- Check that there is a 5 mm (3/16 in.) gap between the pedal and frame while the pedal is in the rest position.



⚠ WARNING

Always maintain correct brake adjustment. If adjustment is incorrect the brakes could drag and overheat. This could damage the brake assembly and possibly lock the wheel resulting in loss of control.

Adjustment

- Loosen both locknuts and turn the linkage rod to position the pedal correctly.
- Tighten the locknuts securely.



Rear Brake Light Switch:

Inspection

- Turn on the ignition switch.
- Check the operation of the rear brake light switch by depressing the brake pedal. The brake light should go on after about 15 mm (0.6 in.) of pedal travel.
- * If it does not, adjust the rear brake light switch.

Adjustment

- Adjust the rear brake light switch by moving the switch up or down. To change the switch position, turn the adjusting nut.

CAUTION

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



NOTE:

- o Since the steering adjustment is sensitive and crucial for safe operation, have it performed only by an authorized Kawasaki Dealer.

Lubrication

In accordance with the Periodic Maintenance Chart, the steering stem bearings should be lubricated by an authorized Kawasaki Dealer.

Steering

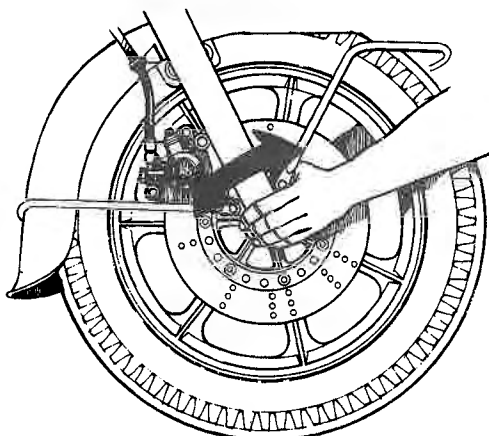
Inspection

The steering should be checked in accordance with the Periodic Maintenance Chart.

- To check the steering adjustment, first place a stand or block under the engine so that the front wheel is raised off the ground.
- From the straightforward position of the handlebar, slowly push the handlebar to either side.
- If the handlebar begins to turn by the action of gravity and continues moving until the ridge on the stem base stops against the stop plate on the frame head pipe, the steering is not too tight.

NOTE:

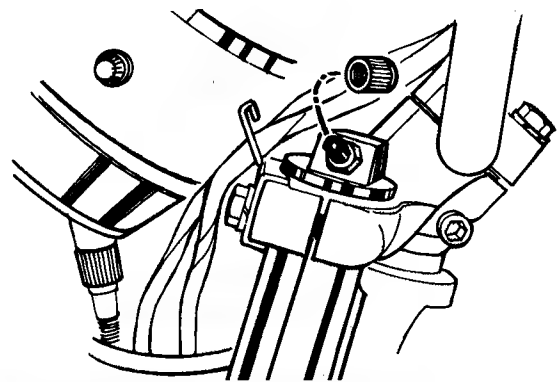
- o The handlebar may catch halfway by means of the cable and wiring harness. In this case, the steering couldn't be considered to be too tight.
- Squatting in front of the motorcycle, grasp the lower ends of the front fork at the axle, and push and pull the front fork end back and forth; if play is felt, the steering is too loose.



Front Fork

Air Pressure Adjustment

- Put the motorcycle up on its center stand.
- Raise the front wheel off the ground by using a jack.
- Take off the air valve cap on the top of the front fork.
- Release any air pressure by pushing in on the valve core. The standard air pressure setting is 0 kg/cm² (0 psi).

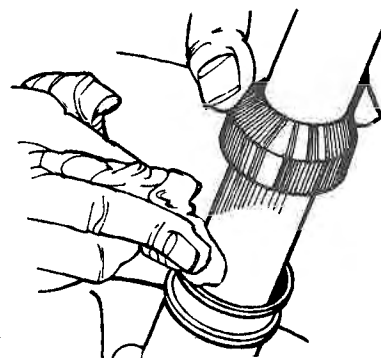


NOTE:

- o Check the air pressure when the front fork is cold (room temperature).

Cleaning

Dirt or sand that has worked its way past a dust seal will eventually damage the oil seal, causing oil leakage. In accordance with the Periodic Maintenance Chart, slide up the dust seals and clean out any dirt or sand. Be careful not to damage either the oil seal or the inner tube surface.

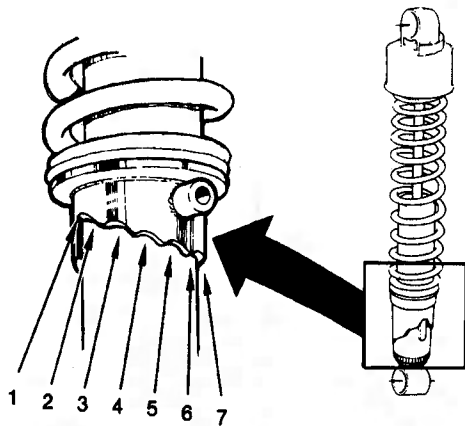


Fork Oil Change

Since the front fork oil deteriorates with use, replace the oil in both tubes in accordance with the Periodic Maintenance Chart by your authorized Kawasaki Dealer.

Rear Shock Absorbers

The shock absorber spring force can be adjusted for different road and load conditions. The spring adjusting sleeve on each rear shock absorber has 7 positions. Position 1 is the softest and position 7 is the stiffest. Ordinarily the heavier the total payload becomes, the harder the suspension should be set. Rough road conditions also require harder suspension settings.

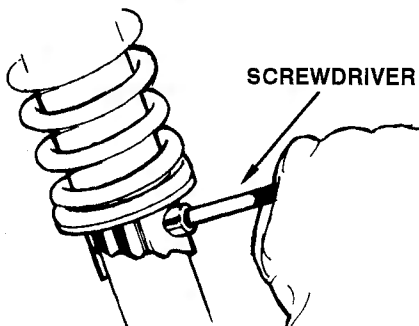


Spring Adjustment

Rotate the spring adjusting sleeves on both shock absorbers to the same position.

⚠ WARNING

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



Position	1	2	3	4	5	6	7
Spring Action	Stronger \longrightarrow						

NOTE:

Standard equipment on this motorcycle includes a windshield, fairing, front engine guard, radio rack, and two saddlebags with guards. These standard items are included in the curb weight of the motorcycle. The maximum allowable payload for this motorcycle is 350 lbs. The payload is calculated by adding the weight of the rider, radio, speaker, siren, baggage and any additional equipment.

Wheels

This motorcycle uses tubeless tires. The indications of TUBELESS on the tire side wall and the rim show that the tire and rim are specially designed for tubeless use.

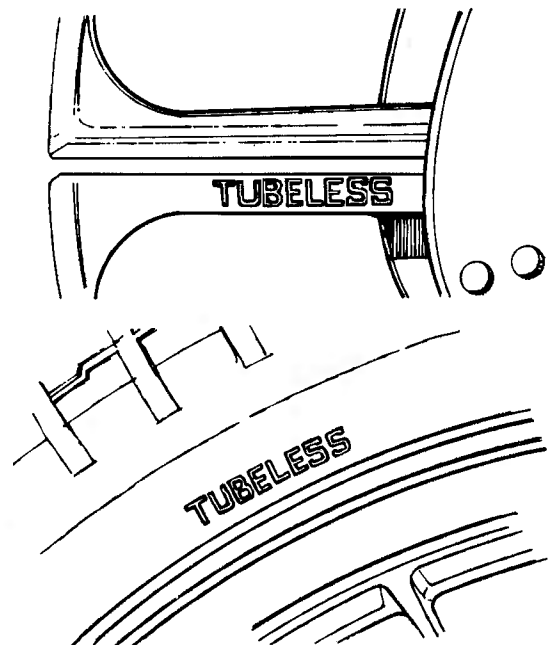
⚠ WARNING

This vehicle is equipped with tubeless tires, valves and wheels. Substituting these components with ones not designed by Kawasaki for use on this vehicle may result in an unsafe riding condition, leading to an accident and injury.

Do not install tube-type tires on tubeless rims. The beads may not seat properly on the rim causing tire deflation.

Do not install a tube inside a tubeless tire. Excessive heat build-up may damage the tube causing tire deflation.

Tires:



Payload and Tire Pressure

Failure to maintain proper inflation pressures or observing payload limits may adversely affect handling and performance of the motorcycle and can result in loss of control. The maximum recommended load in addition to vehicle weight is 159 kg (350 lbs). The payload is calculated by adding the weight of the rider, radio, speaker, siren, baggage, and any additional equipment.

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

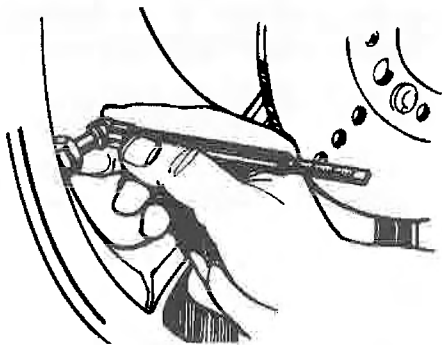
⚠ WARNING

The tire inflation values specified for Kawasaki police motorcycles have been tested and approved only for use with the standard tires. These tire pressures may degrade performance for tires other than those recommended for Kawasaki police motorcycles. Therefore, to ensure safe handling and stability, use only the specified standard tires, inflated to the standard pressures.

NOTE:

- o 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.

Air Pressure



Front and Rear	2.53 kg/cm ² (36 psi)
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Tire Wear, Damage

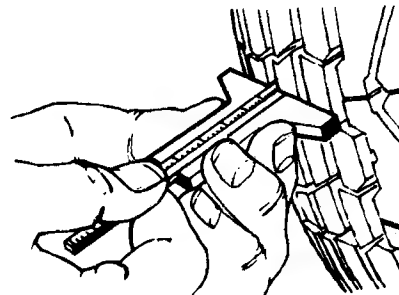
As the tire tread wears down, the tire becomes more susceptible to puncture and failure. An accepted estimate is that 90% of all tire failures occur during the last 10% of tread life (90% worn). So it is false economy and unsafe to use the tires until they are bald.

- 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.

Tread Depth - Minimum

Front and Rear	2.0 mm (0.08 in.)
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- Visually inspect the tire for cracks and cuts, replacing the tire in case of bad damage. Swelling or high spots indicate internal damage, requiring tire replacement.
- Remove any imbedded stones or other foreign particles from the tread.

NOTE:

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

⚠ WARNING

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

Tires that have been punctured and repaired do not have the same capabilities as undamaged tires. Kawasaki recommends replacing punctured tires with new ones.

Specified Tires

Front	Dunlop F16 MN90-18 M/C 65H 4PR Tubeless
Rear	Dunlop K327M MR90-18 M/C 71H 4PR Tubeless

Bearings:

Lubrication

The wheel bearings should be lubricated in accordance with the Periodic Maintenance Chart by an authorized Kawasaki Dealer.

Swingarm

In order for the swingarm to function safely and prevent excessive wear, it should be lubricated in accordance with the Periodic Maintenance Chart by an authorized Kawasaki Dealer.

Battery

The battery is a maintenance-free type, so it is not necessary to check the battery electrolyte level or add distilled water.

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

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

CAUTION

Never remove the sealing strip, or the battery can be damaged.

Do not install a conventional battery in this motorcycle, or the electrical system will not work properly.

NOTE:

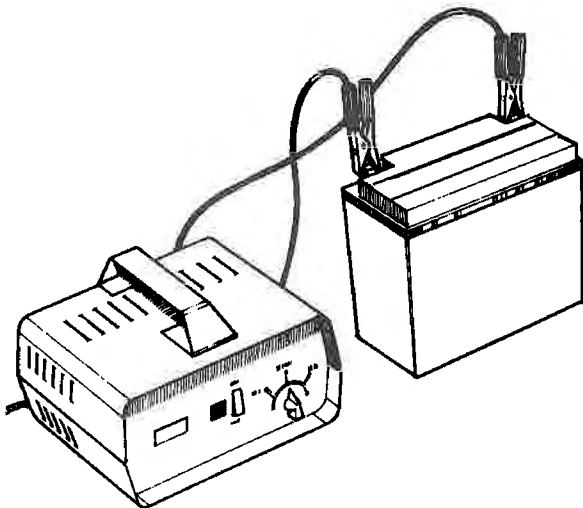
- o If you charge the maintenance-free battery, never fail to observe the instructions shown in the label on the battery.

Battery Charging

- Remove the battery from the motorcycle. (See Battery Removal.)

CAUTION

Always remove the battery from the motorcycle for charging.



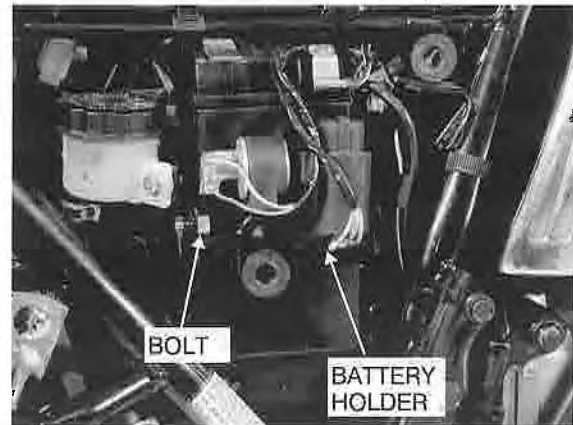
⚠ WARNING

Keep the battery away from sparks and open flames during charging, since the battery gives off an explosive gas mixture of hydrogen and oxygen. When using a battery charger, connect the battery to the charger before turning on the charger. This procedure prevents sparks at the battery terminals that could ignite any battery gases.

CAUTION

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 at a high rate causes excess heat which can warp the plates and cause internal shorting. Higher-than-normal charging rates also cause the plates to shed active material. Deposits 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.

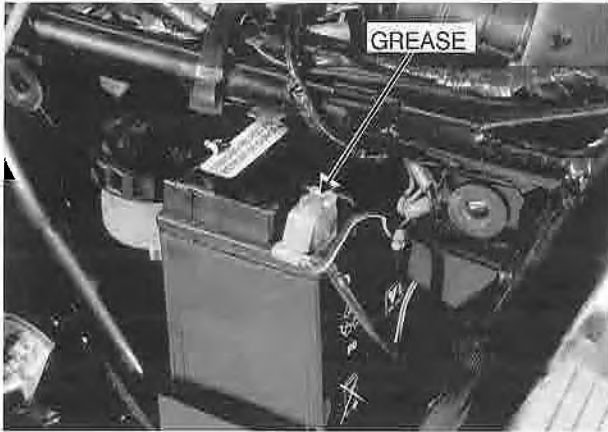
Battery Removal



- Unlock the seat and raise it.
- Remove the right side cover.
- Remove the bolt, and take off the battery holder.
- Disconnect the leads from the battery, first from the - terminal and then the + terminal.
- Take the battery out of the case.
- Clean the battery using a solution of baking soda and water. Be sure that the lead connections are clean.

Battery Installation

- Check that the battery case rubber dampers are properly in place.
- Put a light coat of grease on the terminals to prevent corrosion.



- Connect the capped lead to the + terminal, and then connect the black lead to the - terminal.
- Cover the + terminal with its protective cap.
- Install the battery holder and right side cover.
- Lock the seat.

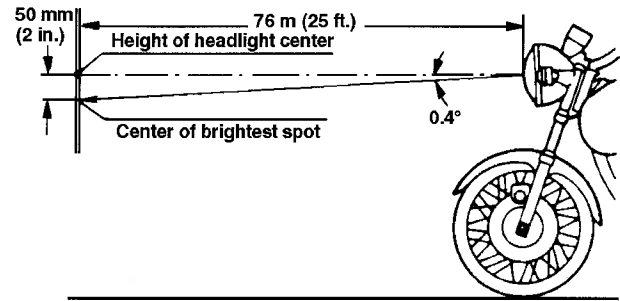
Windshield

Plastic windshield screws should be installed using the procedures in the Service Manual Supplement. Tighten the plastic windshield screws only hand tight. Use only the standard plastic windshield screws if replacement is necessary.

Headlight Beam

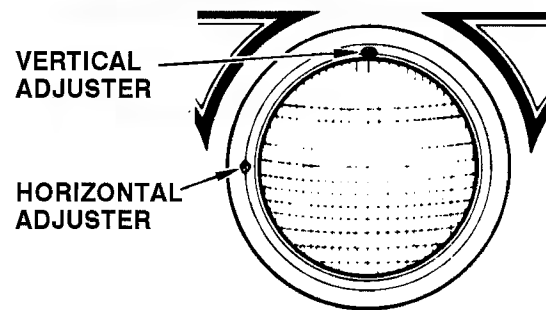
The headlight beam is adjustable in both the horizontal and vertical directions. It should be aimed straight ahead, with the brightest spot slightly below horizontal on high beam. The proper angle is 0.4 degrees down. This is a 50mm (2 in.) drop at 7.6m (25 ft), measured from the center of the headlight, with the motorcycle on its wheels and the rider seated.

If not properly adjusted horizontally, the beam will point to one side rather than straight ahead. If adjusted too low vertically, neither low nor high beam will illuminate the road far enough ahead. If adjusted too high vertically, high beam will fail to illuminate the road close ahead, and low beam will blind oncoming drivers.



Horizontal Adjustment

- Turn the small screw on the side of the headlight rim in or out until the beam points straight ahead. Turning the adjusting screw clockwise moves the headlight beam to the left.



Vertical Adjustment

- Turn the small screw at the top of the headlight rim in or out until the beam is properly adjusted. Turning the adjusting screw clockwise moves the headlight beam up.

Fuel System

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

⚠ WARNING

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

Make sure the engine is cold before working. Wipe any fuel off the engine before starting it.

Inspection

- Turn the fuel tap to PRI position.
- Connect a suitable hose to the fitting at the bottom of each carburetor float bowl.
- Run the lower ends of the hoses into a suitable container.
- Turn out each drain screw a few turns to drain the carburetors, and check to see if water or dirt has accumulated in the carburetors.



- Tighten the drain screws.
- If any water or dirt appeared during the above operation, have the fuel system checked by a competent mechanic following the procedure in the Service Manual.

General Lubrication

Lubricate the points shown here, 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, and especially after using a high-pressure spray washer.

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

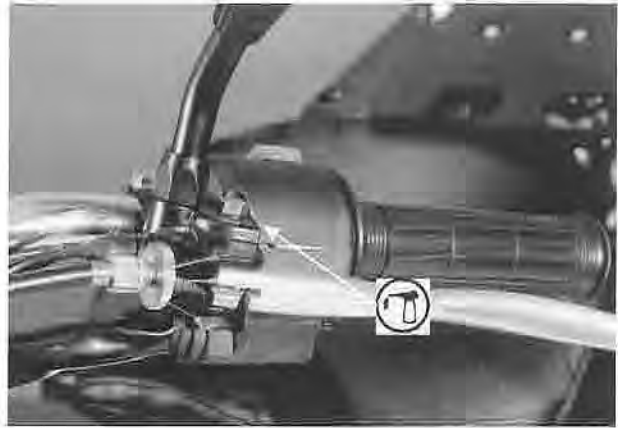
NOTE:

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

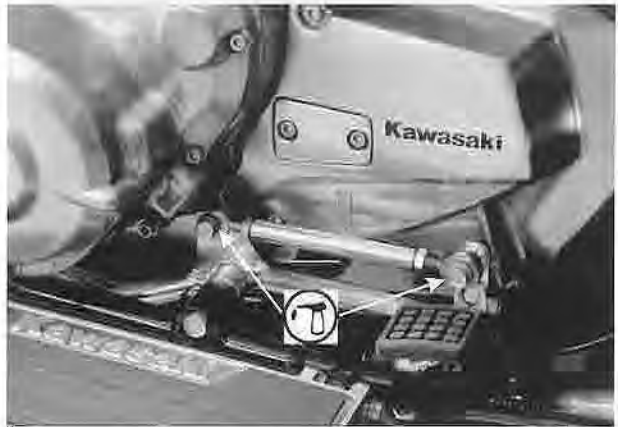
Brake Lever



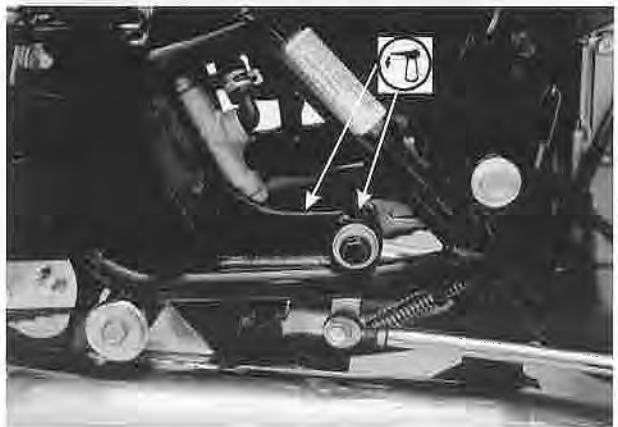
Clutch Lever



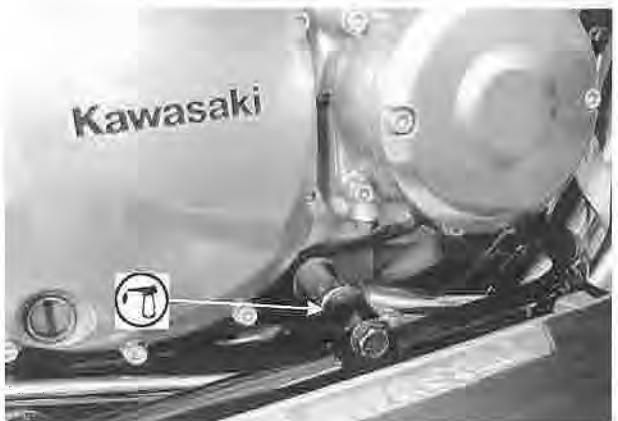
Shift Pedal



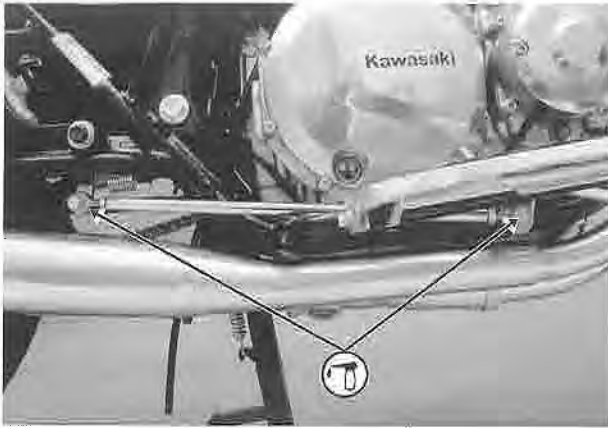
Brake Pedal Pivot, Brake Rod Joint



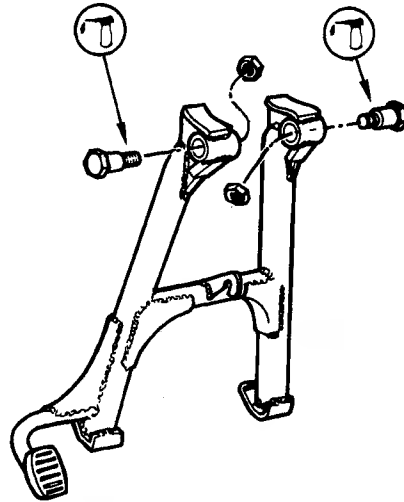
Brake Pedal Pivot



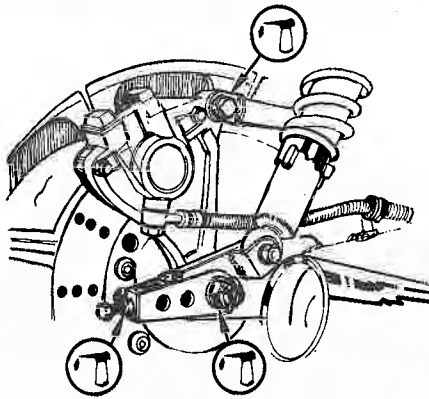
Brake Pedal Linkage



Center Stand



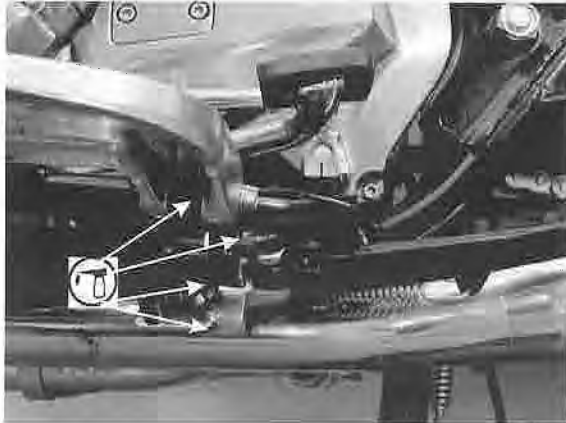
Torque Arm, Axle, Chain Adjusters



Clutch Cable

- Loosen the locknuts at the middle of the clutch cable and the clutch lever, and turn the adjusters fully in.
- Line up the slots in the clutch lever, locknut, and adjuster, and free the cable from the lever.
- Lubricate the cable referring to throttle cable lubrication.
- After connecting the upper end of the clutch cable, adjust the clutch.

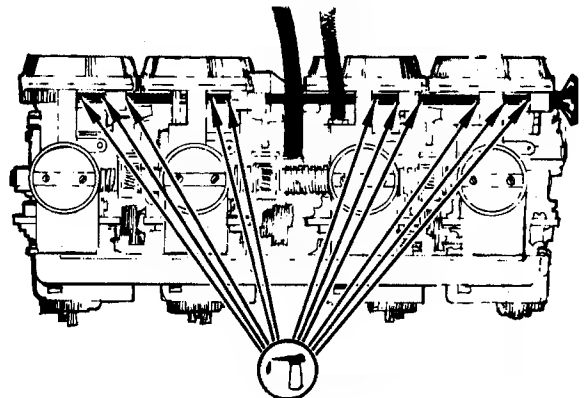
Side Stand



Speedometer Cable

- Loosen the speedometer cable nut to disconnect the cable from the speedometer gearbox at the front wheel.
- Pull out the inner cable.
- Lubricate the cable with grease.
- Slide the cable back into the cable casing.
- Insert the speedometer inner cable into the speedometer gear housing while turning the wheel so that the slot in the end of the cable seats in the tongue of the speedometer pinion.
- Tighten the cable nut with pliers.

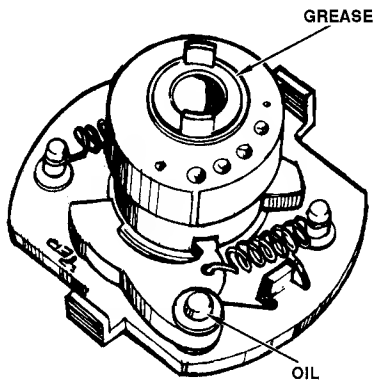
Choke Link Mechanism



Timing Advancer

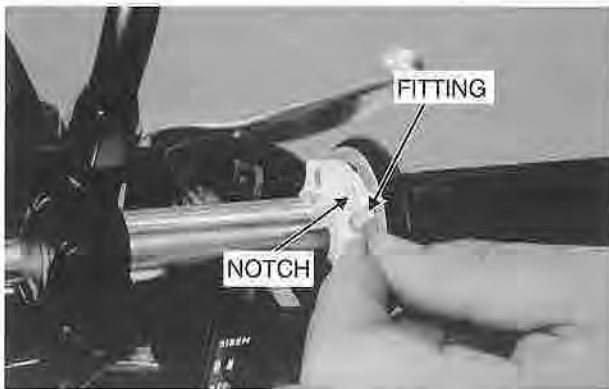
If the timing advancer mechanism does not move smoothly, the ignition timing will not advance smoothly or it may stick in one position.

For disassembly and assembly procedures, see the Service Manual.



Throttle Cable

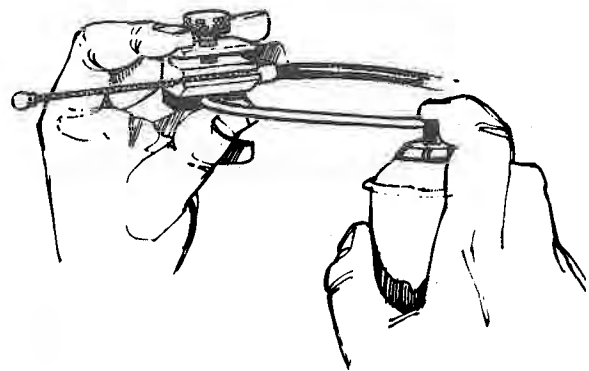
- Loosen the throttle cable adjusters at the handgrip and at the carburetors as far as they will go. Refer to Throttle Cable Adjustment that follows.
- Take out the screws and open the right hand switch case.
- Push the cable fittings out of the notches in the twist grip.



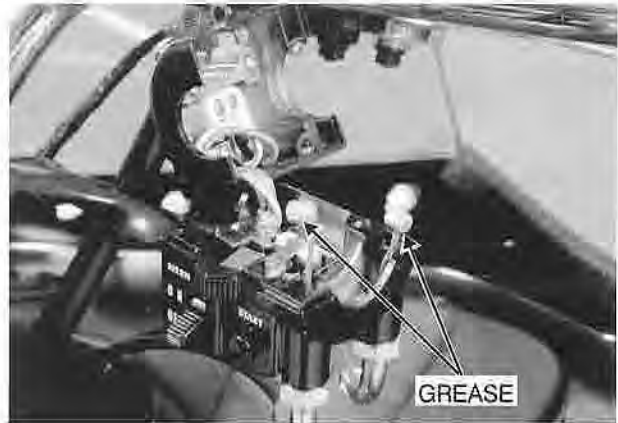
- Loosen the cable guide locknuts, and unscrew the cable guides from the bottom half of the switch case.



- Using a pressure cable luber, force an aerosol cable lubricant into both throttle cables.



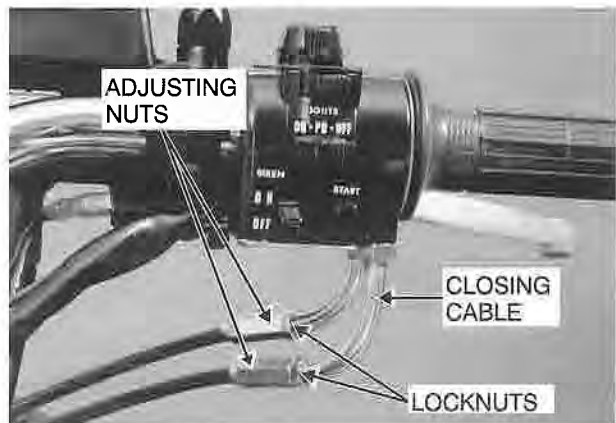
- Put a little multi-purpose grease on the cable fittings and on the end of the handlebar where the twistgrip turns.



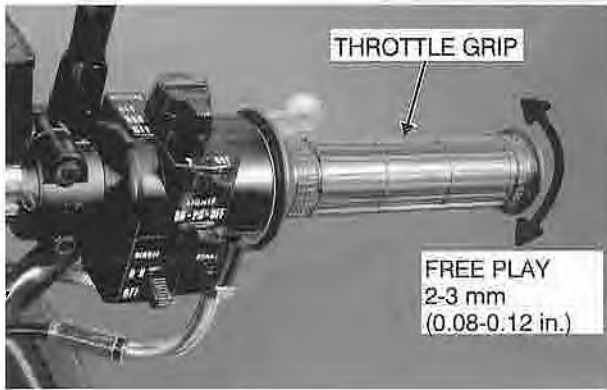
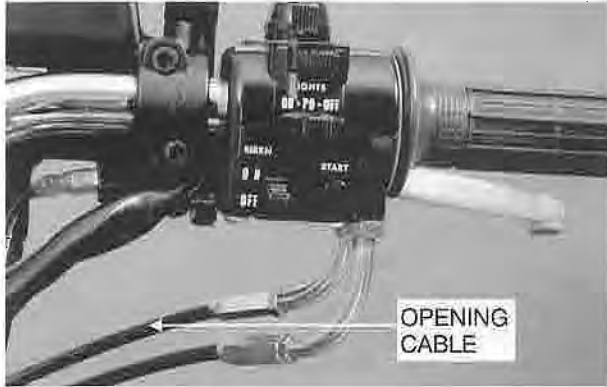
- Reassemble the cables and the right hand switch case.
- Adjust the throttle cables (see Throttle Cable Adjustment which follows).

Throttle Cable Adjustment

1. Loosen the locknuts and screw both throttle cable adjusting nuts in fully at the upper ends of the throttle cables to give the throttle grip plenty of play.



2. With the throttle grip completely closed, turn out the closing cable adjusting nut until the inner cable just becomes tight.
3. Tighten the locknut.
4. Turn out the opening cable adjusting nut until the correct throttle grip free play is obtained.



5. Tighten the locknut.
6. Check that the throttle linkage lever stops against the idle adjusting screw with the throttle grip closed.
7. Turn the handlebar from side to side while idling the engine.
8. If the idle speed varies, the throttle cable may be poorly routed or it may be damaged. Correct any problem before operating the motorcycle.

* If the correct throttle twist grip free play cannot be adjusted with this method, do the following:

- Repeat step 1.
- At the carburetors, loosen the locknut and screw the closing cable adjuster down as far as it will go.



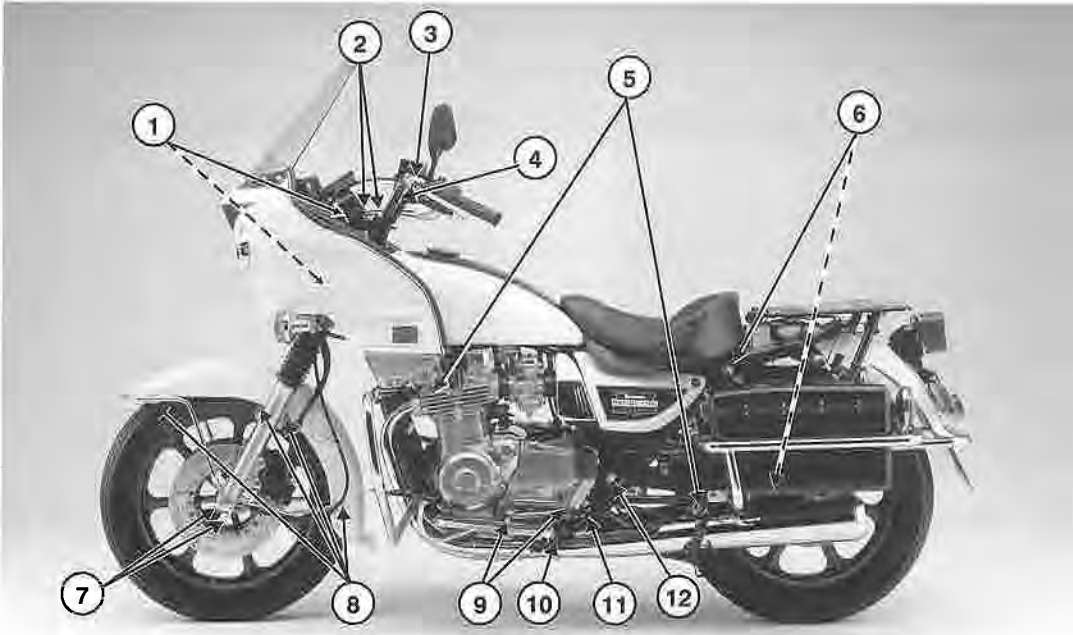
- At the handgrip, set the closing cable adjuster so that about 5 mm (1/4 in.) of threads are showing and tighten the locknut.
- With the throttle grip completely closed, use the closing cable adjuster at the carburetors to adjust the cable until the inner cable just becomes tight.
- Tighten the lock nut.
- Continue with step 4.

▲ WARNING

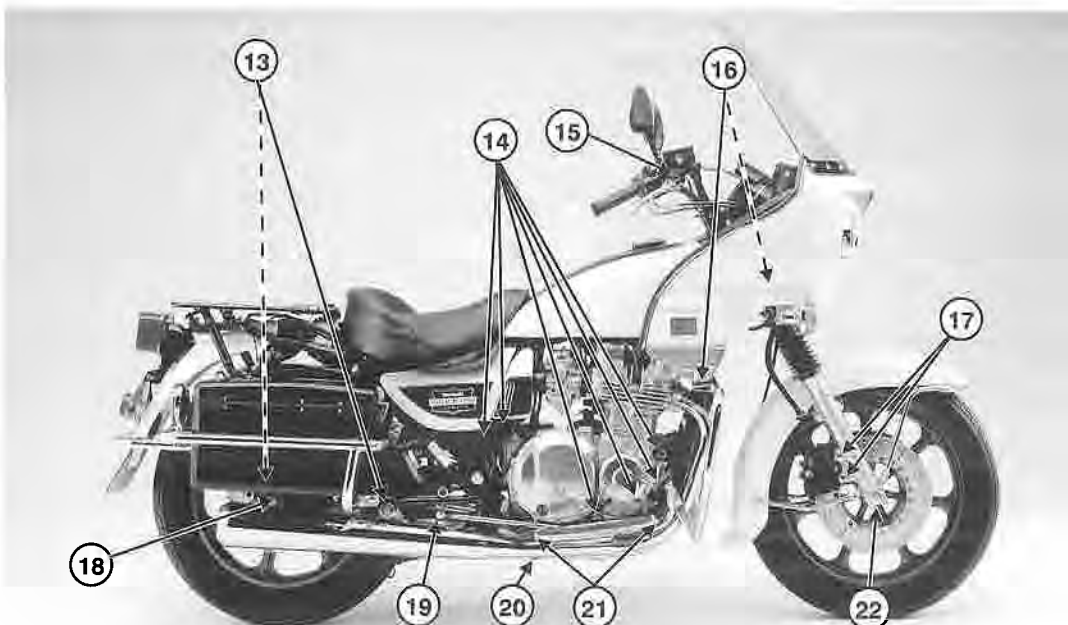
Operation with improperly adjusted, incorrectly routed, or damaged cables could result in an unsafe riding condition.

Bolt and Nut Tightening

Frequently check the tightness of the bolts and nuts listed on this page. Also, see that each cotter pin and clip is in place and in good condition.



- | | |
|------------------------------------|------------------------------------|
| 1. Fork Clamp Bolts | 12. Pivot Shaft Nut |
| 2. Handlebar Clamp Bolts | 13. Torque Link Nuts |
| 3. Clutch Lever Pivot Bolt | 14. Engine Mounting Bolts and Nuts |
| 4. Stem Head Bolt | 15. Front Brake Lever Pivot Bolt |
| 5. Muffler Mounting Bolts and Nuts | 16. Fairing Bolts |
| 6. Shock Absorber Bolts | 17. Caliper Mounting Bolts |
| 7. Axle Clamp Nuts | 18. Rear Axle Nut Cotter Pin |
| 8. Front Fender Mounting Bolts | 19. Brake Linkage Cotter Pin |
| 9. Shift Linkage Bolts | 20. Brake Linkage Pivot Bolt |
| 10. Side Stand Bolt | 21. Footboard Pivot Bolts |
| 11. Shift Linkage Clamp Bolt | 22. Front Axle Nuts |



CLEANING

Preparation for Washing

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

- Rear opening of the mufflers Cover with plastic bags secured with rubber bands.
- Clutch and brake levers, hand grips Cover with plastic bags.
- Ignition switch Cover the keyhole with tape.
- Air cleaner intake Close up the openings with tape, or stuff with rags.

Where To Be Careful

- Windshield
Wash the windshield with a soft cloth or sponge and plenty of water. Dry with a soft clean cloth. Do not use an abrasive scouring pad or steel wool. Use a mild soap, do not use an alkaline (commonly used at commercial car washes) or alcohol (Windex) based soap.

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

- Instruments
- Under the fuel tank and seat
If water gets into the spark plug caps, the spark will jump through the water and be grounded out. When this happens, the motorcycle will not start and the affected parts must be wiped dry.

After Washing

- Remove the plastic bags and tape, and clear the air cleaner intakes.
- Lubricate the chain and other points listed in the Lubrication Section.
- Test the brakes before motorcycle operation.
- Start the engine and run it for 2-3 minutes.

STORAGE

Preparation For Storage

When the motorcycle is to be stored for any length of time, such as during the winter season, it should be prepared for storage as follows:

- Clean the entire vehicle thoroughly.
- Empty the gasoline from the fuel tank, and empty the carburetors by unscrewing the drain screw at the bottom of each carburetor. (If left in for a long time, the gasoline will sour.)
- Remove the empty fuel tank, pour about $\frac{1}{2}$ pint of motor oil into the tank, roll the tank around to coat the inner surfaces thoroughly, and pour out the excess oil.
- Remove the spark plugs and put several drops of SAE 30 oil into each cylinder. Turn the engine over slowly a few times to coat the cylinder walls with oil, and replace the plugs.
- Reduce tire pressure by about 20%.
- Set the motorcycle on a box or stand so that both wheels are raised off the ground. (If this cannot be done, put boards under the front and rear wheels to keep dampness away from the tire rubber.)
- Spray oil on all unpainted metal surfaces to prevent rusting. Avoid getting oil on rubber parts or in the brakes.
- Lubricate the drive chain and all the cables.
- Remove the battery, and store it where it will not be exposed to direct sunlight, moisture, or freezing temperatures. During storage it should be given a slow charge (one ampere or less) about once a month.
- Tie a plastic bag over the exhaust pipes to prevent moisture from entering.
- Put a cover over the motorcycle to keep dust and dirt from collecting on it.

Removal From Storage

- Charge the battery if necessary, and install it in the motorcycle.
- Bring tire pressure up to normal:
Front and rear: 2.53 kg/cm² (36 psi)
- Make sure the spark plugs are tight.
- Fill the fuel tank with fuel.
- Run the engine for about 2-3 minutes to warm the oil, and drain the engine oil.
- Put in fresh engine oil.
- Check all points listed under Daily Pre-Ride Inspection.
- Lubricate the chain and the other points listed in the Lubrication Section.

TROUBLESHOOTING GUIDE

Engine Does Not Start

Starter Motor Not Rotating

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

Engine Cranks Over But Does Not Start

- No fuel in tank
- Fuel line clogged
- Fuel broken down
- Choke is not used when engine is cold
- Engine flooded
- Spark plugs loose
- Spark plugs fouled or wet
- Incorrect spark plug gap
- Incorrect valve clearance
- Battery discharged

Engine Stalls

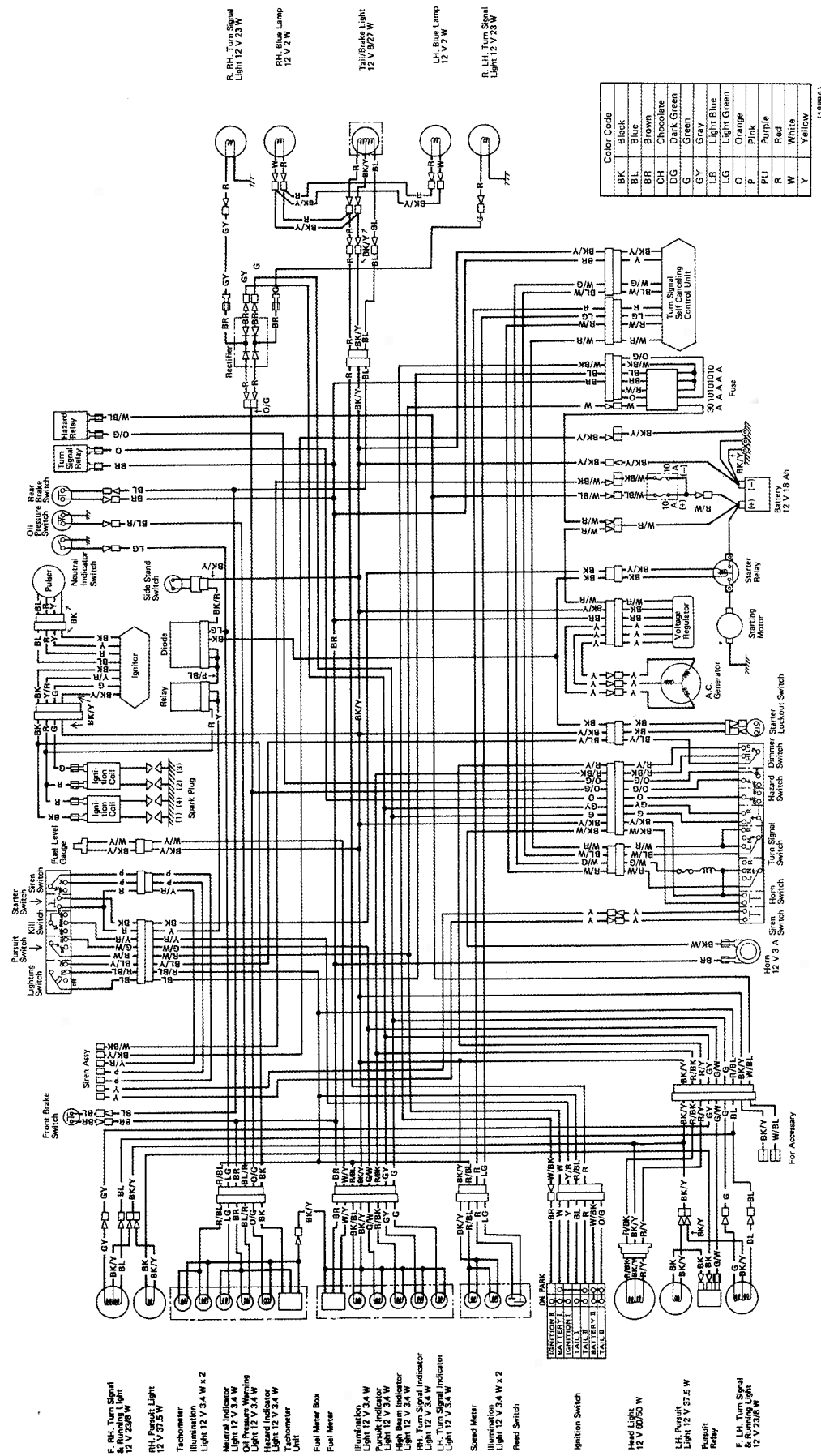
Just When Shifting Into 1st Gear

- Clutch does not properly disengage

While Riding

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

WIRING DIAGRAM



Color Code	Color
BK	Black
BL	Blue
BR	Brown
CH	Chocolate
DG	Dark Green
G	Green
GY	Gray
LB	Light Blue
LG	Light Green
O	Orange
P	Pink
PU	Purple
R	Red
W	White
Y	Yellow

(1888A)

- F, RH, Turn Signal & Running Light 12 V 23W
- RH, Parking Light 12 V 27.5 W
- Tachometer Illumination Light 12 V 3.4 W x 2
- Neutral Indicator Light 12 V 3.4 W
- Oil Pressure Warning Light 12 V 3.4 W
- Hazard Indicator Light 12 V 3.4 W
- Tachometer Unit
- Fuel Meter Box
- Fuel Meter Illumination Light 12 V 3.4 W
- Pursuit Indicator Light 12 V 3.4 W
- Oil Pressure Warning Light 12 V 3.4 W
- RH, Turn Signal Indicator Light 12 V 3.4 W
- LH, Turn Signal Indicator Light 12 V 3.4 W
- Speed Meter
- Ignition Switch Light 12 V 3.4 W x 2
- Horn Switch

OPERATOR TRAINING

PURPOSE

The purpose of this chapter is to discuss some unique characteristics of law enforcement motorcycle duty and to re-emphasize the importance of operator training.

BACKGROUND

Police motorcycle incidents can be attributed to inadequate training or unsafe practices. The motorcycle officer performs his mission with fundamentally different equipment than the patrol car officer, and therefore requires specialized training.

TRAINING

The attitude and the degree of skill of the motorcycle operator are strong factors in efficient and safe operation. Kawasaki recognizes that a motorcycle used in law enforcement duty is not operated in the same manner as a recreational motorcycle. In general, those departments emphasizing a high degree of professionalism should insist on an initial training program for new motorcycle officers as well as periodic refresher training for experienced motorcycle officers. As a direct result, departments should derive greater satisfactory service from their vehicles and achieve lower accident rates.

QUALIFYING NEW MOTORCYCLE OFFICERS

It would be a misconception of administration personnel to assume that an individual is fully qualified for police motorcycle duty because he has prior experience in the operation of civilian motorcycles. While experience can be valuable in advancing the start-up of a new officer, the unique demands of police motorcycle operation and the physical distinctions of the police motorcycle argue for specialized training.

DISTINCTIONS IN USAGE & EQUIPMENT

Some differences between civilian motorcycle experience and law enforcement motorcycle duty are shown here.

	Civilian Motorcycle Experience	Law Enforcement Motorcycle Duty
Equipment	Moderate power Moderate load factor Medium size motorcycle	High power High load factor Large motorcycle
Usage	Legal speeds Low annual mileage Open highway to moderate traffic Transportation/recreation	Extralegal speeds (pursuit) High annual mileage Open highway to dense traffic Patrol/pursuit/traffic control

In particular, high load factors of the police unit and the distribution of load can result in distinctive handling characteristics. Operating any police motorcycle under pursuit conditions can present handling qualities which civilian riders may not be equipped to master. Combined with other unique characteristics of police motorcycle operation, these two aspects of vehicle operation make it inadvisable simply to assign officers with civilian motorcycle experience to immediate police motorcycle duty without thorough training.

TRAINING RECOMMENDATIONS

As a minimum, Kawasaki recommends the following training for police motorcycle officers.

1. Operational Characteristics:

The police motorcycle officer should be thoroughly versed in the operational characteristics of his motorcycle. Kawasaki supplies a Police Motorcycle Operator's Manual with each unit. If any of your officers does not have a copy of this manual, contact the Kawasaki Police Program Office. The police motorcycle operator should read this manual before operating any police motorcycle. The manual not only contains instructions for the operational controls of the cycle, but also contains tips for safe motorcycle operation as well as a very important, daily pre-ride inspection checklist.

2. Familiarization:

During the first few hundred miles of police motorcycle experience, the operator should be restricted to moderate speeds until he is thoroughly acquainted with the operational and handling characteristics of the motorcycle.

He should also practice the safe operation tips (from the Operator's Manual) until they become instinctive.

3. **Defensive Driving:**

It is a regrettable fact that other vehicle operators are often not alert to the presence of a motorcycle. Incidents can occur in heavy traffic, intersections, or with vehicles pulling away from the curb. It is recommended that the motorcycle officer receive training in defensive driving techniques to counter these unexpected situations. Such training is a common part of the larger police department training programs.

4. **High Speed Operation:**

The motorcycle officer should receive special training in pursuit speed motorcycle operation prior to operating the cycle in pursuit or similar acceleration/high speed conditions. As with any motor vehicle, the motorcycle responds differently at high speeds than it does at low speeds. Roadway conditions, environmental conditions (such as wind gusts), and the load configuration may present stability or handling problems at pursuit speeds, whereas their effects would be negligible at normal operational speeds. Under certain conditions, any motorcycle can encounter stability problems during accelerated operation. However, if the officer has received the proper training, he can control a properly maintained and configured motorcycle.

Officers typically encounter stability problems after rapidly accelerating during pursuit. The officer may actually be unaware of speeds achieved, and overreacts to a destabilizing force. This overreaction can actually create a critical stability condition. Proper training should cover the following areas:

- a. Awareness of the motorcycle handling characteristics during accelerated operation.
- b. Preventive measures to be taken to avoid inducing a critical high speed stability condition.

c. An awareness on the officer's part of the actual motorcycle speed and the surrounding environmental conditions.

NOTE:

o All vehicles have slightly different handling characteristics; and, even an experienced officer should exercise prudence when utilizing an unfamiliar motorcycle for high speed pursuit.

5. **Preventive Maintenance & Inspection:**

Regular and thorough motorcycle maintenance and daily inspection are critical factors for high speed operation. Loose bolts, improper tire pressure, worn tires, or other items may not have a noticeable effect on normal operation, but can create unstable configurations. The motorcycle officer should receive guidance as to the importance of, and procedure for, regular and thorough inspection of his vehicle. Similarly, both operator and maintenance personnel should know and strictly observe the recommended periodic maintenance and inspection schedule. The Police Motorcycle is built for the rigorous duty inherent in law enforcement service, but optimum safe and effective use of the unit requires stringent adherence to maintenance and inspection requirements.

CONCLUSION

The police motorcycle officer's mission is unique. Distinctive physical and dynamic characteristics of the vehicle and usage patterns peculiar to this mission demand consideration in the selection and training of motorcycle officers and maintenance personnel. Kawasaki's recommendations for officer training are offered to help police administration personnel achieve greater satisfaction with Kawasaki's Police Motorcycle.

Police Program Office
Kawasaki Motors Corp., U.S.A.
P.O. Box 25252
Santa Ana, GA 92799-5252

CONFIGURATION ALTERATIONS AND MODIFICATIONS

PURPOSE

The purpose of this bulletin is to discuss the importance of maintaining the original configuration of the police motorcycle. Some areas of the unit that are frequently altered are identified, and some effects of undesirable alterations are explained.

BACKGROUND

Reports from and visits to user agencies reveal that motorcycle departments and individual officers sometimes change, modify, or add items to their machines. We at Kawasaki find this to be cause for concern, since such alterations can have a serious influence on safe operation of a motorcycle. In the interest of officers' personal safety, we want to identify some possible consequences of modification and explain their negative effects.

It is never safe to assume that any motorcycle component or accessory can be added, removed, or modified without affecting the handling and stability of the motorcycle, particularly during pursuit acceleration and at high speed. Even the fact that another user added, removed, or modified an item without any apparent problem cannot be safely relied upon as evidence of its suitability.

The areas commonly affected by modification are discussed below:

1. Front Fork Assembly:

Reference here is to the TOTAL assembly — everything that pivots about the steering head bearings. This includes handlebars, the fork itself, front fender, brake system, front wheel and tire. This total assembly has two general characteristics that strongly influence handling and stability: aerodynamic and inertial. Most riders know that form and shape affect the influence of the air stream that impinges upon the frontal assembly. It is not generally known, however, that inertial characteristics may exert an equal if not greater influence on handling and stability, particularly at high speeds. The mass (weight) of the various components that make up the assembly is important and can become critical, but even more important to stability is the distance each component is located from the steering pivot point. The influence on stability is almost always a NEGATIVE influence.

In fact, a simple flashlight located several inches from the steering head bearing once caused a severe high speed instability. This inertial characteristic is called "moment of inertia," and it has both upper and lower limits

for any given machine. Handlebar setback attachments are not recommended, since they increase the moment of inertia of the front fork assembly.

Lamps, horns, or other accessories mounted on the front fork assembly, especially off the centerline, tend to produce a negative effect on high speed handling and stability. These additions can affect both the aerodynamic and inertial characteristics of the assembly, and the result can become critical in the high speed ranges.

When mounted on the handlebars, accessories that are not mounted over the steering pivot point can cause instability problems. They can also interfere with the steering of the motorcycle especially since it is equipped with a frame-mounted fairing. Additionally, with frame-mounted fairings, it is important that clothing or other objects are not stored in the area between the movable parts of the steering mechanism (including handlebar, front fork, etc.) and the fixed parts of the chassis (including fairing, fuel tank, frame, etc.). A loose object which lodges in the steering mechanism could cause loss of control.

Changing the size, contour, and positioning of the factory installed handlebar-mounted windshield can affect the handling characteristics and stability of any motorcycle. Windshield weight and height are also important, sometimes critical factors and thus should not be altered from the standard configuration. The windshield mounting screws are designed to break upon impact. They should never be replaced by non-standard parts.

The fork tubes should never be repositioned upward in the triple clamp in order to lower the motorcycle. This configuration change introduces a change in the steering geometry with a direct, negative effect on the motorcycle's handling stability.

2. Engine Guard and Saddlebag Mount Bars:

Items added to the engine guard and bars can affect handling and stability because, just as the fork assembly possesses aerodynamic and inertial characteristics, so does the frame assembly. As a general rule, the greater the weight and/or distance from the motorcycle centerline, the higher the risk, even if mountings are kept symmetrical about the centerline.

3. Radio Rack:

Kawasaki realizes that police officers must have communications equipment. From an operational standpoint the only feasible location for the radio is over the rear fender. The radio should be as small and light as possible, and mounted as far forward as possible. The radio's weight, its relative position and its mounting method all have an effect on the motorcycle's stability. The radio's tendency to amplify side-to-side oscillations is considerably increased as the load increases and extends aft of the vertical centerline of the rear axle.

The radio rack is a floating carrier. It is specially designed to rotate from side to side to help damp any oscillations of the motorcycle. The rotation of the carrier itself is controlled by a hydraulic damper mounted horizontally below the rack toward the rear. The floating carrier must be free to rotate at all times and the hydraulic damper must resist carrier rotation. Do not fasten anything to the carrier that might prevent it from performing its function. In addition, strict adherence to the "LOADING INFORMATION" instructions in the Operator's Manual or the "LOADING INFORMATION" label on the vehicle is strongly recommended.

4. Beacon:

Some departments deem the rotating beacon (pole lamp) necessary or desirable in their work. It should never be installed in such a way that it interferes with the movement of the floating carrier. For reasons discussed under "Front Fork Assembly," the beacon should never be mounted anywhere on the front of a motorcycle. Where high-speed pursuit may be encountered, we do not recommend mounting this beacon. Even in municipal work, the machine should not be driven with the beacon's telescoping pole extended.

CONCLUSION

Configuration changes and modifications may, individually or cumulatively negligibly affect the handling and stability of a motorcycle. These same changes may transform a satisfactorily stable motorcycle into an unstable machine during high speed or pursuit operations. We recommend against any changes or modifications to any police motorcycle. If in doubt, where Kawasaki machines are concerned, please feel free to contact the Police Program Technical Representative at the address below.

Police Program Office
Kawasaki Motors Corp., U.S.A.
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Santa Ana, CA 92799-5252

MOTORCYCLE CHECKOUT RIDING PROCEDURE

PURPOSE

The purpose of this chapter is to emphasize the prerequisites for police motorcycle checkout tests. A procedure for checkout riding is recommended.

BACKGROUND

It is standard recommended practice for the motorcycle officer or motorcycle mechanic to ride the motorcycle after the vehicle has been serviced or repaired or altered in any manner. Checkout rides may also be undertaken to verify that a reported problem exists. Occasionally, the checkout ride can result in an accident that could have been avoided had proper procedure been followed by the motorcycle operator.

CHECKOUT PERSONNEL GUIDELINES

It is impossible to foresee all of the possibilities that may occur, and to recommend a procedure that will cover all of these possibilities. It is possible to provide some general guidelines that will provide a measure of protection for the test rider, and that is the intent of this chapter.

Operating Experience:

The first and most important rule is that the test rider should be experienced in the operation of police motorcycles under the conditions in which he intends to test the vehicle.

Reaction Training:

The operator must also possess the ability to avoid panic if a problem does occur during the checkout ride. Rarely will a problem cause a motorcycle to become uncontrollable if the operator maintains his composure and takes the proper actions. Kawasaki recommends police agencies provide their motorcycle officers with training as to the proper action to take when operational problems are encountered. It is strongly recommended that all checkout personnel also receive this type of training before undertaking to perform high-speed checkout tests.

A test riding incident may occur as follows: A motorcycle is reported to have a high-speed handling problem in the speed range of 80 to 100 m.p.h. The mechanic, or a motorcycle officer, decides to test ride the motorcycle to determine if the problem exists and the nature thereof. The operator accelerates, in many instances very rapidly, to a speed range in excess of 80 m.p.h. and then induces a steering upset by applying a sudden

turning movement to the handlebars. The motorcycle will generally respond with lateral oscillations of the front wheel that will die out with time. At this point, essentially all motorcycles are controllable if the operator takes the proper action. However, the operator may panic or, due to lack of training, may take improper action with the end result that the motorcycle becomes an unstable vehicle.

An improper reaction of the operator to even a normally diminishing oscillatory condition can actually amplify the oscillations until the vehicle is out of control. An untrained operator may tense and attempt to anticipate and overpower the oscillations through sheer strength and concentration. At the same time, he may suddenly and forcefully apply the brakes to reduce vehicle speed quickly and get below the speed where the instability began. Or he may attempt to "accelerate out of the problem." These actions can amplify the oscillations and total loss of control may follow. If the motorcycle does, in fact, have an instability problem, due to some abnormal condition, then lowering the speed of the motorcycle in a controlled manner is the only proper response. Any increase in speed will probably make the problem worse.

IMPORTANT NOTE:

O Kawasaki cannot warrant that the reaction technique explained here is always effective in overcoming vehicle instability in every instance. There are so many factors that may contribute to instability that each vehicle must be treated individually. The purpose of describing this technique is to inform users of our experience, in the hope that some guidance will increase safety awareness of your checkout personnel and suggest a technique that offers good prospects of safely countering any police motorcycle instability.

An experienced and trained operator applies reaction training to reduce speed in a controlled manner. This is accomplished by:

1. Relaxing (but not releasing) grip on the handlebar.
2. Decelerating in a controlled manner as follows:
 - a. Close the throttle deliberately but not abruptly.
 - b. Do not downshift to a lower gear.
 - c. Apply the rear brake gently if possible; do not apply the front brake.

3. Letting the vehicle slow down and stabilize itself.

IMPORTANT NOTE:

- o *Don't try to resist or fight the oscillation. Maintain a very light contact with the handlebars, and do not grip the fuel tank with your knees. Attempts to restrain oscillations will nearly always amplify them instead.*

This "relaxing" technique may not be completely effective in controlling an abnormal instability that has progressed too far before control was started. Since serious instabilities usually get worse with increasing speed, it is important to approach the higher speed ranges gradually with initial testing started at reduced speeds.

It may be difficult for some operators to learn to use this technique without training. Tensing and exerting control over the vehicle must be replaced by a deliberate, conscious response to relax in an unusual, threatening instability situation. The quickest, surest way to develop this response in operators is through training. One element of this reaction training must be actual experience of, and correcting response to, motorcycle instability. By experiencing success in using the "relaxing" technique to counter oscillations, the operator should accept it as a valid reaction and use it in actual checkout situations.

IMPORTANT NOTE:

- o *Because relaxing the rider's grip on the handlebars results in the motorcycle going in a straight line, it is important that the initial tests for high speed pursuit handling problems be done on a wide, straight road.*

**RECOMMENDED CHECKOUT
PROCEDURE**

High-speed checkout accidents should be avoided if the test rider possesses the proper training and experience and adheres to the following procedure. If he intends to check a high-speed problem, he should:

1. Fully inspect the motorcycle, as recommended for misadjustments and discrepancies, and take corrective measures before the test ride is initiated.
2. Ride the motorcycle in a normal manner at moderate speeds until he is familiar with the handling characteristics of the motorcycle and judges the unit acceptable and suitable for high-speed testing.
3. At a speed of approximately 55 m.p.h., or less, induce a mild steering upset and observe the results.
4. If the problem is not evident at 55 m.p.h. increase the speed to 60 m.p.h. and observe the results.
5. Increase the speed in approximately 5 m.p.h.-step increases until the problem is observable. This should reveal the problem to the operator in its mildest and most easily controllable form. At this point, the test ride should be terminated and corrective action initiated.
6. After the corrective maintenance is completed, the test ride procedure should be repeated. The foregoing procedure is not applicable to all situations that will be encountered, but it is used by professional test riders and should help to prevent accidents.

CONCLUSION

In summary, test riding accidents can be reduced if the rider possesses riding experience, is properly trained, and gradually approaches the alleged problem range instead of accelerating directly into the problem speed range.

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CHECKOUT AFTER TIRE SERVICE

PURPOSE

The purpose of this chapter is to review the necessity for caution following replacement of motorcycle tires. Some factors affecting the tires' contribution to vehicle stability and handling are offered for consideration.

BACKGROUND

The handling and stability characteristics of a police motorcycle can change as a result of new tire break-in. Unaware of these effects, checkout or other personnel may risk vehicle damage or personal injury by exceeding the vehicle's limits before realizing that tire service has modified the vehicle characteristics.

IMPORTANT NOTE:

O Tire characteristics are important to good handling of the motorcycle. Never change to a different tire make or size without first consulting the Kawasaki Police Program Office to determine effects on motorcycle performance, particularly high speed and pursuit performance.

Additionally, Kawasaki recommends that you never attempt to repair a tire; always replace damaged tires.

SOME TIRE SERVICE FACTORS AND THEIR EFFECTS

While considerable information is furnished in the service and operator's publications to inform users of precautions to observe during tire service, the following material is emphasized to stress the significance of some effects of tire service.

New Tire Break-in:

There is often a marked difference in vehicle characteristics resulting from replacing a worn tire with a brand new tire. New tire installation may alter vehicle stability, cornering, handling, and stopping. Checkout personnel must exercise caution when testing a police motorcycle just after tire replacement, because the vehicle may respond quite differently from its prior characteristics.

During the break-in period of a new tire, vehicle characteristics will change as the new tire tread wears and the tire "matures." There are many factors that affect the degree of change and the length of time involved in the break-in process. Some of these factors are listed here: presence of parting compound from the manufacturing process; "rounding-off" of the tread block edges; abrasion of the tread surface; aging of the tread, sidewall, and carcass materials; predominant usage

mode-highway or urban traffic; average mileage per time period; type of pavement; and so on.

The important point to remember is that some shift in tire performance is normal during the tire break-in period. It is important for checkout personnel and motor officers to realize that this shift occurs and they must allow for it. Specifically, after a new tire is installed, periodic checkout test rides are recommended to confirm acceptability of the vehicle's characteristics until new tire performance stabilizes. After the tire break-in period, tire characteristics should remain fairly constant until tread depth wears to the limit or unless the tire is damaged or unevenly worn.

Tire Service:

The process of installing a motorcycle tire is not very complicated. However, the following operations must be addressed each and every time the work is performed.

1. Wheel Balance

Before removing the tire from the wheel, mark the tire sidewall in line with the valve stem. When remounting the tire, align this mark with the valve stem to maintain the original wheel-tire balance configuration. Of course, if the wheel balance condition is suspect, check and correct the balance.

When installing a new tire, pay attention to the weight mark on the tire's sidewall. The weight mark is typically a spot of paint. Follow the tire manufacturer's recommendation for positioning the weight mark in relation to the valve stem. Dunlop specifies that the weight mark be aligned with the valve stem. Proper alignment of the tire and wheel can reduce the amount of balance weight required to balance the assembly. A reduction in total wheel weight enhances vehicle stability and handling, particularly at the front wheel.

2. Direction of Installation:

The direction of rotation of a tire has a definite effect on its tread wear pattern and other characteristics. If a used tire is installed in a reverse direction, temporarily reduced traction and shortened tire life are two possible consequences. Before removing a tire, mark an arrow on the sidewall to show the direction of rotation. Use the arrow as a guide to install the tire in the original direction. Manufacturers design some motorcycle tires with a built-in bias for direction of rotation. An arrow molded into the sidewall shows the specified installation direction. Dunlop tires (rear only) have such direction arrows. Install these tires with the arrow pointing in the direction of forward rotation.

3. **Tire Bead Seating:**
Full contact of the tire beads with the wheel rim is essential for consistent tire performance. In some measure, the lateral stability of the tire carcass depends on support from intimate contact with the wheel rim flanges. To seat the tire bead properly, good practice includes the following steps:
- a. Use a tire bead lubricant — just enough to overcome “dry” friction.
 - b. Take care not to distort or dent the wheel flange. Cast wheels deserve special care on this point.
 - c. Overinflate the tire to 50% above specified pressure.
 - d. Use a rubber mallet to hit the sidewall in a direction from the wheel center outward with glancing blows. Work all the way around the tire bead.
 - e. Deflate the tire to the specified inflation pressure.

4. **Check Out Procedure:**
All of the above factors mean that an initial, checkout ride is necessary to re-establish familiarity with the handling characteristics of the motorcycle any time a tire has been removed and replaced, even by the same make and model or by remounting the same tire. It is not safe to assume that handling characteristics have not been altered whenever a tire has been removed and remounted.

Whenever a brand new tire is installed, variations in handling characteristics must be anticipated as the tire is broken in, and in addition to an initial checkout ride, subsequent checkout rides should be made at periodic intervals for the first 500 miles to assure familiarity with tire characteristics as they perhaps change.

Thorough familiarity with the specific characteristics of a given motorcycle should be gained by making a careful checkout ride, increasing speed in small increments and becoming comfortable with the handling at each such speed before increasing to the next higher speed range.

Under no circumstances should high- speed operation — particularly high- speed pursuit — be undertaken after tire changes, until a careful checkout procedure is followed and familiarity with specific high-speed handling characteristics is verified.

See the chapter entitled “Motorcycle Checkout Riding Procedure” for a more detailed description of proper checkout riding techniques.

CONCLUSION

Routine service or replacement of tires can affect the handling and stability characteristics of a police motorcycle. The break-in period following new tire mounting demands special care as the tire's properties may alter considerably. The operator or checkout personnel should follow a graduated approach to motorcycle checkout after any tire replacement. Subsequent checkouts are recommended so the operator can “keep in touch” with changes in the motorcycle's handling characteristics.

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REPLACEMENT TIRES

PURPOSE

The purpose of this chapter is to re-emphasize the importance of using only Kawasaki- approved tires for replacement on police motorcycles.

BACKGROUND

In the course of communicating with police department personnel and on-site visits to inspect police motorcycles, it is evident that some user agencies are equipping Kawasaki police motorcycles with replacement tires not specified by Kawasaki.

TIRE QUALIFICATION

Because motorcycles are single-track vehicles, tire characteristics are more critical than with an automobile or other 4-wheeled vehicles. Many of the dynamic forces which keep the vehicle stable and predictable originate in the front and rear tires, the vehicle's only contacts with the road surface. Parameters of motorcycle tires vary from make to make and model to model.

During product development or refinement, motorcycle manufacturers coordinate with tire manufacturers to select tires which ensure optimum handling characteristics. Occasionally, a motorcycle manufacturer requests a tire vendor to design a new type of tire for a better match with the development vehicle's handling and stability

objectives. In the case of developing police motorcycles, the vehicle and tire manufacturers also must satisfy design and performance standards specified by the police departments.

The vehicle is approved for production and sale only when equipped with those original tires. Subsequently, the manufacturer may approve and recommend alternate replacement tires, which have been qualified through testing to suit that model's requirements. Different model vehicles may exhibit varying responses when equipped with the same type of tire. This does not mean that one vehicle is more sensitive than another, but that one tire's characteristics may not be suitable for one configuration of motorcycle, while satisfying all requirements with another configuration motorcycle.

CONCLUSION

Motorcycle tires are a major factor influencing the vehicle's handling, stability, and ride characteristics particularly in high speed and accelerating, pursuit situations. Any use of non-recommended tires must be considered experimental, with an element of risk assumed by the operator and responsible agency. Kawasaki urges user agencies to install only tires specified by Kawasaki for replacement on the police motorcycles.

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CRITICAL MAINTENANCE ITEMS

PURPOSE

The purpose of this chapter is to re-emphasize the importance of regular, careful performance of certain maintenance items specified for the police motorcycles. Although the maintenance procedures and adjustment values are explained in the service manuals for these vehicles, Kawasaki wants to highlight these items for user agencies, vehicle operators, and service personnel. Attention to these items should improve effectiveness of maintenance operations and reduce risk to motor officers.

BACKGROUND

Communication with user agencies and on-site inspection of numerous police motorcycles in the field have led Kawasaki to identify certain areas of inspection and maintenance that tend to be overlooked by service personnel and operators. In response to this continuing pattern, Kawasaki furnishes the following information to educate personnel and improve troubleshooting accuracy and speed.

CRITICAL MAINTENANCE ITEMS

Within the normal schedule of periodic maintenance specified in the manuals, there are a number of maintenance items that are often overlooked by user personnel. Failure to regularly and properly service these items can, singly or in combination, adversely affect vehicle stability. The items are these:

1. Steering Bearing inspection/adjustment.
2. Tire inflation pressure.
3. Tire wear.
4. Drive chain adjustment.

EFFECTS OF CRITICAL ITEMS

1. **Steering Bearing Inspection/Adjustment:**
A motorcycle is a single-track vehicle, and therefore dependent on a number of physical attributes built into the vehicle for stable and predictable operation. The steering bearing is a critical component. Worn or out-of-adjustment bearings can seriously affect vehicle stability. Bearings adjusted too tightly can result in an unstable, wandering type of operation. The ball-type steering bearing may suffer denting of the bearing races or flattening of the balls at higher mileage or from severe shock, which can lead to erratic steering effects. Corrosion from lack of lubrication can pit the bearing surfaces, with a restriction in

free movement and consequent destabilizing effects. Loose bearings can cause a knocking or clicking sound on application of the front brake, in addition to a negative effect on stability.

Inspect steering bearing play as often as specified in the Periodic Maintenance table. Lubricate and adjust the steering bearings as shown in the service manual.

2. **Tire Inflation Pressures:**

Tire inflation pressure determines many dynamic characteristics of the tire, including tire contact patch, self-aligning forces, tread wear pattern, rolling resistance, and others. Some vehicles which Kawasaki has inspected had tire pressures that were 5-10 psi below specification. This much difference can affect tire performance and vehicle stability.

Learn and follow tire pressure specifications. Check tire pressure each day before operation of the vehicle with the tires in a cold condition.

3. **Tire Tread Wear:**

In an effort to obtain maximum service mileage from police motorcycle tires, some agencies are permitting tire tread wear beyond the specified limits. Part of the reason for this may be that the tread wears faster in the middle of the tread width, while the tread sections on each side of the middle do not wear so much. This wear pattern is typical of motorcycles which spend most of their service lives in a vertical mode, with comparatively little mileage cornering on the off-center tread. Another factor which contributes to uneven tread wear is incorrect tire pressure, which allows the tire cross section to distort from its designed shape. By visual inspection, the tire tread depth may appear to be acceptable, even though the center of the tread is worn below the specified limit.

Measure tread depth with an accurate gauge across the width of the tire at several locations on the circumference. If any part of the tread is less than the minimum specified tread depth, install a new tire.

4. **Drive Chain Adjustment:**

It is notable that we find many police motorcycles with drive chains adjusted too tightly. Often, the user agency complains of exceptionally short service lives of chains and sprockets. Also, a tight drive chain can cause oil seal leaking or early wear of transmission bearings and wheel bearings. One reason for tight chains seems to be the motor officers who complain of too much chain noise, but the

chain has the correct amount of play. In addition to rapid wear, one side effect of an excessively tight chain adjustment is to restrict rear suspension movement. In other words, the taut chain does not let the rear shock absorbers cushion bumps as they were designed to do. This keeps the rear suspension of the motorcycle from responding normally to handling and ride inputs. Some degradation of vehicle stability can result. While a loose drive chain is to be avoided, do not mistakenly think that a tight chain is preferable. Adjust chain slack to the specified value with the motorcycle on the center stand. A certain amount of chain noise is normal.

CONCLUSION

Police motorcycles endure a longer service life and higher annual mileage than average motorcycles. Regular, thorough service is an important factor in attaining projected service life, minimizing maintenance costs, and keeping the vehicle in a condition that will allow it to perform safely and comparably to its as-new performance.

This chapter highlights certain critical maintenance items that are often overlooked by some users. Administrative personnel should emphasize a policy of performing all maintenance items on a periodic schedule, in accordance with the Periodic Maintenance table in the Operator's Manual or Service Manual.

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