

# OWNER'S MANUAL



**Kawasaki**

**500 HI-E**

## Foreword

We wish to thank you for choosing this fine Kawasaki Motorcycle. It is the end product of Kawasaki's advanced engineering, exhaustive testing, and continuous striving for superior reliability, safety and performance. By giving your motorcycle the proper care and maintenance outlined in this manual, you will ensure it a long, trouble-free life.

Before starting to ride your motorcycle, please read this manual thoroughly in order to know your motorcycle's capabilities, its limitations, and above all, how to operate it safely.

In addition to this owner's manual, for those who would like more detailed information on your Kawasaki Motorcycle, or for those with the necessary technical knowledge and equipment for major adjustment and repair, a **Shop Manual** is now available for purchase from your Kawasaki Dealer. However, please note that during the warranty period, repair or adjustment by other than a Kawasaki Dealer may in certain instances invalidate your warranty.

Due to improvements in design and performance during production, there may be in some cases minor discrepancies between the actual vehicle and illustrations and text in this manual.

**KAWASAKI HEAVY INDUSTRIES, LTD.**  
**MOTORCYCLE DIVISION**

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//////////////////// **SPECIFICATIONS** //////////////////////

**PERFORMANCE**

Acceleration

SS½ mile (0~400 m)

12.4 sec.

Climbing Ability

40°

Fuel Consumption

55 mi./gal @50 mph

(33 km/ℓ @50 kph)

Minimum Turning Radius

90 in. (2.3 m)

Braking Distance

35 ft. @31 mph

(10.5 m @50 kph)

Maximum Horsepower

59 HP @8,000 rpm

Maximum Torque

41.2 ft-lb @7,000 rpm

(5.7 kg-m @7,000 rpm)

Maximum Speed

124 mph (200 kph)

**DIMENSIONS**

Overall Length

82 in. (2,085 mm)

Overall Width

33 in. (835 mm)

Overall Height	45 in. (1,140 mm)
Wheelbase	55.5 in. (1,410 mm)
Ground Clearance	5.7 in. (145 mm)
Dry Weight	407 lb. (185 kg)
<b>ENGINE</b>	
Type	2-stroke, 3 cylinder piston valve
Displacement	30.4 cu.in. (498 cc)
Bore x Stroke	2.36 x 2.31 in. (60 x 58.8 mm)
Compression Ratio	6.8
Ignition Timing	23° Before TDC
Starting	Kick
Lubrication	Injectolube (Oil injection)
Spark Plug	NGK B-9HS-10
Carburetor	MIKUNI VM28SC
Ignition System	Electronic CDI
Engine Oil	2 stroke oil

## TRANSMISSION

Type	5 speed, constant-mesh return shift
Clutch	Wet, multi-disc
Primary Reduction Ratio	2.41
Final Reduction Ratio	3.00 (45/15)
Overall Reduction Ratio	5.84
Gear Ratios: 1st	2.20
2nd	1.40
3rd	1.09
4th	0.92
5th	0.81
Transmission Oil	SAE 10W30 or 10W40 1.3 U.S.qt. (1.2 ℓ)

## FRAME

Type	Tubular, double cradle
Suspension: Front	Telescopic fork
Rear	Swing arm

Tire Size:	Front	3.25-19 4PR
	Rear	4.00-18 4PR
Disc Diameter (Front)		11.65 in. (296 mm)
Brake Drum Diameter (Rear)		7.1 x 1.4 in. (180 x 35 mm)
Fuel Tank Capacity		4.2 U.S. gal. (16 ℓ)
Engine Oil Tank Capacity		2.5 U.S. qt. (2.3 ℓ)
Castor		63°
Trail		4.3 in. (108 mm)

#### **ELECTRICAL EQUIPMENT**

Battery	12V 9AH
Headlight	12V 35/25W
Tail/Brake Light	12V 8/27W
Turn Signal Lights	12V 23W
Meter Lights	12V 3W
Neutral Indicator Light	12V 3W
Turn Signal Indicator Light	12V 3W
High Beam Indicator Light	12V 1.5W

Specifications subject to change without notice.



# Vehicle Minimum Stopping Distance on Dry Pavement

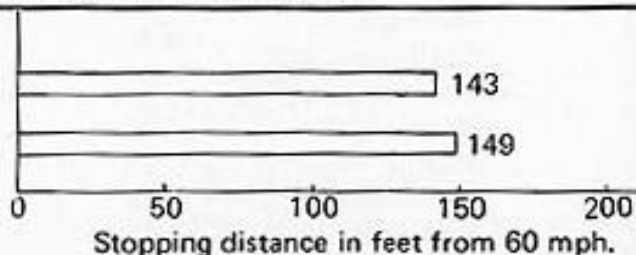
These figures indicate braking performance that can be met or exceeded by the vehicle to which they apply, without locking the wheels, under different conditions of loading. The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the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

Description of vehicle to which this table applies: Model H1-E

## A. Fully Operational Service Brake

Load: Light

Maximum



Manufacturer: Kawasaki Heavy Industries, Ltd.

## Acceleration and Passing Ability

These figures indicate passing times and distances that can be met or exceeded by the vehicle to which they apply, in the situations diagrammed on the next page. The low-speed pass assumes an initial speed of 20 mph and a limiting speed of 35 mph.

The high speed pass assumes an initial speed of 50 mph and a limiting speed of 80 mph.

**Note:** 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.

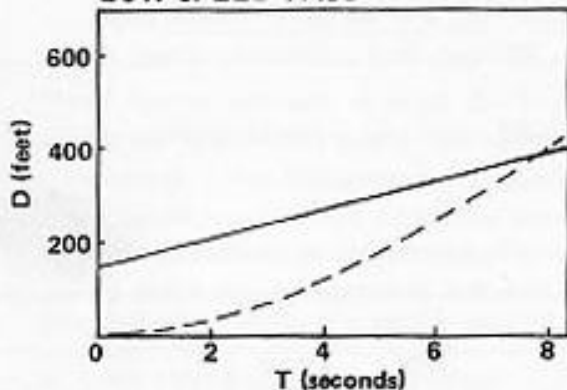
Description of vehicle to which this table applies. Model H1-E

### Summary Table:

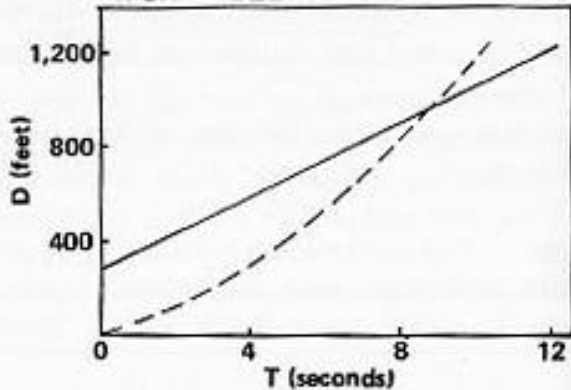
Low-speed pass	376 feet;	7.7 seconds
High-speed pass	929 feet;	9.1 seconds

# Graphic Determination of Passing Time and Distance

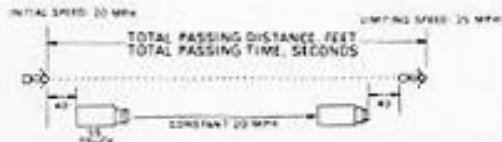
## LOW SPEED PASS



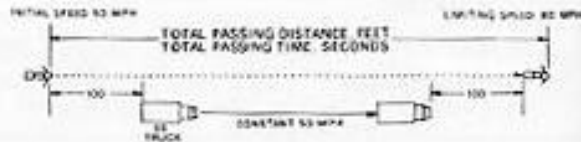
## HIGH SPEED PASS



### LOW-SPEED

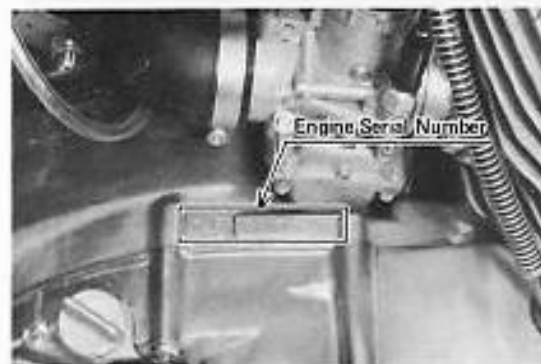


### HIGH-SPEED



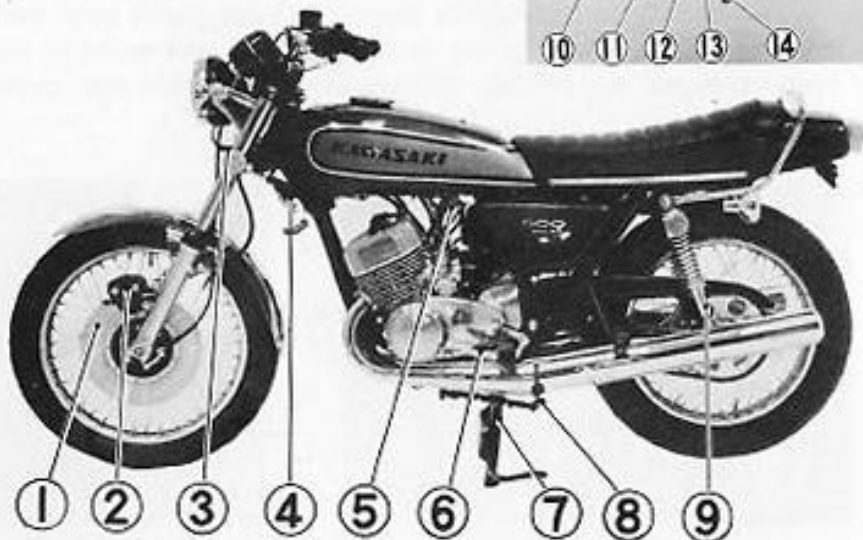
## //////////////// SERIAL NUMBER LOCATION //////////////////

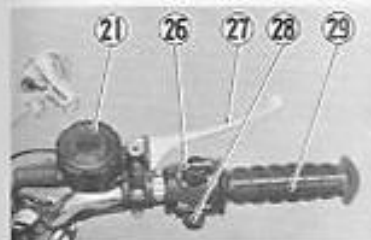
The frame and engine serial numbers are used to register the motorcycle. They are the only means of identifying your particular machine from others of the same model type. These serial number may be needed by your dealer when ordering parts. In the event of theft, the investigating authorities will require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



//////////////////LOCATION OF PARTS////////////////////////////////

1. Disc
2. Caliper
3. Front Brake Light Switch
4. Horn
5. Fuel Tap
6. Shift Pedal
7. Center Stand
8. Side Stand
9. Rear Shock Absorber
10. Clutch Lever
11. Dimmer Switch
12. Horn Button
13. Turn Signal Switch
14. Starter Lever





- 15. Seat Lock
- 16. Brake Rod
- 17. Rear Brake Light Switch
- 18. Kick Pedal
- 19. Brake Pedal
- 20. Steering Oil Damper
- 21. Reservoir
- 22. Speedometer
- 23. Ignition Switch
- 24. Indicator Light
- 25. Tachometer
- 26. Kill Switch
- 27. Brake Lever
- 28. Headlight Switch
- 29. Throttle Grip

## Brake Lever and Pedal

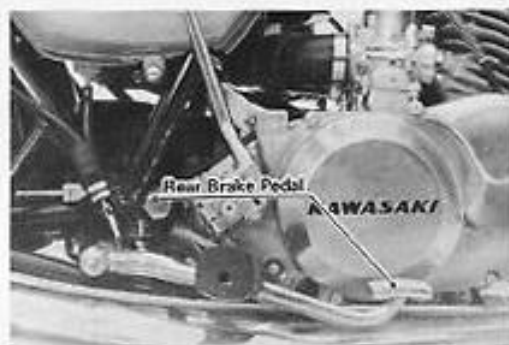
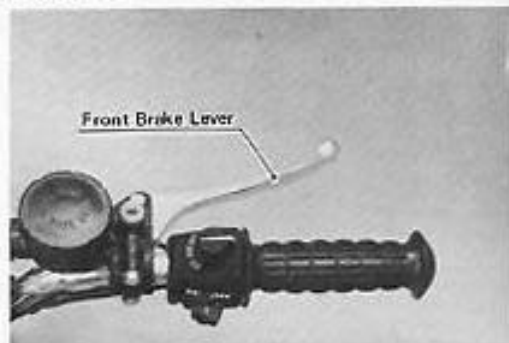
The lever on the right side of the handlebar operates the front brake, and the foot pedal on the right side operates the rear brake.

When stopping, always apply both brakes at the same time in order to stop quickly; normally the front brake should be applied a little more than the rear. On curves and when turning a corner, apply only the rear brake in order to minimize the danger of skidding.

The front brake is a hydraulic disc brake. The reservoir must be kept filled with disc brake fluid or the brake will not operate.

See Pg. 46 for a list of recommended brake fluids and for other important brake information.

When either the front or rear brake is applied, the tail brake light goes on. The front brake employs a pressure switch which requires no adjustment, but the rear brake light switch may need adjustment from time to time.



On the rear brake panel is a brake lining wear indicator. If the indicator does not point within **USABLE RANGE** when the brake is fully applied, the brake shoe linings have worn past the service limit. In such case, the brake shoes must be replaced and the drum and other brake parts examined.

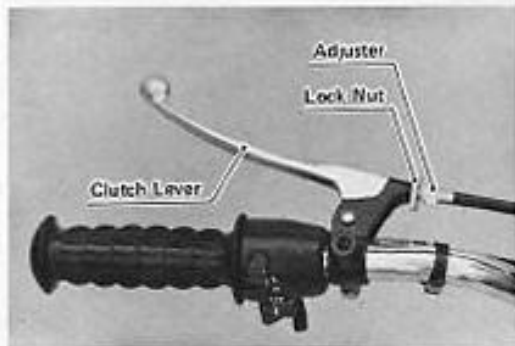
**Note:** So that it remains in its proper position, do not remove the brake lining wear indicator even for brake disassembly.

### Clutch Lever

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

The clutch must be left engaged—that is, don't pull in the lever—when starting the engine.

If the clutch lever develops too much travel before disengaging the clutch, take up excess play by loosening the lock nut, backing out the adjuster, and then re-tightening the lock nut. When this adjustment will no longer take up lever play, readjust the clutch completely (See Pg. 49 ).





## Shift Pedal

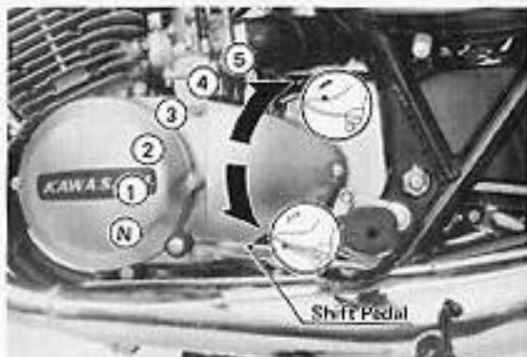
To shift to the next lower gear, disengage the clutch (i.e., pull the clutch lever in), push the shift pedal down as far as it will go, and then release the pedal. To shift to the next higher gear, disengage the clutch, lift the shift pedal up as far as it will go, and release it. If the engine is stopped, releasing the clutch lever and rolling the motorcycle slightly while shifting will help shifting back to neutral.

The transmission is a 5-speed, return shift type. Neutral is at the bottom of the shifting range, and 5th gear is at the top.

A "return shift" means that to go back to 1st gear from a higher gear, you must return the way you came, shifting back through the gears one by one.

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

**NOTE:** Make it a point when shifting to lift up or push down the shift pedal fully. If shifting is done carelessly, the transmission may jump out of gear, causing over-rev damage to the engine.



## Throttle Grip

The right handlebar grip controls the throttle. Twisting it counterclockwise opens the throttle, which raises engine speed; twisting it clockwise closes the throttle, which lowers engine speed; and releasing it allows spring tension to return it to the closed position. The throttle grip is adjusted to give it a sufficient but not excessive amount of play.



## Kick Pedal

The kick pedal is located at the right side of the engine.

With the instep on the kick pedal and kick pedal play taken up, throw your weight down sharply on the pedal to start the engine.

**NOTE:** Be sure that the kick pedal is up before moving off.



## Ignition Switch

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

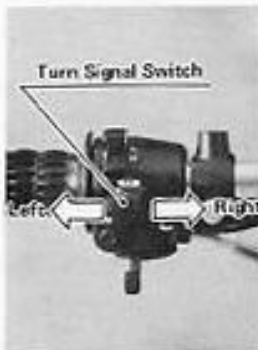
OFF	Engine off. All electrical circuits off. Key can be removed.
ON	Engine on. All electrical equipment can be used. Key cannot be removed.
PARK	Engine off. Tail light on. All other electrical circuits cut off. Key can be removed.



## Turn Signal Switch

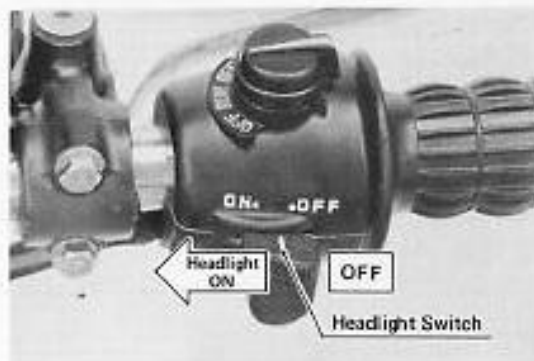
The turn signals are operated by the turn signal switch.

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



## Headlight Switch

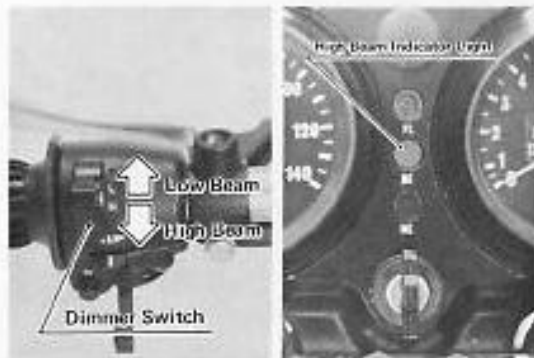
OFF	The headlight is off with the switch in the OFF position.
ON	The headlight and the tail light come on if the switch is pushed forward to the ON position with the ignition switch in the ON position.



## Dimmer Switch

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

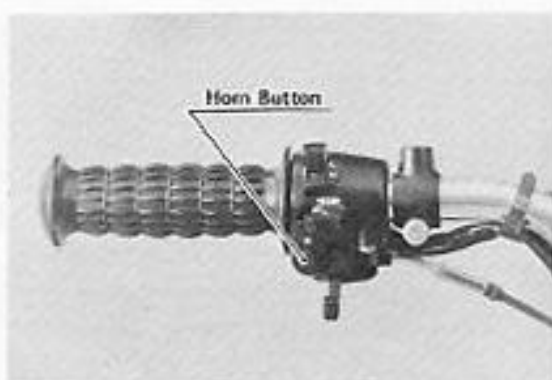
H.....High Beam, L.....Low Beam



## Horn Button

The horn is operated with the button located on the left side of the handlebar.

If the horn does not operate properly, check that the battery is good, and that the horn is mounted securely with nothing touching it. If the horn itself is at fault, it should be adjusted, repaired or replaced immediately.

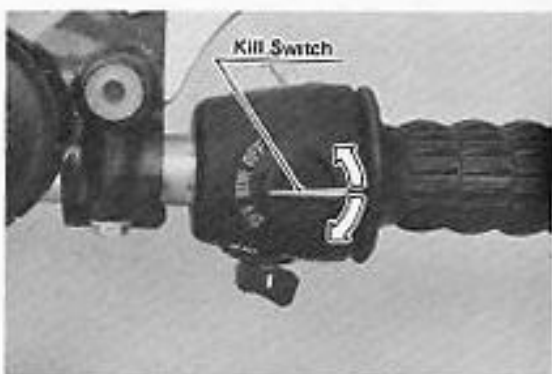


## Kill Switch

In addition to the ignition switch, the kill switch must be in the RUN position for the motorcycle to operate.

The kill switch is for emergency use. If the throttle sticks, or if some other emergency requires killing the engine, flick the kill switch to either of the OFF positions.

**Note:** Although the kill switch stops the engine, it does not turn off all the electrical circuits. Ordinarily, the ignition switch should be used to stop the engine.



## Starter Lever

The starter lever on the left side of the handlebar provides a rich mixture when the engine is cold.

Keep it pushed in until the engine is warm, and then release it.

## Stands

This motorcycle is equipped with two stands:  
• a center stand, and a side stand.

Whenever the side stand is used, make it a firm practice to kick the stand fully up before sitting on the motorcycle. Forgetting and leaving the side stand down while riding could cause an accident.

To set the motorcycle up on the center stand, step down firmly on the stand and then lift the motorcycle up and to the rear using the chrome bar as a handhold. Don't pull up on the seat to lift it, as this will only damage the seat.



## Fuel Tank Cap

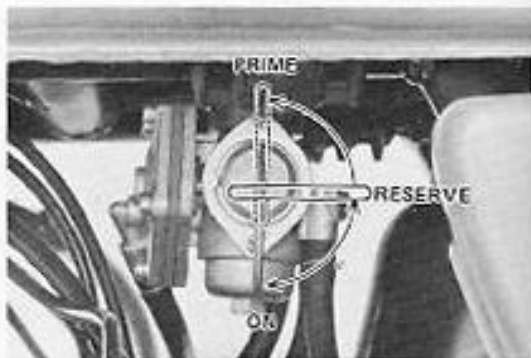
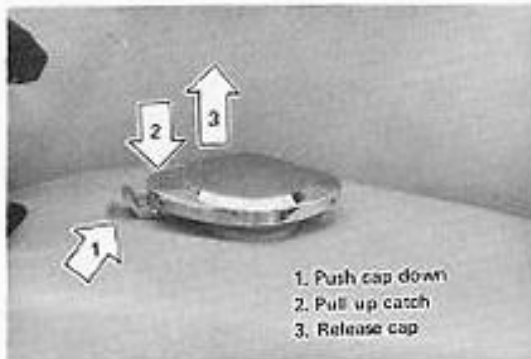
To open the fuel tank cap push the cap down, pull up on the catch, and release the cap. To avoid damaging the cap when closing it, first lift up the catch, then push the cap down, release the catch, and last release the cap.

## Fuel Tap

The fuel tap is an automatic type which shuts off the fuel supply when the engine is stopped.

In the ON position, the tap allows gasoline flow until a  $\frac{1}{4}$  U.S. gallon ( 1 liter) reserve remains. By turning the tap to RES the remaining gasoline can be used until the tank is empty.


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



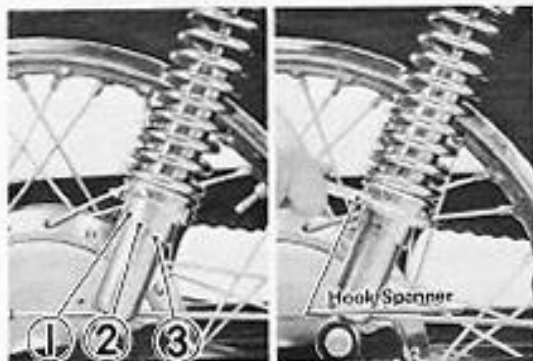
## Rear Shock Absorbers

The rear shocks have 3-positions so that the shocks can be adjusted for different road and loading conditions.

If the dampening action feels too soft or too stiff, adjust in accordance with the following table:

Position	1	2	3
Tension	Stronger 		

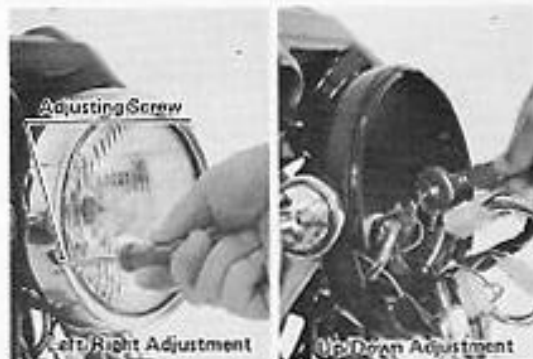
**Note:** Always adjust both shock absorbers to the same position.



## Headlight Beam

Adjust the beam horizontally by turning the adjusting screw.

To adjust the beam vertically, remove both screws from the side of the headlight, loosen the mounting bolts, and move the headlight to the position desired.





## Speedometer and Tachometer

The speedometer shows the speed of the vehicle, while the tachometer shows the engine r.p.m. On the right side of the tachometer face is a portion called the red zone. Engine r.p.m. in the red zone is above maximum recommended engine speed and is also above the range for good performance. Engine r.p.m. should not be allowed to enter the red zone; operation in the red zone will over-stress the engine and may cause serious engine damage.



## Trip Meter and Odometer

In the lower part of the speedometer face is the trip meter, which shows the distance traveled since it was last reset to zero. The trip meter can be reset to zero by turning the reset knob clockwise. In the upper part of the speedometer face is the odometer. The odometer shows the total distance that the vehicle has been ridden.



## Key

This motorcycle has a combination key, which is used for the ignition switch, the steering lock and the seat lock.

## Indicator Lights

There are three indicator lights on the switch panel and one in the tachometer.

<b>NEU-TRAL</b>	When the gears are in neutral, the green indicator light is lit.
<b>TURN</b>	When the turn signal switch is turned on, the orange indicator light flashes on and off.
<b>HIGH BEAM</b>	When the headlight is on high beam, the blue indicator light is lit.
<b>STOP LAMP</b>	When this light flashes on and off, the brake light will not go on when a brake is applied because of a burned out bulb or some other break in the circuit.



**Note:** Brake Light Failure indicator goes on whenever one or both brakes are applied.

## Steering Lock

When the motorcycle is parked, the steering can be locked in the full right or full left position with the lock located under the headlight. To lock the steering, turn the handlebars to one side, turn the combination key to the left, push it in, turn it to the right and remove it.



## Seat Lock

The seat can be unlocked, using the combination key, and then swung open for checking the wiring, adding oil, securing the helmet to the motorcycle, or gaining access to the tools.

The seat is locked when pushed back into place.



## Helmet Hook

The helmet can be secured to the motorcycle by the helmet hooks located under the seat.



## Document Container

A receptacle for the owner's manual and any papers or documents that should be kept with the motorcycle is located on the bottom of the seat.



## Steering Oil Damper

The steering damper is used to make the steering and handlebar less sensitive to vibration and road surface irregularities during high speed conditions. During travel on bad roads or at low speeds, the steering damper should be loosened for better and more effortless handling.

The steering damper is adjustable in 7 steps, so that it can be matched to riding conditions. Turning the steering damper clockwise makes the steering less sensitive.



## Spare Fuses

Spare fuses are located inside the left side cover. If a fuse goes out during motorcycle operation, inspect the electrical system to determine the cause, and then replace the fuse.

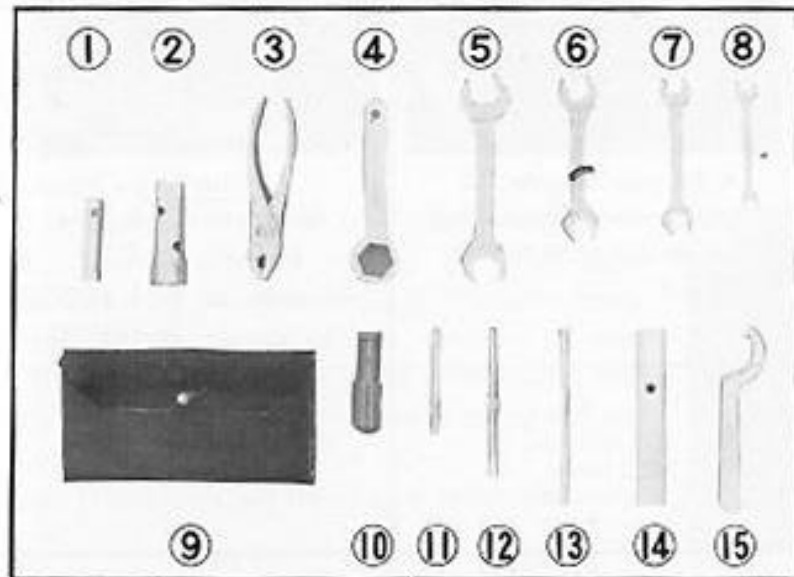
**NOTE:** •Do not use any substitute for the standard 20A fuse.

- A standard U.S. fuse will not fit the socket. Obtain spare fuses from your KAWASAKI Dealer.






## Tool Kit

The tool kit is located in the tool compartment above the rear fender. The minor adjustments and replacement of parts explained in this manual can be performed by these tools.



1. Socket 10 mm
2. Spark Plug Wrench  
17 x 21 mm
3. Pliers
4. Axle Wrench 27 mm
5. Open End Wrench  
19 x 22 mm
6. Open End Wrench  
14 x 17 mm
7. Open End Wrench  
12 x 13 mm
8. Open End Wrench  
8 x 10 mm
9. Tool Case
10. Screwdriver Handle
11. Phillips Bit
12. Phillips and Slot  
Combination Bit
13. Lever
14. Axle Wrench Extender
15. Hook Spanner

# //////////////////FUEL AND OIL//////////////////

Fuel	Engine Oil	Transmission Oil
 <p>Regular Gasoline</p>	 <p>A 2 Cycle Engine Oil which is recommended for air-cooled engines.</p>	 <p><u>Motor Oil</u>            Summer: SAE 30            Winter: SAE 20            All seasons: SAE 10W30 or 10W40</p>
<p>Entire Capacity 4.2 U.S.gal (16 liters)</p> <hr/> <p>Reserve Capacity ¼ U.S.gal (1 liter)</p>	<p>2.5 U.S. qt. (2.3 liters)</p>	<p>1.3 U.S. qt. (1.2 liter)</p>

## Fuel

The Kawasaki Superlube system is used in this motorcycle. This system eliminates the necessity for the owner himself to mix in oil with the gasoline. Use only regular gasoline in the fuel tank.

## Engine Oil

Do not use ordinary motor oil, transmission oil, or 2 cycle outboard engine oil as a replacement for the proper oil. The use of improper oil will lead to engine trouble.

### Adding oil

On the side of the oil tank there is a window for checking the oil level. 1.5ℓ (1.6 U.S. quart) of oil should be added when the level drops to the center of this window. Since mixing different brands of oil deteriorates the lubricative effect, oil of the same brand should always be added.

**CAUTION:** Never let the oil tank run completely dry.





## Transmission Oil

### 1) Oil Level

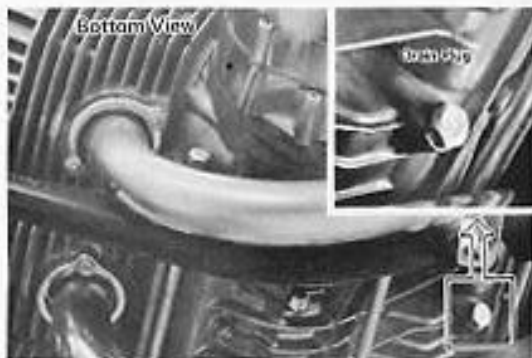
Check the oil level with the dipstick on the filler hole plug. When the motorcycle is standing vertically, and the dipstick is inserted into the hole and screwed in, the oil level should be between the upper and lower level marks on the stick.

### 2) Oil Change

After the first 500 mile (800 km) and 2,000 mile (3,000 km) oil changes, change the oil every 2,000 miles (3,000 km).

To change the oil:

- Warm up the engine thoroughly so that the oil will pick up any sediment and drain easily.
- Stop the engine, and remove the drain plug.
- Replace the plug and fill the transmission with 1.3 U.S. qt. (1.2 l) of motor oil.



## ////////////////////BREAKING IN////////////////////

The first 1,000 miles (1,600 km) 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 miles.

The table shows maximum recommended speed during break-in.

	Maximum engine speed
0~500 miles (0~800 km)	4,000 r.p.m.
500~1,000 miles (800~1,600 km)	6,000 r.p.m.

In addition to limiting engine r.p.m., the slow riding necessary during the break-in period may cause carbon to build up on the spark plug and foul it. If inspection of the spark plug shows this to be the case, replace the standard NGK B-9HS-10 plug with the hotter B-8HS for the duration of the break-in period. After break-in, be sure to re-install the standard plug.

See the simple inspection & adjustment section for additional spark plug information.

## 1. STARTING THE ENGINE

- Turn the fuel tap on:
- Make certain the kill switch is turned to RUN.
- Turn the ignition switch to the ON position.
- Make certain the gears are in neutral by seeing that the green neutral indicator light is lit.
- If the engine is cold, push the starter lever, leaving the throttle completely closed.
- Kick the engine over.
- Even after the engine starts, keep the starter lever pushed in. When the engine is warm enough to idle without the use of the starter lever, release the starter lever.

**Note:** ●When the engine is already warm or on hot days, open the throttle part way instead of using the starter lever. Then kick over the engine.

- If the engine is flooded, kick with the throttle fully open until the engine starts.



## **MOVING OFF**

- Check that the steering is unlocked and the side (kick) stand is up.
- Pull in the clutch lever.
- Shift into 1st gear.
- Open the throttle a little, and start to let out on the clutch lever very slowly.
- As the clutch starts to engage, open the throttle a little more, giving the engine just enough fuel to keep it from stalling.

## **SHIFTING GEARS**

1. Close the throttle while pulling in the clutch lever at the same time.
2. Shift into the next higher or lower gear.
3. Open the throttle part way, and release the clutch lever.

**CAUTION:** When shifting down to a lower gear, do not shift at such a high speed that the engine is suddenly jerked into high r.p.m. or into the red zone. Not only can this cause engine damage, but the rear wheel may skid and cause an accident. Downshifting should be done below 5,000 r.p.m. 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 in order to stop 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. On a curve or when turning a corner it is better not to brake at all, but if this is unavoidable, use only the rear brake.
- For emergency stopping, disregard the clutch and gears, and concentrate on applying the brakes as hard as possible without skidding.

## STOPPING THE ENGINE

- Close the throttle completely.
- Shift the gears into neutral.
- Turn the ignition switch off, or if only stopping for a short time on the road at night, turn it to "Park".
- Close the fuel tap.
- Lock the steering.
- To stop the engine in an emergency, such as in the case of throttle failure, turn the kill switch to either OFF position. Turn off the ignition switch after stopping the motorcycle.

## 1. Safe Riding Technique

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

For safety, eye protection and a helmet are strongly recommended. Gloves and suitable footwear should also be used for added protection in case of a mishap.

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

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

When going down long slopes, rely principally on the engine brake. Use the front and rear brakes for auxiliary braking.

On rainy days, rely more on the engine brake and less on the front and rear brakes. The engine brake should also be used judiciously to avoid locking the rear wheel.

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.

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

On rough roads, exercise caution, reduce speed, and grip the fuel tank with the knees when necessary for better stability.

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

Do not over downshift or downshift at too high a r.p.m. to avoid damage the engine from overrevving.



## Daily Safety Checks

In order to ride more enjoyably and more safely, the daily safety checks 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
Engine Oil .....	Engine oil level sufficient (See pg. 31, )
Transmission Oil .....	Transmission oil level correct (See pg. 32, )
Tires .....	Check for wear, cracks and other damage (See pg. 51, ) Air pressure: front 26 psi ( 1.8 kg/cm <sup>2</sup> ) rear 31 psi ( 2.2 kg/cm <sup>2</sup> )
Spokes & Rim .....	Tighten any loose spokes (See pg. 50, )
Drive Chain .....	Check overall condition; chain slack 5/8 to 3/4 in. (15~20 mm); oil as necessary (See pg. 52, )
Battery .....	Electrolyte level above the low mark (See pg. 63, )
Bolts & Nuts .....	Tighten any loose bolts and nuts (See pg. 72 )
Front Brake .....	Brake lever play less than 3/16 in. (5 mm); fluid up to level line; no damage to brake line or fittings (See pg. 45 )

Clutch .....	Clutch lever play about $\frac{1}{16}$ to $\frac{1}{8}$ in. (2~3 mm); releases properly, no slippage (See pg. 49 )
Rear Brake .....	Brake pedal play $\frac{3}{4}$ to 1 $\frac{1}{4}$ in. (20~30 mm); when pedal fully applied, indicator position within "USABLE RANGE"; brake light functioning properly (See pg. 46 )
Throttle Grip.....	Throttle grip play correct (See pg. 55 )
Steering .....	Check that the steering turns freely but has no play (See pg. 48 )
Front Forks .....	When pushing down on the handlebars with the front brake fully applied, front forks functioning properly; no oil leakage (See pg. 54 )
Rear Shock Absorbers .....	Function properly, no oil leakage (See pg. 55 )
Electrical Equipment .....	Check that the headlight, tail/brake light, turn signals and horn work
Engine .....	No abnormal engine noise (See pg. 56 )

If any irregularities are found during the above checks, refer to the Simple Inspection and Adjustment Section to make the corrections necessary for safe operation.

## **Additional Considerations for High Speed Operation**

<b>Brakes</b>	The importance of the brakes, especially at high speed operation, cannot be overemphasized. Check to see that they are correctly adjusted and functioning properly.
<b>Steering</b>	Looseness in the steering can cause loss of control. Check to see that the handlebars turn freely but have no play.
<b>Tires</b>	High speed operation is hard on tires, and good tires are crucial for riding safety. Examine their overall condition, inflate to the proper pressure, and check the wheel balance.
<b>Spark Plug</b>	The standard plug is NGK B-9HS-10 but for prolonged high speed operation, use the next higher heat range B-10H-10.
<b>Gasoline</b>	Have sufficient fuel for the high fuel consumption during high speed operation.
<b>Transmission Oil</b>	To avoid transmission seizure, make certain the oil level is at the upper level mark.
<b>Engine Oil</b>	Top up the oil tank.
<b>Electrical Equipment</b>	Make certain that the headlight, tail light, turn signals, horn, etc. all work properly.
<b>Miscellaneous</b>	Make certain that all nuts and bolts are tight and that all safety related parts are in good condition.

The inspections and adjustments outlined in this section are easily carried out and must be done in accordance with the Periodic Maintenance Chart to keep the motorcycle in good running condition. Some of these are so important that you should make a habit of checking them frequently or daily as in the case of the daily safety checks.

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

Please note that Kawasaki can't assume any responsibility for damage resulting from incorrect inspection or improper adjustment done by the owner.

# PERIODIC MAINTENANCE CHART

Operation \ Frequency	Initial 500 miles (800 km)	Initial 2,000 miles (3,000 km)	Every 2,000 miles (3,000 km)	Every 4,000 miles (6,000 km)
Change transmission oil	●	●	●	
Adjust brakes	●	●	●	
Adjust drive chain	●	●	●	
Check, adjust clutch mechanism	●	●	●	
Check, adjust carburetor and oil pump	●	●	●	
Check, tighten spokes, bolts and nuts	●	●	●	
Clean and oil air cleaner element		●	●	
Decarbon exhaust system		●	●	
Check ignition timing		●	●	
Lubricate motorcycle		●	●	
Check tire wear		●	●	
Check drive chain wear			●	
Clean fuel lines			●	
Check steering play				●
Lubricate drive chain	Every 200 miles (300 km)			
Clean, set spark plug	Every 500 miles (800 km)			
Change air cleaner element	Every 6,000 miles (10,000 km)			
Change front fork oil	Every 6,000 miles (10,000 km)			
Change brake fluid	Every 1 year or 6,000 miles (10,000 km)			

## Front Brake Adjustment

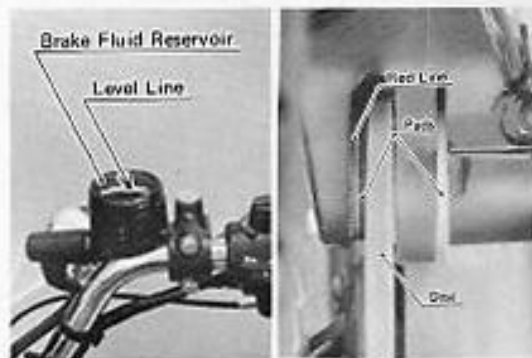
The disc brake used on the front wheel is self adjusting except for hand lever play, which does not affect brake operation. Loosen the lock nut, turn the adjusting bolt slightly to set lever play to less than  $\frac{3}{16}$  inch (5 mm), and tighten the lock nut.

If the brake lever comes close to the handlebar when it is applied, or if it feels mushy, there might be air in the brake lines or the brake may be defective. It is dangerous to operate the motorcycle under such conditions. Have the brake checked immediately.

### Disc Brake Fluid

The disc brake fluid must be kept filled up to the line inside the reservoir, using one of the recommended types of disc brake fluid. If none of the recommended brake fluids are available, use extra-heavy-duty brake fluid only from a container marked D.O.T.3 or.

The fluid should be completely changed after one year or 6,000 miles (10,000 km), whichever comes first. It should also be changed if it



becomes contaminated with dirt or water.

The brake pads must be replaced when they are worn down through the red line.

**Note:** Except for adding fluid and adjusting hand lever play, disc brake maintenance should be performed only by a Kawasaki Dealer.

## Rear Brake Adjustment

First set the brake pedal to a comfortable position by loosening the lock nut and turning the adjuster bolt. Then adjust pedal play.

Turn the brake adjusting nut so the rear brake pedal has  $\frac{3}{4}$  to  $1\frac{1}{4}$  in. (20~30 mm) of travel from the rest position to the fully applied position. Next adjust the brake light switch.

**CAUTION:** If the brake lining wear indicator does not point within **USABLE RANGE** when the brake is fully applied, the brake shoe linings have worn past the service limit. In such case, the brake shoes must be replaced and the drum and other brake parts examined.

### Recommended Disc Brake Fluid

Atlas Extra Heavy Duty  
Shell Super Heavy Duty  
Texaco Super Heavy Duty  
Wagner Lockheed Heavy Duty  
Girling Amber

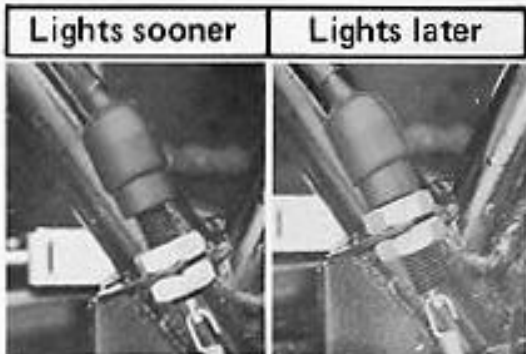


## Brake Light Switch Adjustment

The rear brake light switch must turn on the brake light after about  $\frac{5}{8}$  inch (15 mm) of brake pedal movement.

Adjust it by loosening the two mounting nuts, moving the switch up or down, and re-tightening the mounting nuts to that position.

The brake light will also light when the front brake is applied, but as the front brake light switch is a pressure switch, adjustment is unnecessary.





## Steering Inspection & Adjustment

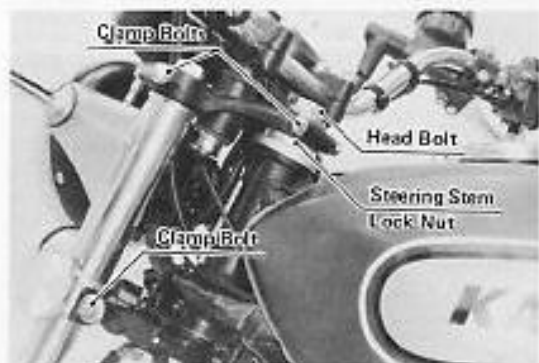
### Inspection

To check for correct steering adjustment, first place a stand or blocks under the engine to lift the front wheel off the ground. Push the handlebars lightly to either side. If they will continue moving under their own momentum, the steering is not adjusted too tight.

Squatting in front of the motorcycle, grasp both ends of the axle and shake it back and forth. If no play is felt, the steering is not too loose.

### Adjustment

Steering adjustment can be made by loosening the stem head bolt, the one clamp bolt and the 2 lower clamp bolts, and then turning the steering stem lock nut with a hook spanner. After the steering has been loosened or tightened the proper amount, retighten the 4 bolts.

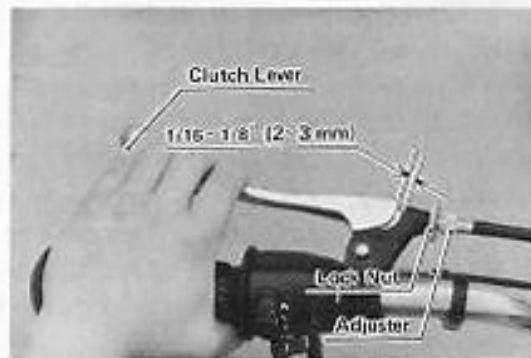


## Clutch Adjustment

Due to the friction plates wearing and the clutch cable stretching over a long period of use, the clutch must be adjusted every 2,000 miles (3,000 km).

- Screw in the adjuster at the clutch lever to give the cable play.
- After removing the chain cover, loosen the clutch release lever lock nut, and back out the adjusting screw a couple of turns.
- Set the clutch release lever angle at about  $80^{\circ}$  by turning the adjusting nut.
- Screw in the adjusting screw so that the clutch lever has about  $\frac{1}{16}$  to  $\frac{1}{8}$  in. (2~3 mm) of play, and tighten the clutch release lever lock nut.
- Replace the chain cover.

Note: For minor correction while riding, use the adjuster at the clutch lever.



## Wheel Inspection

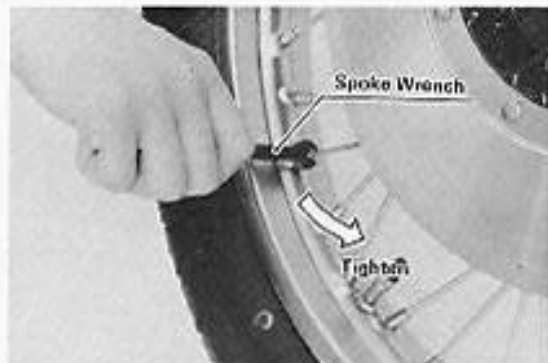
### Wheel Balance

An unbalanced wheel will cause the vehicle to vibrate or the steering to wobble, especially at high speeds. Since wheel balance greatly affects motorcycle safety, have the wheels inspected at a Kawasaki Dealer whenever abnormal handling is experienced during riding. Also, have the wheel balance inspected whenever a new tire is fitted.

### Spokes & Rim

Spoke tightness should be inspected every 2,000 mile (3,000 km).

The rim axial runout should be under .012 in. (3 mm), and the rim radial runout should be under .008 in. (2 mm). A certain amount of runout (warp) can be corrected by re-centering the rim, i.e., loosen some spokes and tighten others to change the positions of different parts of the rim. If the rim is badly warped however, it should be replaced.

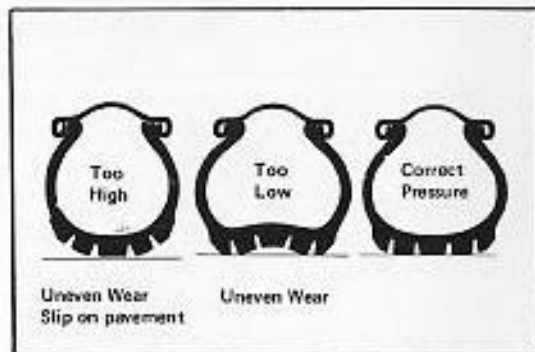


## Tires

Abnormally high or low tire air pressure has a bad effect on stability and handling, and shortens tire life. Check tire pressure often.

For continuous high speed riding such as racing, front and rear tire air pressure should be increased 3 to 6 psi (0.2 to 0.4 kg/cm<sup>2</sup>).

Replace the tires when they have worn down to the minimum allowable tread depth.



	Front	Rear
Brand	Dunlop	Dunlop
Type	F6B	K87 MKII-M
Tire Size	3.25H-19 4PR	4.00H-18 4PR
Air Pressure (cold)	26 psi (1.8 kg/cm <sup>2</sup> )	31 psi (2.2 kg/cm <sup>2</sup> )
Minimum Tread Depth	0.04 in. (1 mm)	0.08 in. (2 mm)

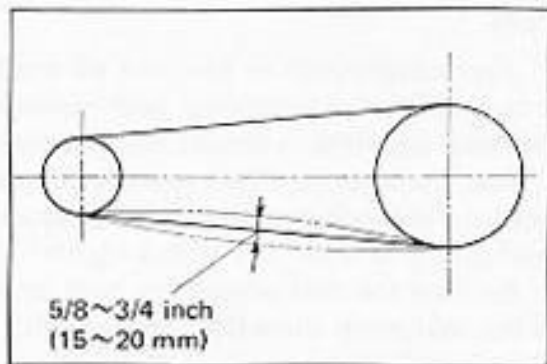
## Drive Chain Inspection & Adjustment

The drive chain must be kept properly adjusted for safety and prevention of excess wear. If the chain becomes badly worn or maladjusted — either too loose or too tight —, the chain could jump off the sprockets or break. A jumped or broken chain could snag on the engine sprocket or lock the rear wheel, severely damaging the motorcycle and possibly causing it to go out of control.

### Inspection

With the motorcycle on its side stand, move the drive chain up and down to see if the vertical movement at its greatest point is  $\frac{5}{8} \sim \frac{3}{4}$  inch (15~20 mm). If the chain is too loose or too tight, it must be adjusted. In addition to checking the slack, rotate the rear wheel to check the overall condition of the chain.

**Note:** To minimize chain wear, the chain should be lubricated at least every 200 miles (300 km), after riding in rain, and after washing the vehicle.

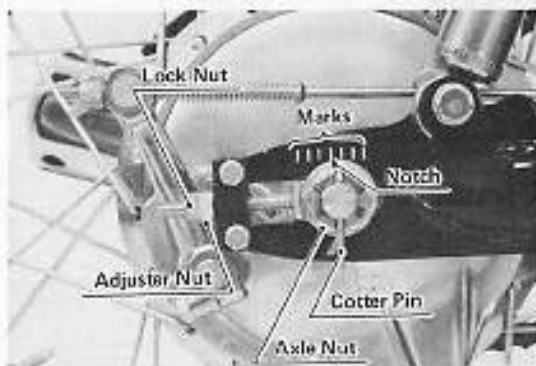
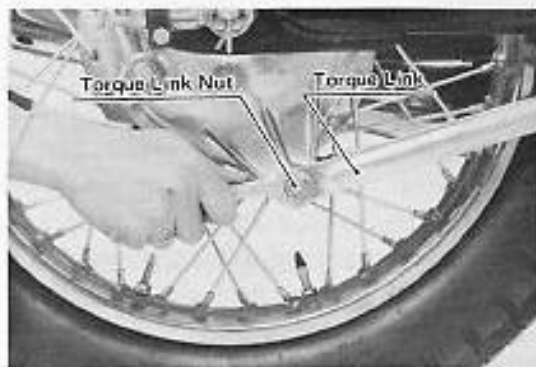


## Adjustment

- Loosen the torque link nut and both chain adjuster lock nuts.
- Remove the cotter pin and loosen the rear axle nut.
- Screw in the chain adjuster nuts until the proper chain slack is attained. To keep the chain and the wheel properly aligned, the notch in the left chain adjuster must come to the same swing arm mark that the right chain adjuster notch comes to.
- Tighten the axle and torque link nuts, and replace the cotter pin.

• Tighten the chain adjuster lock nuts.

Note: After chain adjustment, check the rear brake and brake light adjustments, which may have been altered by chain adjustment.



## Front Fork Maintenance

Due to the oil deteriorating with use, the oil in the front forks should be completely changed every 6,000 miles (10,000 km).

- Drain the oil by removing the screw at the lower end of each fork, pumping the forks as necessary to completely drain the oil.
- Replace the drain screws, and remove the fork top bolts after loosening the upper clamp bolts.
- Each fork should be refilled with 5.75 oz. (170 cc) of good quality SAE 10W oil. With no weight on the front wheel, the oil level should come to approximately 14.97 in. (380 mm) from the top of the tubes.
- Replace the fork top bolts.
- Make sure that both left and right inner tubes are at the same level. Tighten the two upper clamp bolts.



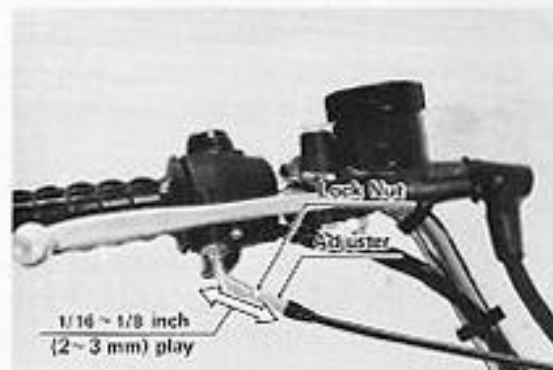
## Rear Shock Absorber Maintenance

Since the rear shock absorbers are sealed units and cannot be disassembled, only external checks of operation are necessary. With the shocks removed, compress each one and see that the compression stroke is smooth and that there is damping besides spring resistance to compression. When the unit is released, the spring should not suddenly snap it to full length. It should extend smoothly with notable damping. There should be no oil leakage. If either of the shock absorbers is not satisfactory, or if one seems weaker than the other, replace both shock absorbers as a set.

## Throttle Grip Play Adjustment

Check that the throttle grip has a  $\frac{1}{16} \sim \frac{1}{8}$  in. (2~3 mm) of play and twists smoothly.

If there is excessive or insufficient play, adjust the throttle grip play with the adjuster.





## **Abnormal Engine Noise Inspection**

### **1. Cylinder**

A slapping or other abnormal noise from the cylinder generally indicates piston or piston ring wear. Such noise can also be caused by connecting rod small end wear.

### **2. Crankcase**

Abnormal noise from the crankcase may be caused by worn gears, bushes, and bearings in the transmission. Besides the transmission itself, the abnormal noise may be due to main bearing or connecting rod big end wear.

### **3. Clutch**

Abnormal noise from around the clutch may be due to gear backlash, gear damage, or excessive clearance resulting from wear between the clutch housing and clutch plate tabs.

See your Kawasaki Dealer upon noticing abnormal engine, crankcase, or clutch noise, all of which indicate a serious condition requiring immediate servicing.

## Spark Plug Maintenance

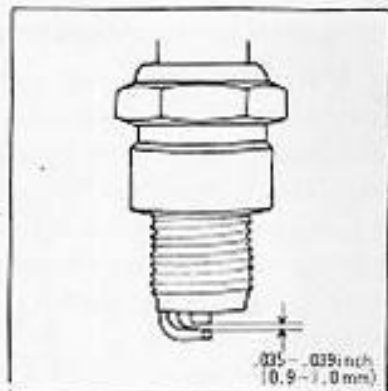
The standard spark plug is a NGK B-9HS-10. It should have a .035~.039 in. (0.9~1.0 mm) gap, and be tightened with 18.5~21.5 ft·lbs (2.5~3.0 kg·m) of torque.

### Maintenance

The spark plug should be taken out every 500 miles (800 km) for cleaning and to reset the gap. If the plug is oily or has carbon built up on it, have it cleaned preferably in a sand-blasting device, and then clean off any abrasive particles. The plug may also be cleaned using gasoline 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.

### Heat Range

To find out whether the right temperature plug is being used, pull it out and examine the ceramic insulator around the electrode. If the ceramic is a light brown color, the spark plug is correctly matched to engine temperature. If the ceramic is burned white, the plug should be replaced with next colder type, NGK B-10H-10. If the ceramic is black, the plug should be replaced with next hotter type, NGK B-8HS.



## Ignition Timing Adjustment

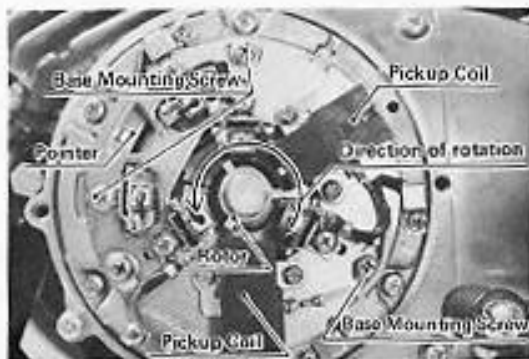
This motorcycle has a capacitor discharge ignition system, which has no moving parts. Although it is seldom necessary to adjust the ignition timing, it is recommended that the timing be adjusted by a Kawasaki Dealer should it become necessary. However, if a feeler gauge and a dial gauge are available, the timing may be adjusted as follows:

### Gap adjustment

For the timing itself to be accurately checked or adjusted, it is necessary for the signal generator pickup coils to be set to a distance of .020 ~ .030 inch (0.5 ~ 0.8 mm) from the projections on the rotor. Measure each gap with a feeler gauge. If either is incorrect, loosen the two coil mounting screws, set the gap to the proper value, and then tighten the screws.

### Timing adjustment

- Remove the left cylinder spark plug, and insert the dial gauge.



- Set the piston to .116 inch (2.94 mm) BTDC.
- If the pointer does not align with the "A" mark on the rotor, undo the pointer screw, set the pointer in the proper position, and then tighten the screw.
- Check to see if the timing is correct by aligning the "B" mark with the pointer and then seeing if the trailing edge of the lower rotor projection is poised directly over the leading edge of the projection of the lower pickup coil.
- If the timing is incorrect, loosen the three base mounting screws, and set the projection alignment by prying on the base plate pry points with a screwdriver.
- Recheck the pickup coil gaps.
- Use a strobe light to see if the "A" mark aligns with the pointer at 4,000 r.p.m.
- Readjust the timing if necessary.

**Note:** • If the lower pickup coil is correctly aligned with the lower rotor projection, then the right rotor and right coil projections should be likewise aligned without requiring further adjustment. However, if this is not the case, loosen the right pickup coil mounting screws, adjust the position of the coil, and then retighten the screws.

• The "A" & "B" refer to the letters in the illustration and do not appear on the vehicle itself.

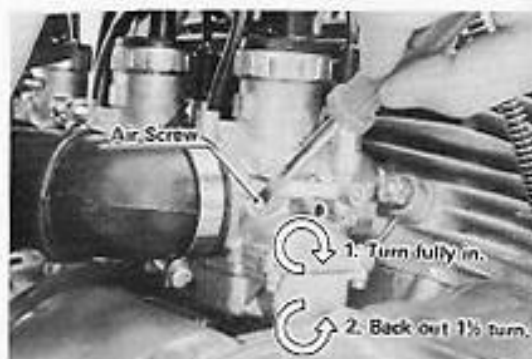


## Idle Speed Adjustment

Idle speed adjustment is carried out by the air screws and the throttle stop screws.

- First screw in the air screws fully, and back them out  $1\frac{1}{2}$  turn.
- After first thoroughly warming up the engine, turn the throttle stop screws to set the idle speed to the lowest stable speed obtainable, normally between 1,200 and 1,400 r.p.m.
- Listen to the exhaust noise, and place your hands behind the mufflers to feel the exhaust pressure.
- If there is a variation in noise or exhaust pressure among the cylinders, re-adjust the individual throttle stop screws to make combustion uniform.

**Note:** With the engine idling, turn the handlebars to either side. If handle movement changes idle speed, the throttle, carburetor or oil pump cables may be damaged, or the routing of the cables may be unsatisfactory.

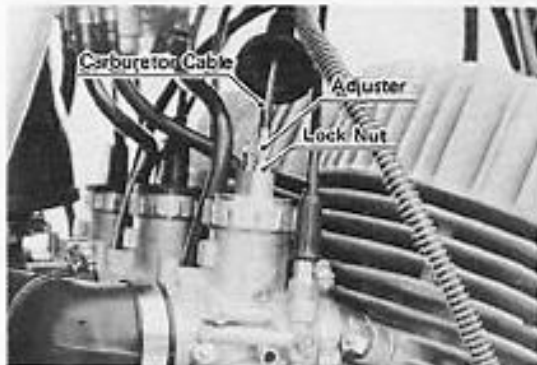


## Carburetor Cable Adjustment

Due to stretching of the carburetor cable, the throttle valve may not respond immediately to the opening of the throttle, and the oil pump flow may become too large at a given throttle opening. Check and adjust the carburetor every 2,000 miles (3,000 km).

- Screw in the throttle stop screws until the throttle valves are fully closed. Using the adjusters at the top of the carburetors, adjust all the play out of the outer sleeve of each cable.
- Check the throttle grip play.
- Check the oil pump adjustment.
- Adjust engine idle speed.

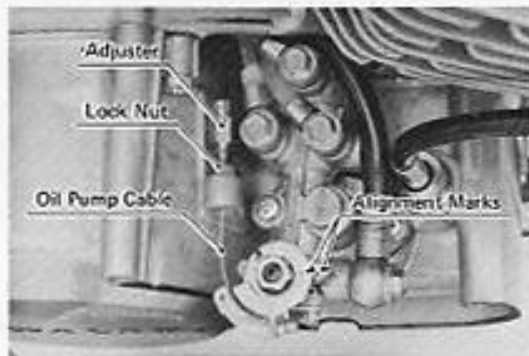
**Note:** After the idle adjustment is made, the carburetor cables will have a small amount of play. This is correct and should not be re-adjusted.



## Oil Pump Cable Adjustment

Due to stretching of the oil pump cable, the oil pump flow may become too low at a given throttle opening. Check and adjust the oil pump every 2,000 miles (3,000 km).

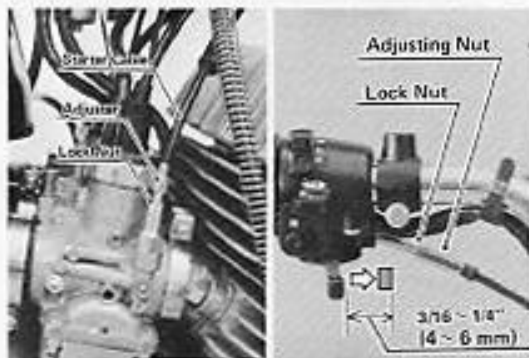
Check to see that the mark on the oil pump lever is aligned with the corresponding mark on the oil pump lever stopper. If it is not, turn the adjuster to line up the two marks.



## Starter Cable Adjustment

First turn the adjuster at the lower end of each starter cable so that the starter cables have less than  $\frac{1}{16}$  in. (1 mm) of play.

Then adjust the starter lever for about  $\frac{3}{16} \sim \frac{1}{4}$  in. (4~6 mm) of play measured at the end of the lever.

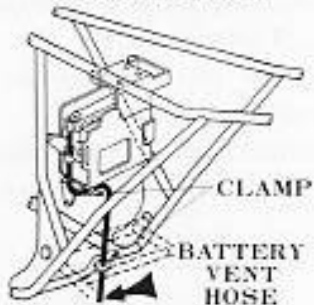


## Battery Inspection

- Keep the electrolyte level between the low and high marks. When it gets low, add only distilled water, filling it to the upper mark. Remember that the level must be checked for each of the cells since each cell is separate.
- Do not let the battery vent hose get folded or pinched, and route it away from the exhaust system.
- Keep the battery terminals clean, and put a light coat of grease on them to prevent corrosion.



## CAUTION





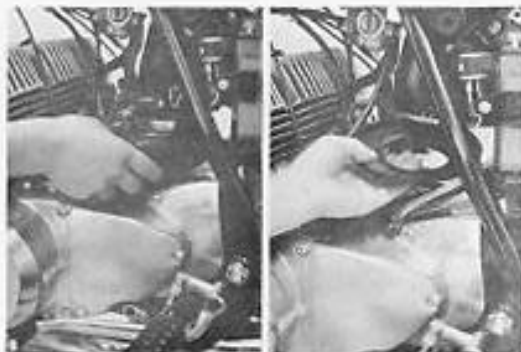
## Air Cleaner Maintenance

A clogged air cleaner restricts the engine's air intake, decreasing gas mileage and engine power, and causing the spark plug to foul.

The filter element must be cleaned at least every 2,000 miles (3,000 km). In dusty areas, the element should be cleaned every 500 miles (800 km) or less. After riding through rain or on muddy roads, the element should be cleaned immediately.

To remove the air cleaner for inspection and cleaning:

- ✧ Loosen the one large and three small clamps and pull off the air ducts.
- ✧ Unmount the left carburetor from the inlet pipe and move it aside.
- ✧ Remove the cleaner housing mounting bolt and pull out the housing and element together.



Clean the element by swishing it around in a bath of regular solvent. After the element is clean, dry it with compressed air or by shaking it.

After cleaning, apply a small amount of SAE 30 motor oil to the felt disc face of the element. Oil, however must not be applied to the main body of the element.

Replace the element after 6,000 miles (10,000 km), after cleaning it 5 times, or if it is damaged.

**CAUTION:** Clean the element in a well-ventilated area, and take ample care that there are no sparks or flame anywhere near the working area.

Because of the danger of highly flammable liquids, do not use gasoline or low flash point solvents to clean the element.



## Decarbonization

The exhaust system can fill up with carbon and other exhaust by-products over an extended period of operation, resulting in a drop in performance. Decarbonization of the following parts should be done every 2,000 miles (3,000 km).

### (1) Baffle Tube

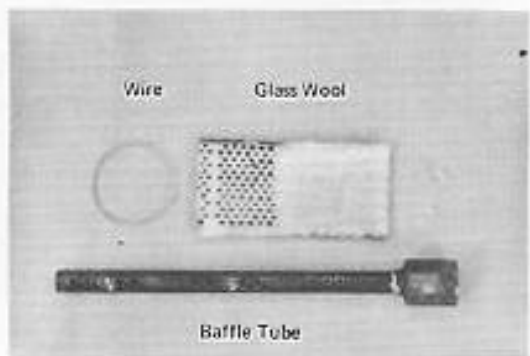
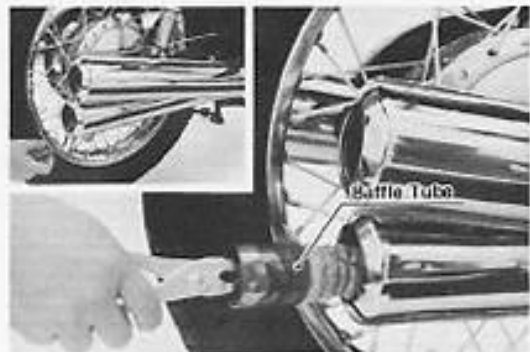
- Take out the bolt and pull the tube out with pliers.
- Clean the tube with a wire brush and by striking it gently, or by burning the carbon out.

### (2) Muffler

- Scrape off any carbon with a screwdriver.
- Knock loose carbon if necessary by dangling a chain inside the pipe.

### (3) Piston Head, Exhaust Port & Cylinder Head

- Scrape off any carbon with a screwdriver, being careful not to damage the piston or cylinder surfaces.



## Fuel System Cleaning

There are three places in the fuel system where water or sediment may collect: (1) the bottom of the fuel tank; (2) the fuel tap sediment cup; (3) the carburetor float bowl. Since the engine may fail to start or a loss of power may result from the water or dirt collected in these places, the fueling system should be cleaned out every 2,000 miles (3,000 km) in the following manner:

Turn the fuel tap lever to **ON**, and unscrew the sediment cup from the bottom of the fuel tap. Clean the cup and the strainer. Remove the main jet holder, and drain out the water and sediment.

Turn the fuel tap to **PRI** and drain any water that may be in the tank until only gasoline comes out. Replace all removed parts, making sure the strainer and gasket are replaced in the proper order before screwing the fuel tap sediment cup back in.

**CAUTION:** Wipe any gasoline off the engine before starting it.

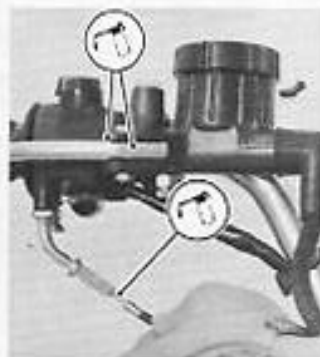
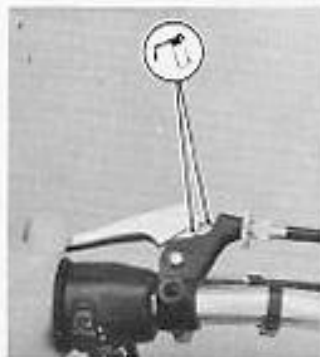


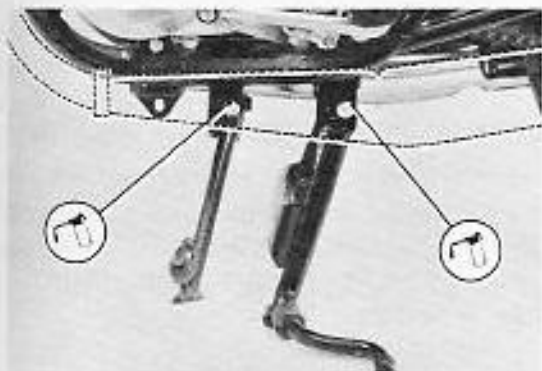
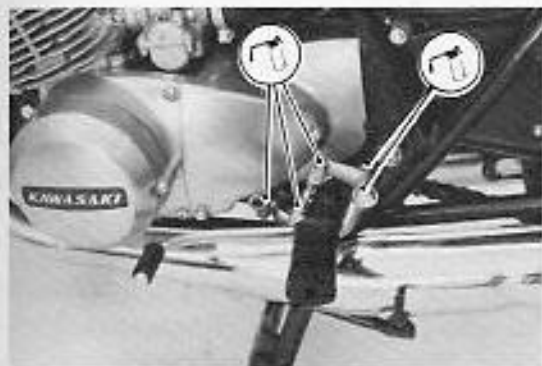
## LUBRICATION

In order to get maximum length of use from all parts, and to keep the motorcycle running safely, it must be kept properly lubricated.

Using SAE 30 motor oil, lubricate the points indicated whenever they are dry, after riding through rain, or after washing the motorcycle. Grease the places indicated with regular cup grease at least every 6 months or 2,000 miles (3,000 km).

After several thousand miles of service, in addition to the points shown here, other parts should be inspected and lubricated by a Kawasaki Dealer.





## 1) Preparation for washing

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

- Rear opening of the muffler .... Cover with a plastic bag 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 opening with tape, or stuff in rags.
- Speedometer ..... Cover the meter with tape.  
(Tachometer) (Be sure to remove these after washing.)

## 2) Where to be careful

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

- Brake drums  
If water gets inside the brake drums, the brakes will not function until they dry out. After washing, always test the brakes before taking the motorcycle out into traffic.
- Under the fuel tank and the seat  
If too much water gets into the ignition coil or into the spark plug cap, 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.

## ////////////////////// STORAGE ////////////////////////

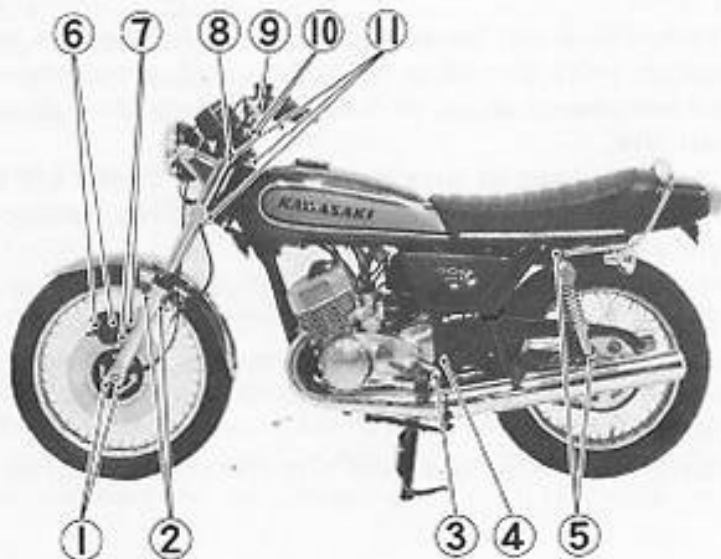
When the motorcycle is to be stored for any length of time, such as during the winter season, it should be prepared for storage as follows:

- Clean the entire vehicle thoroughly.
- Run the engine for about five minutes to warm the oil, and drain the transmission oil.
- Empty the gasoline from the fuel tank and from the carburetor. Sitting for a long period of time sours the gasoline, which then clogs the fuel tap and carburetor jets.
- Remove the spark plug and put several drops of SAE 30 oil into the cylinder.
- 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.
- 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.
- Put a cover over the motorcycle to keep dust and dirt from collecting on it.

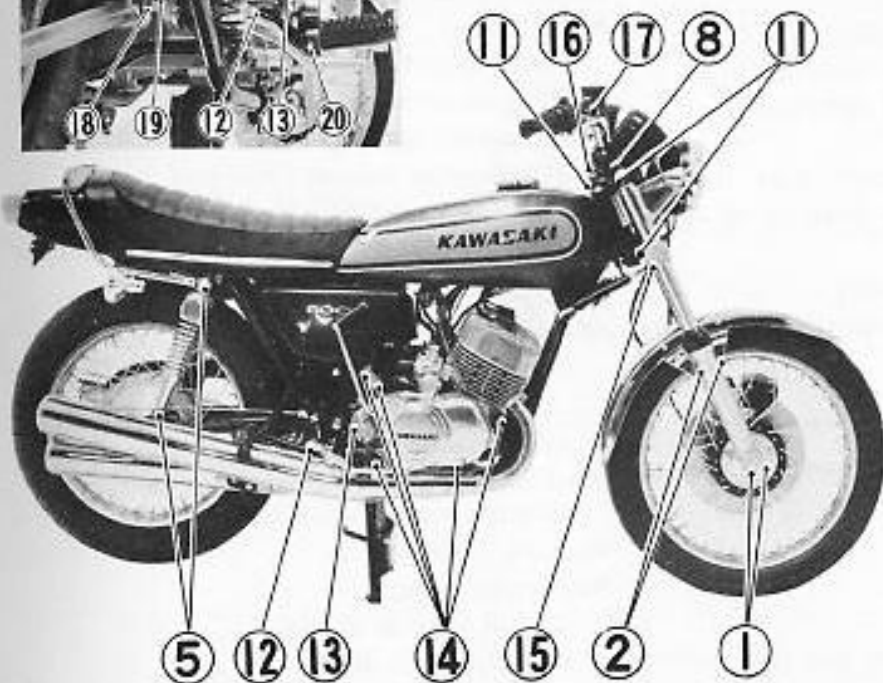


## \*\*\*\*\*BOLT & NUT TIGHTENING\*\*\*\*\*

Every day before riding, check without fail the tightness of the nuts and bolts described here. Also, check to see whether or not each cotter pin is in place and in good condition.



1. Front Axle Holder Mounting Nuts
2. Front Fender Mounting Bolts
3. Shift Pedal Bolt
4. Pivot Shaft Nut
5. Rear Shock Absorber Mounting Nuts
6. Allen-Head Shaft
7. Caliper Mounting Bolts
8. Fork Top Bolt
9. Clutch Lever Holder Mounting Bolt
10. Handlebar Holder Mounting Bolts
11. Steering Stem Clamp Bolts



- 12. Brake Pedal Mounting Nut
- 13. Kick Pedal Bolt
- 14. Engine Mounting Bolt
- 15. Steering Oil Damper Mounting Bolt
- 16. Steering Stem Head Bolt
- 17. Brake Lever Holder Mounting Bolt
- 18. Torque Link Nut
- 19. Cotter Pin (Torque Link)
- 20. Cotter Pin (Footrest)

## Engine doesn't start

- No gasoline in tank
- Gasoline not reaching carburetor
  - Fuel tap lever position incorrect
  - Fuel tap obstructed or defective
- Flooded
  - If the engine is flooded, kick it over with the throttle fully open to let more air in.
- Starter not working normally
  - Starter cable play maladjusted
  - Lever not returning
- Compression leakage
  - Spark plug loose
  - Cylinder head not sufficiently tightened down
- Spark plug not firing

## Engine stops

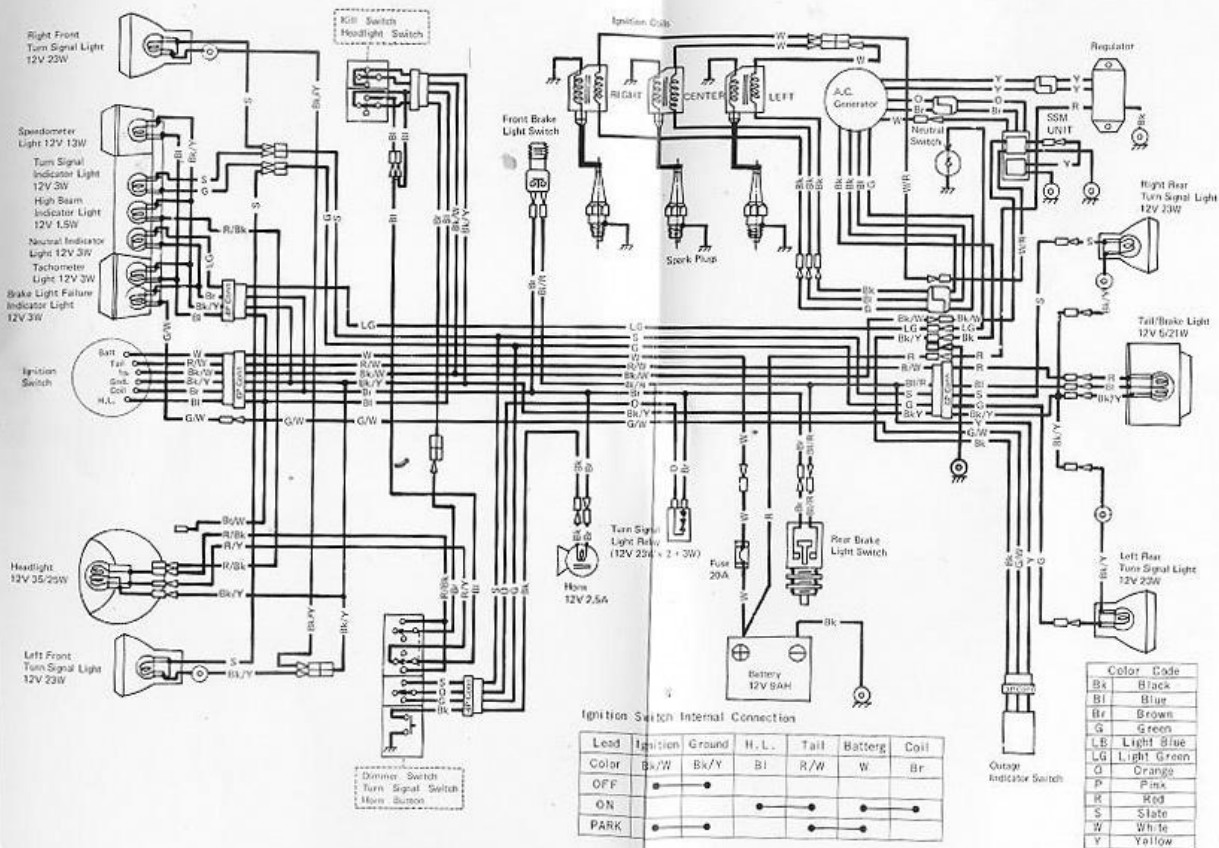
- No gasoline
- Fuel tap clogged or lever position wrong

- Fuel tank cap air vent obstructed
- Overheated
  - No engine oil
  - Transmission oil low
  - Incorrect spark plug
  - Carburetor adjusted too lean
  - Timing maladjusted
  - Carbon build up in combustion chamber

## No power

- Compression leakage
  - Spark plug loose
  - Cylinder head not sufficiently tightened down
- Clutch slipping
  - Clutch maladjusted or worn
- Timing maladjusted
- Incorrect firing
  - Spark plug defective
  - Ignition coil defective

# HI-E Wiring Diagram



**KAWASAKI**  
**HEAVY INDUSTRIES, LTD.**  
**MOTORCYCLE DIVISION**

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