KAWASAKI
HEAVY INDUSTRIES, LTD.
ENGINE AND MOTORCYCLE GROUP

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OWNER'S MANUAL

Kawasaki

90 MC1-B

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SPECIFICATIONS

PERFORMANCE	
Acceleration ss 1/8 mile (0~200 m)	12.3 sec
Climbing Ability	29°
Minimum Turning Radius	1.57 m (61.8 in)
Braking Distance	6.5 m @35 kph (21 ft @22 mph)
DIMENSIONS	
Overall Length	1,730 mm (68.1 in)
Overall Width	765 mm (30.1 in)
Overall Height	945 mm (37.2 in)
Wheelbase	1,100 mm (43.3 in)
Ground Clearance	160 mm (6.3 in)
Dry Weight	76 kg (168 lb)
ENGINE	
Type	2-stroke, single cylinder, rotary disc valve
Displacement	89 cc (5.43 cu in)
Bore x Stroke	47.0 x 51.8 mm (1.85 x 2.04 in)
Compression Ratio	6.8 : 1

Ignition System	Magneto
Ignition Timing	20°BTDC
Starting	Primary kick
Lubrication	Superlube (Oil injection)
Spark Plug	NGK B 7HS
Engine Oil	2-stroke oil
TRANSMISSION	
Type	5-speed, constant-mesh, return shift
Clutch	Wet, multi disc
Primary Reduction Ratio	3.52 (74/21)
Final Reduction Ratio	2.57 (36/14)
Overall Reduction Ratio	8.68
Gear Ratio: 1st	2.92 (35/12)
2nd	1.77 (30/17)
3rd	1.30 (26/20)
4th	1.09 (24/22)
5th	0.96 (23/24)
Transmission Oil	SAE 10W30 or 10W40 0.6 ℓ (0.63 US qt)

FRAME		
Castor		63°
Trail		74 mm (2.9 in)
Tire Size:	Front	2.50-16 4PR
	Rear	3.00-14 4PR
Fuel Tank Capacity		6 ℓ (1.6 US gal)
Oil Tank Capacity		1 ℓ (1.06 US qt)
ELECTRICAL EQUIPMENT		
Battery		6V 4AH
Headlight		6V 25/25W
Tail/Brake Light		6V 5.3/25W (3/23 CP)
Turn Signal Lights		6V 17W
Meter Light		6V 3W
Neutral Indicator Light		6V 3W
Turn Signal Indicator Light		6V 1.5W
High Beam Indicator Light		6V 1.5W
Fuse		10A

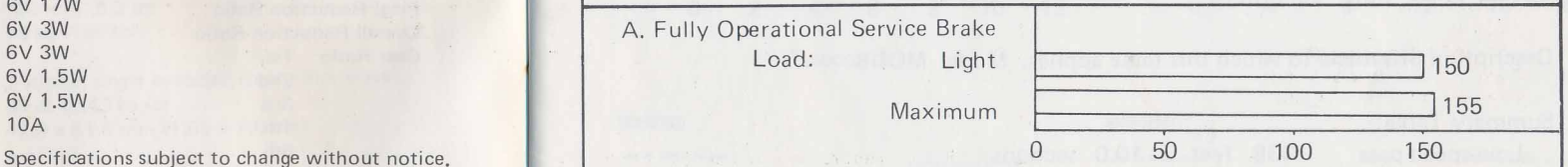
Specifications subject to change without notice.

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 MC1-B

A. Fully Operational Service Brake



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.

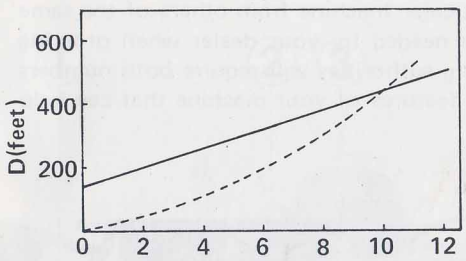
Description of vehicle to which this table applies. Model MC1-B

Summary Table:

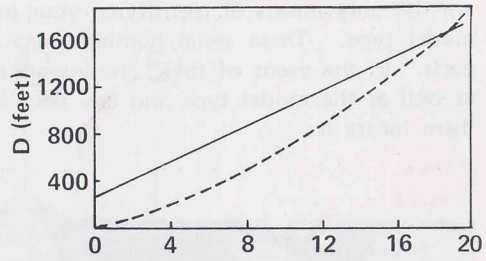
Low-speed pass	438	feet	10.0	seconds
High-speed pass	1,630	feet	18.8	seconds

Graphic Determination of Passing Time and Distance

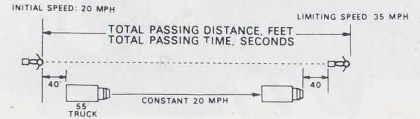
LOW–SPEED PASS:



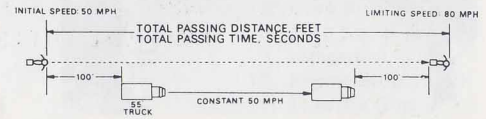
HIGH–SPEED PASS:



LOW-SPEED



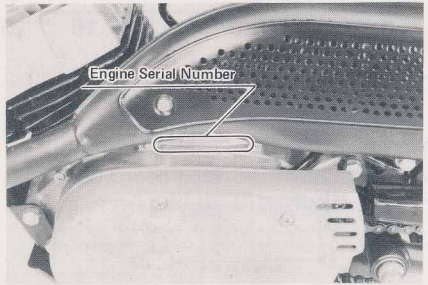
HIGH-SPEED

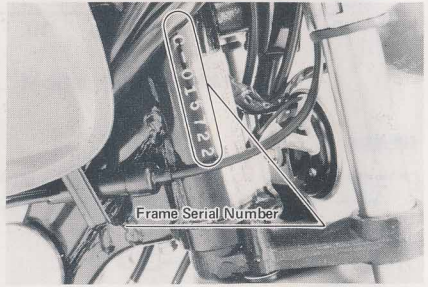


Lee Waldie Craig Scott Chris Koira

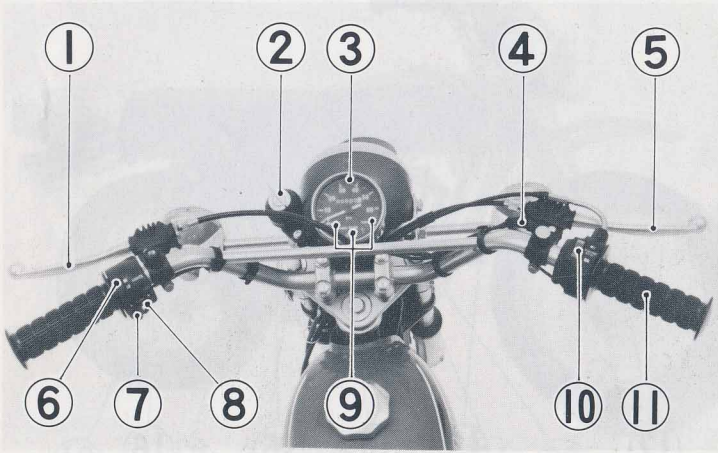
SERIAL NUMBER LOCATIONS

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 numbers may be needed by your dealer when ordering parts. In the event of theft, the investigating authorities will require both numbers as well as the model type and any peculiar features of your machine that can help them locate it.



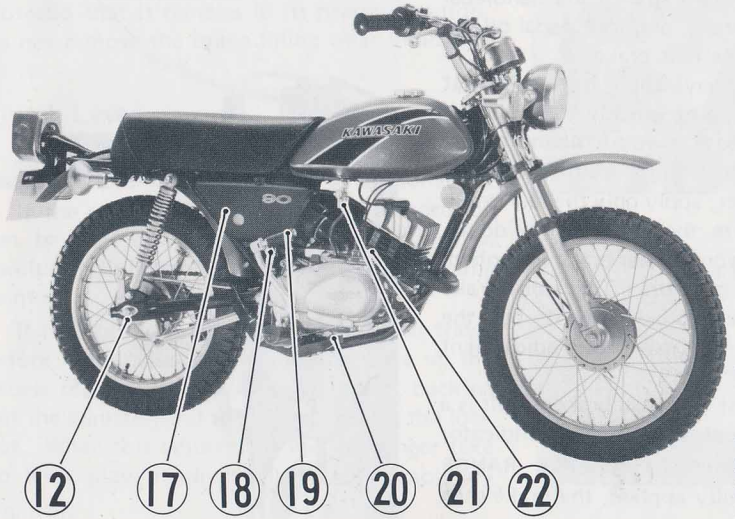


LOCATION OF PARTS



1. Clutch Lever
2. Ignition Switch
3. Speedometer
4. Front Brake Light Switch
5. Front Brake Lever
6. Dimmer Switch
7. Horn Button
8. Turn Signal Switch
9. Indicator Lights
10. Engine Stop Switch
11. Throttle Grip

12. Brake Lining Wear Indicator
13. Steering Lock
14. Shift Pedal
15. Side Stand
16. Rear Shock Absorber



17. Engine Oil Tank
18. Rear Brake Light Switch
19. Kick Starter Pedal
20. Rear Brake Pedal
21. Fuel Tap
22. Choke Knob

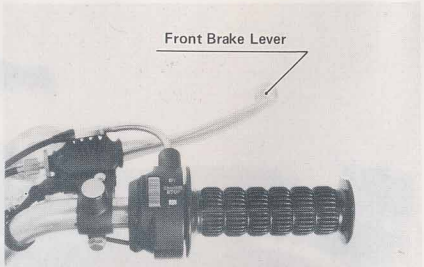
Brake Lever and Pedal

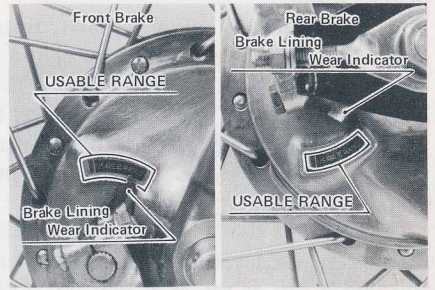
The lever on the right side of the handlebar operates the front brake, and foot pedal on the right side operates the rear brake.

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. Should braking become necessary when turning a corner, apply only the rear brake in order to minimize the danger of skidding.

When either the front or rear brake is applied, the tail brake light goes on. The front brake light switch requires no adjustment, but the rear brake light switch may need adjustment from time to time. *Lee Waldie Craig Scott Chris Koira*

On both the front and rear brake panels is a brake lining wear indicator. If the indicator does not point within the **USABLE RANGE** when the brake is fully applied, the brake shoe linings have worn past the service limit. When this happens, 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.



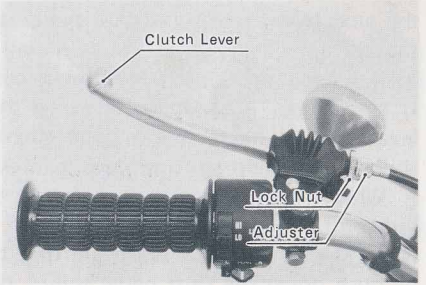


Clutch Lever

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

If the clutch lever is pulled, the motorcycle can be started while still in any gear, but be careful to shift down to 1st gear before starting to move.

If the clutch lever develops too much travel before it will disengage the clutch, take up the 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 (Pg. 46).



Shift Pedal

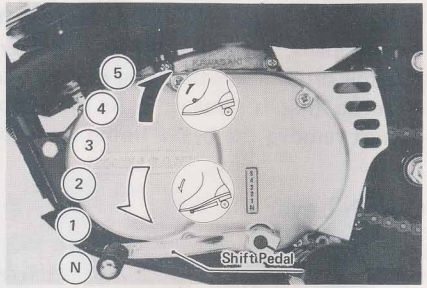
The transmission is a 5-speed, return-shift type. Neutral is at the bottom of the shifting range, and 5th gear is at the top.

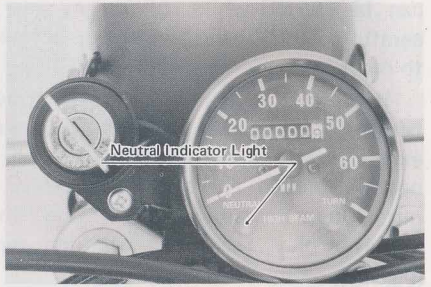
A "return shift" means that to go back to 1st gear from a higher gear, you must return the way you came, shifting back through the gears one by one.

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

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

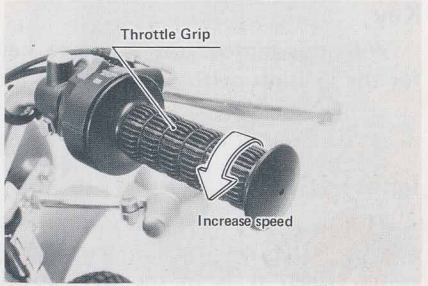
The right handlebar grip controls the throttle. Viewed from the right grip end, twisting it counterclockwise opens the throttle, which raises engine speed; twisting it clockwise closes the throttle, which lowers engine speed. Releasing it allows spring tension to return it to the closed position. The throttle grip should be adjusted to give it a sufficient but not excessive amount of play (Pg. 54).

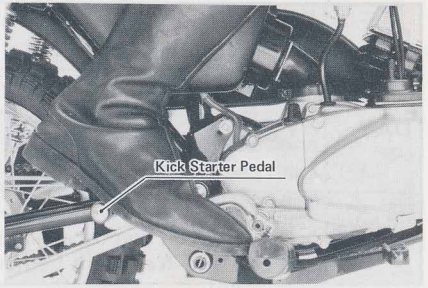
Kick Starter Pedal

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

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

CAUTION: Be sure that the kick starter pedal is up before moving off.





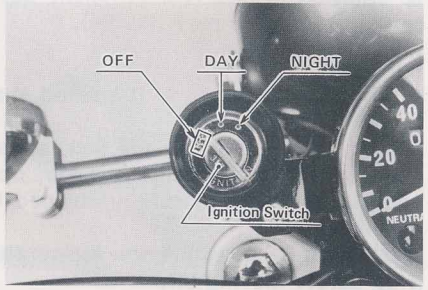
Key

With this motorcycle the same key is used for the ignition switch and steering lock.

Ignition Switch

This is a key-operated switch with 3 positions. The key can be removed from the switch when it is in the **OFF** position.

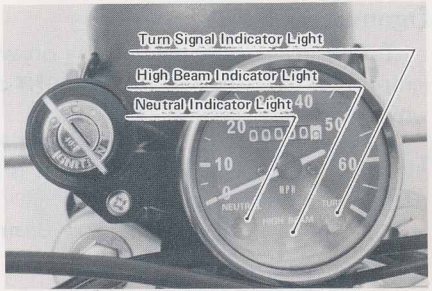
OFF	Engine off. All electrical circuits off. Key can be removed.
DAY	For starting and daytime use. All electrical equipment except head and tail lights can be used. Key can't be removed.
NIGHT	For night riding. Head and tail lights are on, and all electrical equipment can be used. Key can't be removed.



Indicator Lights

The speedometer has three indicator lights.

NEU–TRAL	When the gears are in neutral, the green indicator light is lit.
HIGH BEAM	When the headlight is on high beam, the red indicator light is lit.
TURN	When the turn signal switch is turned on, the orange indicator light flashes on and off.

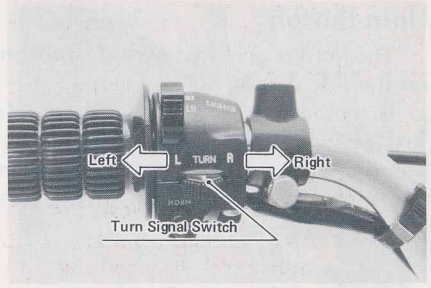


Turn Signal Switch

The turn signals are operated by the turn signal switch located on the left side of the handlebar. *Lee Waldie Craig Scott Chris Koira*

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

L.....Left R.....Right

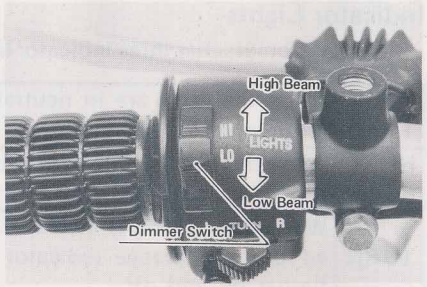


Dimmer Switch

The head and tail lights come on when the ignition switch is turned to the **NIGHT** position while the engine is running.

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

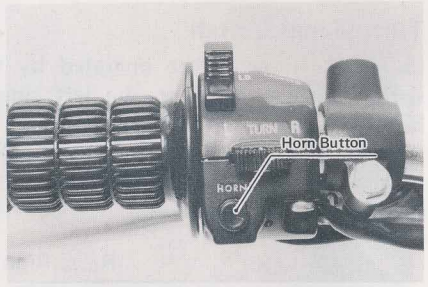
HI.....High Beam , LO.....Low Beam



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 or replaced immediately.

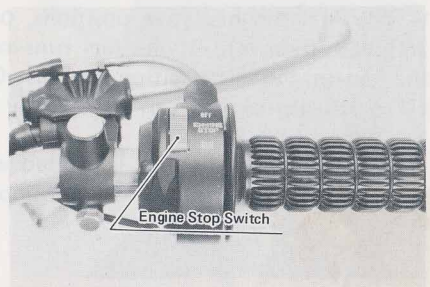


Engine Stop Switch

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

The engine stop switch is for emergency use. If the throttle sticks, or if some other emergency requires stopping the engine suddenly, flick the engine stop switch to the **OFF** position.

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



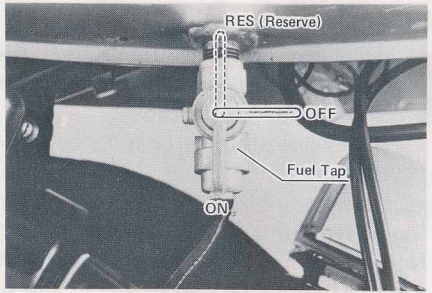
Choke Knob

The choke knob on the carburetor cap provides a rich mixture when the engine is cold. Keep it pulled up until the engine is warm, and then push it down.

Fuel Tap

The fuel tap has three positions, **OFF**, **ON** and **RES** (reserve). If the fuel runs out with the tap in the **ON** position, the last 0.7 liter (0.74 US qt.) of fuel can be used by turning the tap to **RES** (reserve).

Note: Since riding distance is limited when on **RES** (reserve), refuel at the earliest opportunity.

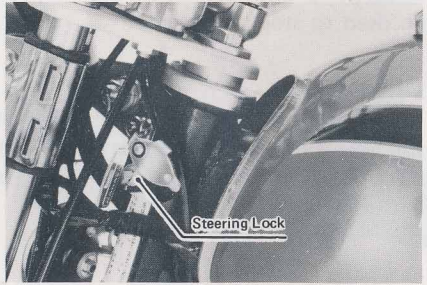


Steering Lock

The steering can be locked when the motorcycle is parked. *Anne Riley*

To lock the steering:

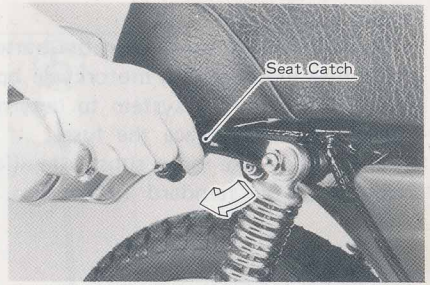
1. Turn the handlebar to the right.
2. Insert the key.
3. Turn the key to the left.
4. Push the key in, and turn it to the right.
5. Pull the key out.



Seat

The seat can be removed easily for inspection of the wiring or to gain access to the battery or the tool kit.

To remove the seat, first release both the right and left seat catches that hook the rear of the seat to the frame, and then pull up on the rear of the seat.



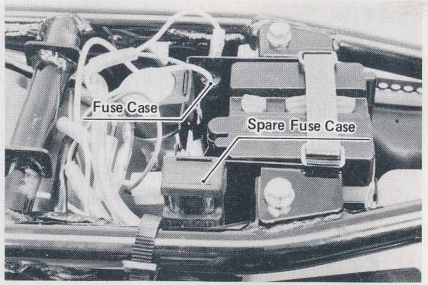
Document Container

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

Spare Fuses

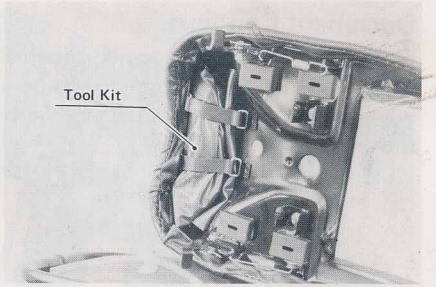
Spare fuses are located on the battery case. If the fuse blows during motorcycle operation, inspect the electrical system to determine the cause, and then replace the fuse.

Note: Do not use any substitute (larger or smaller) for the standard 10A fuse.

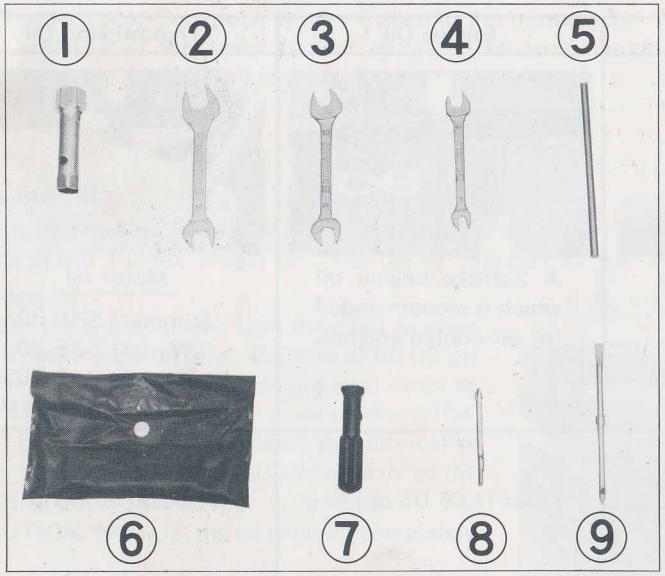


Tool Kit

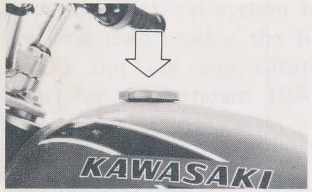
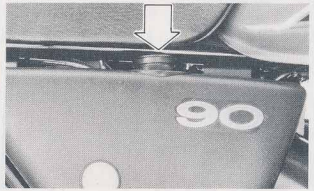
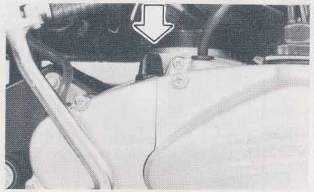
The tool kit is located under the seat. The minor adjustments and replacement of parts explained in this manual can be made with these tools.



Tool Kit



1. Spark Plug Wrench
2. Open End Wrench 14 x 17 mm
3. Open End Wrench 12 x 13 mm
4. Open End Wrench 8 x 10 mm
5. Lever
6. Tool Case
7. Screwdriver Grip
8. Phillips Bit
9. Phillips and Slot Combination Bit

Fuel	Engine Oil	Transmission Oil
 Non-leaded gasoline	 A 2-stroke engine oil which is recommended for air-cooled engines.	 Motor oil Summer: SAE 30 Winter: SAE 20 All seasons: SAE 10W30 or 10W40
Entire capacity: 6 liters (1.6 US gal.) Reserve capacity: 0.7 liter (0.74 US qt.)	1 liter (1.06 US qt.)	0.6 liter (0.63 US qt.)

Fuel

The Kawasaki Superlube system is used in this motorcycle. This system eliminates the necessity of the owner himself mixing in oil with the gasoline, so use only regular gasoline in the fuel tank.

Engine Oil

Do not use ordinary motor oil, transmission oil, or an inferior grade of 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. 0.8 liter (0.85 US qt) of oil should be added when the level drops to the center of this window. Since mixing different brands of oil deteriorates the lubricative properties of the oil, always add oil only of the same brand as that already in the tank.

CAUTION: Never let the oil tank run completely dry.

Transmission Oil

1) Oil Level

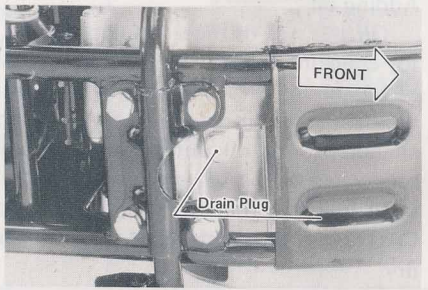
To check the oil level, stand the motorcycle vertically, and remove the oil level inspection screw from the lower part of the right engine cover. The quantity of oil is correct when the oil is level with the inspection hole. If the amount of oil is insufficient, add oil slowly until the level is up to the inspection hole.

2) Oil Change

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

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 0.6 liter (0.63 US qt) of motor oil.



BREAKING IN

The first 1,600 km (1,000 mi) that the motorcycle is ridden is designated as the break-in-period. If the motorcycle is not used carefully during this period, you may very well end up with a "broken down" instead of "broken in" motorcycle after a few thousand kilometers.

The table shows maximum recommended speed during break-in.

Bill Riley	1st	2nd	3rd	4th	5th
0~800 km (0~500 mi)	14 kph (8 mph)	23 kph (14 mph)	32 kph (20 mph)	37 kph (23 mph)	43 kph (27 mph)
800~1,600 km (500~1,000 mi)	20 kph (13 mph)	35 kph (22 mph)	47 kph (29 mph)	56 kph (35 mph)	64 kph (40 mph)

In addition to limiting engine rpm, 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 by the case, replace the standard NGK B7HS plug with the hotter B6HS for the duration of the break-in-period. After break-in, be sure to re-install the standard plug.

See the Maintenance and Adjustment section for additional spark plug information.

STARTING THE ENGINE

- Check that steering is unlocked.
- Turn the fuel tap on.
- Make certain the engine stop switch is in the **RUN** position.
- Turn the ignition switch to the **DAY** position.
- Make certain the gears are in neutral by seeing that the green neutral indicator light is lit.
- If the engine is cold, pull up the choke knob, leaving the throttle completely closed.
- Kick the engine over.
- Even after the engine starts, leave the choke knob pulled up. When the engine is warm enough to idle without the use of the choke knob, push the choke knob back down.

Note: ○When the engine is already warm or on hot days, open the throttle part way instead of using the choke knob. Then kick over the engine.

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

○If the clutch lever is pulled, the motorcycle can be started while still in any gear, but be careful to shift down to 1st gear before starting to move.

MOVING OFF

- Check that 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

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

	kph	(mph)
5th～4th	80	(50)
4th～3rd	65	(40)
3rd～2nd	50	(30)
2nd～1st	30	(18)

CAUTION: When shifting down to a lower gear, do not shift at such a high speed that the engine is suddenly jerked into high rpm. Not only can this cause engine damage, but the rear wheel may skid and cause an accident. During deceleration, the vehicle speed should be kept below the limit for each gear, as set forth in the table.

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. 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. **Lee Waldie Craig Scott Chris Koira**
- For emergency braking, disregard downshifting, 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.
- Close the fuel tap.
- Lock the steering.
- To stop the engine in an **emergency**, such as in the case of throttle failure, turn the engine stop switch to **OFF**.

SAFE OPERATION

Safe Riding Technique

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

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

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, control vehicle speed by closing the throttle. Use the front and rear brakes for auxiliary braking.

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

Riding at the proper rate
nd avoiding unnecessarily fas
ation are important not only
nd low fuel consumption but
ong vehicle life and quieter op

On rough roads, exercise cauti
duce speed, and grip the fuel tan
the knees when necessary for
stability.

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

Do not downshift at too h
to avoid damage to the engine
revving.

about 2 ~ 3 mm ($\frac{1}{16}$ ~ $\frac{1}{8}$ in); release
age (Pg. 46)
20 ~ 30 mm ($\frac{3}{4}$ ~ $1\frac{1}{4}$ in); with pedal
indicator position within the "USABLE
light functioning properly (Pg. 43)
lay correct (Pg. 54)
the steering turns freely but has no play
pushing down on the handlebar with the front
fully applied, the front fork functions properly;
il leakage (Pg. 52)
ction properly, no oil leakage (Pg. 53)
heck that the headlight, tail/brake light, turn signals
nd horn work.
No abnormal engine noise

ound during the above checks, refer to the Maintenance
make the corrections necessary for safe operation.

Additional Considerations for Off Road Operation

Brakes	The importance of reliable brakes is obvious. Check to see that they are correctly adjusted and functioning properly.
Steering	Looseness in the steering can cause loss of control. Check to see that the handlebar turns freely but has no play.
Tires	Due to the extra stress to the tires on rough roads, be sure to examine their overall condition, and inflate to the proper pressure.
Drive Chain	When not adjusted properly, the severe stress on rough roads can cause damage to the sprockets and cause the chain to be thrown. Examine the chain slack and alignment, and lubricate if necessary.
Spark Plug	A different plug may be required. Choose the plug such that the insulator will turn to a light tan to gray color.
Gasoline	Have sufficient fuel for the high fuel consumption on rough roads.
Transmission Oil	To avoid transmission seizure, make certain the oil level is up to the oil inspection hole.
Engine Oil	Top up the oil tank.
Miscellaneous	Check to see that the electrical equipment is functioning properly, all nuts and bolts tight, and all safety related parts in good condition.

MAINTENANCE AND ADJUSTMENT

The maintenance 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 not assume any responsibility for damage resulting from incorrect maintenance or improper adjustment done by the owner.

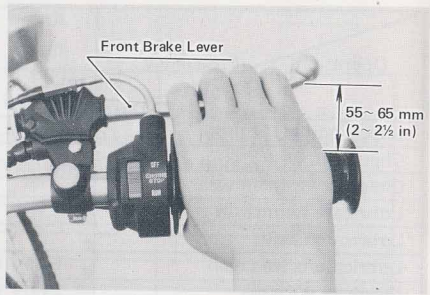
Periodic Maintenance Chart

Operation / Frequency	After initial 800 km (500 mi)	After initial 3,000 km (2,000 mi)	Every subsequent 3,000 km (2,000 mi)	Every subsequent 6,000 km (4,000 mi)	Page Reference
Change transmission oil	●	●	●		28
Adjust brakes	●	●	●		42
Adjust drive chain	●	●	●		50
Check, adjust clutch mechanism	●	●	●		46
Check, adjust carburetor and oil pump	●	●	●		60, 61
Check spoke tightness and wheel runout	●	●	●		47
Tighten nuts and bolts	●	●	●		66
Clean fuel lines	●	●	●		62
Clean, set spark plug gap	●	●	●		56
*Check steering play	●			●	45
Carry out general lubrication		●	●		64
Clean air cleaner element		●	●		54

Operation / Frequency	After initial 800 km (500 mi)	After initial 3,000 km (2,000 mi)	Every subsequent 3,000 km (2,000 mi)	Every subsequent 6,000 km (4,000 mi)	Page Reference
Check points, timing	●	●	●		58
Check tire wear		●	●		48
Check drive chain wear		●	●		50
*Lubricate swing arm		●	●		–
*Lubricate cables		●	●		–
Lubricate drive chain	Every 800 km (500 mi)				51
Check brake wear	Every 6,000 km (4,000 mi) Anne Riley				43
*Check fork oil level	Every 6,000 km (4,000 mi)				–
Change air cleaner element	Every 10,000 km (6,000 mi)				55
*Change front fork oil	Every 10,000 km (6,000 mi)				–
*Regrease wheel bearings	Every year or 10,000 km (6,000 mi)				–
*Regrease speedometer gear box	Every 2 years or 20,000 km (12,000 mi)				–
*Regrease brake camshaft	Every 2 years or 20,000 km (12,000 mi)				–
*Lubricate steering stem bearings	Every 2 years or 20,000 km (12,000 mi)				–

*Should be serviced by an authorized Kawasaki Dealer.

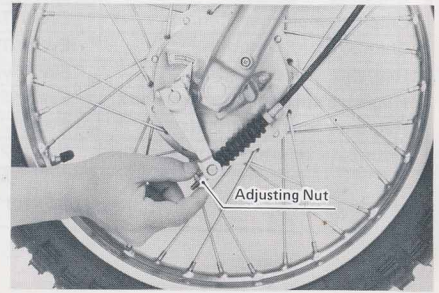
Front and Rear Brake Adjustment



Front Brake Adjustment

- Loosen the lock nut at the front brake lever, screw the adjuster fully in, and tighten the lock nut.
- Turn the adjusting nut on the lower end of the front brake cable so that when the brake is fully applied, there is 55~65 mm (2~2½ in) of space left between the throttle grip and the end of the brake lever.
- Check for brake drag.
- Check braking effectiveness.

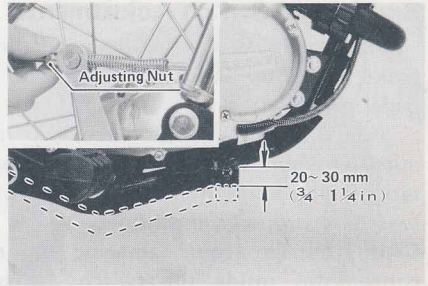
Note: For minor corrections while riding, use the adjuster at the front brake lever.



Rear Brake Adjustment

- The brake pedal should have 20~30 mm (¾ ~ 1¼ in) of travel from the rest position to the fully applied position when the pedal is pushed down lightly by hand. Adjustment is made by turning the adjusting nut at the end of the brake rod.
- Check the rear brake light switch adjustment.
- Check for brake drag.
- Check braking effectiveness.

CAUTION: If the brake lining wear indicator does not point within the USABLE RANGE when the brakes are fully applied, the brake shoe linings have worn past the service limit. In this case, the brake shoes must be replaced and the drum and other brake parts examined by an authorized Kawasaki Dealer.



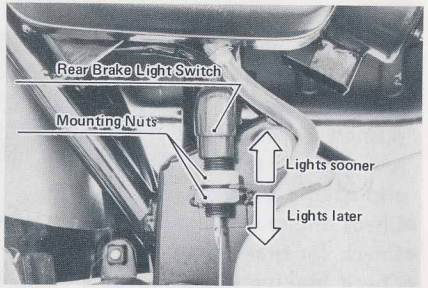
Brake Light Switch Adjustment

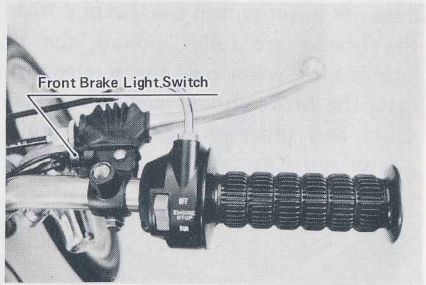
The rear brake light switch must turn on the brake light after about 15 mm ($^5/_8$ in) of brake pedal movement.

Adjust it by loosening the two mounting nuts, moving the switch up or down, and retightening the mounting nuts when the switch is properly positioned.

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

The brake light will also light when the front brake is applied, but the front brake light switch requires no adjustment.



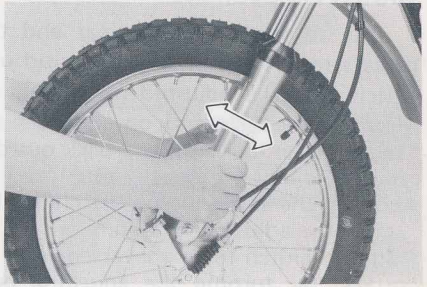


Steering Inspection

The steering should be checked after 800 km (500 mi), and then every 6,000 km (4,000 mi) thereafter.

To check the steering adjustment, first place a stand or block under the engine so that the front wheel is raised off the ground. Push the handlebar lightly to either side; if it continues moving under its own momentum, the steering is not 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 end back and forth; if play is felt, the steering is too loose.

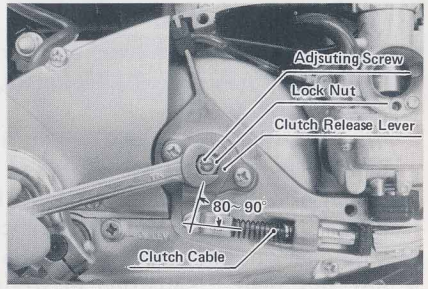
Note: Since the steering adjustment is sensitive and crucial for safe operation, have it performed only by an authorized Kawasaki Dealer.



Clutch Adjustment

Due to friction plate wear and the clutch cable stretching over a long period of use, the clutch must be adjusted periodically (Pg. 40).

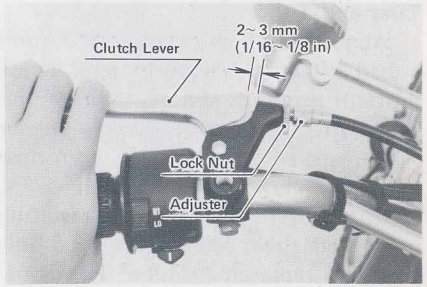
- Remove the carburetor cover, loosen the clutch release lever lock nut, and back out the adjusting screw 3 or 4 turns.
- Loosen the lock nut of the clutch lever, and screw the adjuster fully in.
- Set the clutch release lever angle at about 80 ~ 90° by turning the adjusting nut at the middle of the clutch cable.
- Screw in the clutch adjusting screw to where a slight resistance is felt, and then tighten the lock nut.
- Turn the adjuster to make about a 3 mm (1/8 in) gap between the adjuster and lock nut of the clutch lever.
- Turn the adjusting nut at the middle of the clutch cable so that clutch lever will have 2~ 3 mm (1/16 ~ 1/8 in) of play, then tighten the clutch lever lock nut and clutch cable lock nut.



- Replace the carburetor cover.

Note: ○After the adjustment is made, start the engine and check that the clutch has no slippage and releases properly.

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



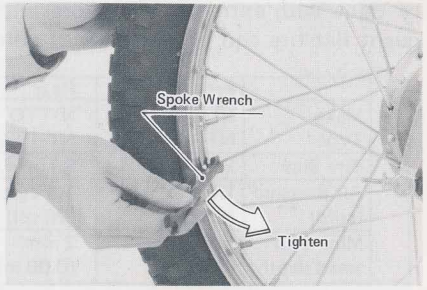
Wheel Inspection

Spokes and Rim

Spoke tightness should be inspected periodically (Pg. 40). Lee Waldie Craig Scott Chris Koira

The axial rim runout should be under 3 mm (0.12 in), and the radial rim runout should be under 2 mm (0.08 in). A certain amount of runout (warp) can be corrected by re-centering the rim, i.e., by loosening some spokes and tightening others to change the positions of different parts of the rim. If the rim is badly warped however, it should be replaced.

Note: If there is any doubt, ask your authorized Kawasaki Dealer to inspect and adjust the rim.



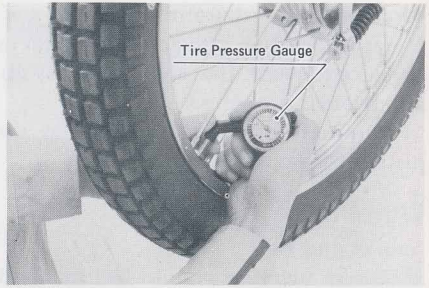
Tires and Tubes

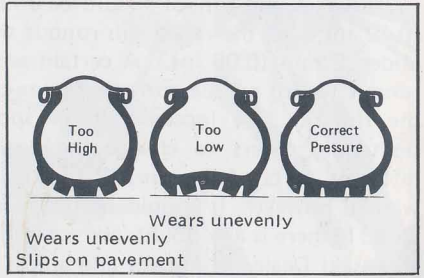
Abnormally high or low tire air pressure has a bad effect on stability and handling, and shortens tire life. Use an accurate tire pressure gauge often to measure the tire pressure.

Replace any tire that has worn down to the minimum allowable tread depth.

In the event of a flat tire resulting from a punctured tube, replace the tube only with a Kawasaki replacement tube. Repair of the tube is not recommended, but if undertaken, must be done with extreme care to prevent a subsequent flat tire and possible loss of control.

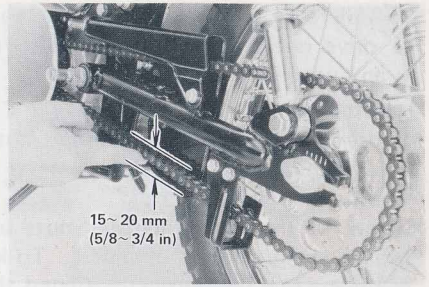
	Front	Rear
Make	NITTO	NITTO
Type	NT-102A	NT-102A
Tire Size	2.50-16 4PR	2.75-14 4PR
Air pressure (cold)	1.6 kg/cm^2 (23 psi)	1.8 kg/cm^2 (26 psi)
Minimum tread depth	2 mm (0.08 in)	2 mm (0.08 in)





Drive Chain Inspection and Adjustment

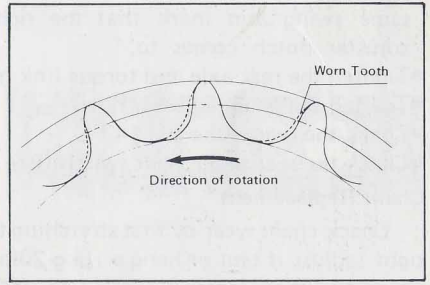
The drive chain must be kept properly adjusted for safety and to prevent excessive wear. If the chain becomes badly worn or maladjusted – either too loose or too tight – the chain could jump off the sprockets or break. A jumped or broken chain could snag on the engine sprocket or lock the rear wheel, severely damaging the motorcycle and 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 vertical movement at its greatest point is 15 ~ 20 mm ($^5/_8 \sim {}^3/_4$ in). If the chain is too loose or too tight, it must be adjusted. **Bill Riley**

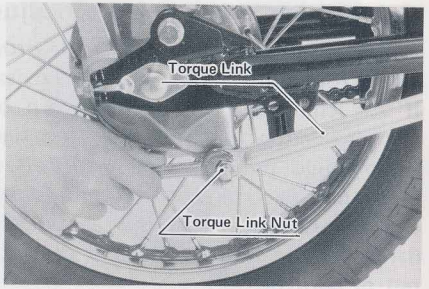
In addition to checking the slack, rotate the rear wheel to inspect the drive chain and sprockets for damaged rollers, loose pins, uneven or excessive wear, rusted pins and links, unevenly or excessively worn teeth, and damaged teeth.

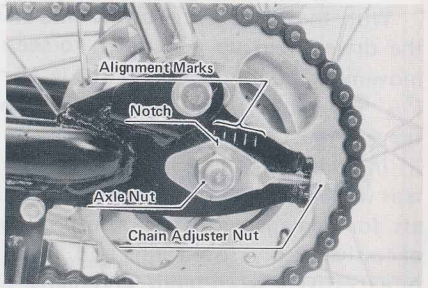


If there is damage or excessive wear, have the drive chain and/or the sprockets replaced by an authorized Kawasaki Dealer.

Adjustment

- Loosen the torque link nut and both chain adjuster nuts.
- Loosen the rear axle nut.
- Screw in the chain adjuster nuts until the proper chain slack is obtained. To keep the chain and the wheel properly aligned, the notch in the left chain adjuster should come to the same swing arm mark that the right chain adjuster notch comes to.
- Tighten the rear axle and torque link nut.
- Tighten the chain adjuster nuts.
- Check the rear brake (Pg. 43).
- Check the rear brake light switch (Pg. 44).



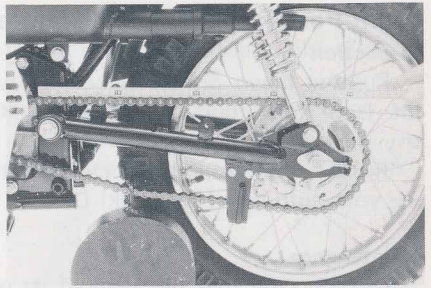


Chain Replacement

Check chain wear by first stretching the chain tight (adjust it taut or hang a 10kg-20lb -weight on it) and then measure the length of 20 links.

If the distance from the center of the 1st pin to the center of the 21st pin is more than 259 mm (10.2 in), the chain should be replaced.

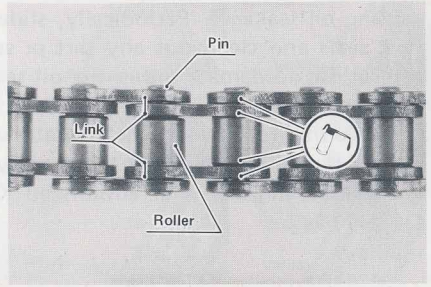
WARNING:For safety, use only the standard chain (Enuma EK428-G, 96 links) and have it installed by a Kawasaki Dealer.



Drive Chain Lubrication

To minimize chain wear, the drive chain should be lubricated at least every 800 km (500 mi), after riding in rain, and after washing the vehicle.

Lubricate the chain by applying chain lube or SAE 90 gear oil to the sides of the rollers and between the links so that the oil will penetrate to the pins and bushings. Wipe off excess oil. If the chain is dirty, clean the chain using a brush and solvent before chain lubrication.



Front Fork Inspection and Maintenance

Inspection

Pushing down on the handlebar with the front brake fully applied, check that the front fork functions properly. Check the dust seal for damage, and look for any signs of oil leakage.

In case of improperly functioning shock absorbers, dust seal damage, or oil leakage, see your authorized Kawasaki Dealer.

Maintenance

Dirt or sand that has worked its way past a dust seal will eventually damage the oil seal causing oil leakage. Periodically, 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.

Since the front fork oil deteriorates with use, have the oil in both tubes changed every 10,000 km (6,000 mi) by your authorized Kawasaki Dealer.

Rear Shock Absorber Inspection

Since the rear shock absorbers are sealed units and can not be disassembled, only external checks of operation are necessary.

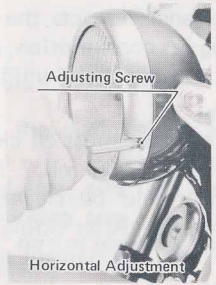
Check that the rear shock absorbers function properly and that there is no oil leakage or bushing damage. **Lee Waldie Craig Scott Chris Koira**

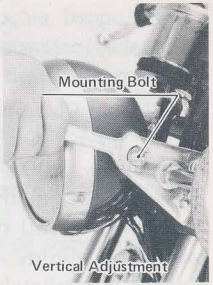
In case any irregularity is found during inspection, see your authorized Kawasaki Dealer.

Headlight Beam Adjustment

Horizontal adjustment is performed by turning the adjusting screw (not on the European model).

Adjust the beam vertically by loosening the mounting bolts on each side of the headlight and moving the headlight body by hand.



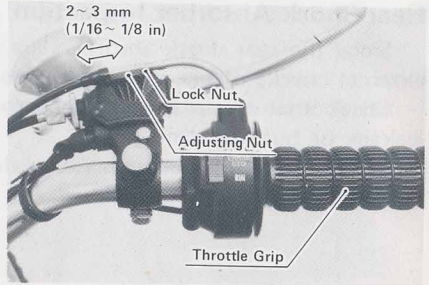


Throttle Grip Play Adjustment

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

If there is too much or too little play, adjust it with the adjuster and tighten the lock nut.

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

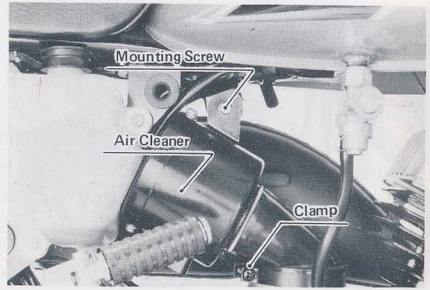


Air Cleaner Maintenance

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

Air Cleaner Cleaning

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



To remove the element for inspection and cleaning, remove the cleaner mounting screw, loosen the clamp, and pull out the housing together with the element. Remove the screws on the air cleaner cap, and pull out the element.

Clean the element in some kind of solvent having a high flash point, and then dampen it with a gasoline/oil mixture (about a 20 : 1 mixture of gasoline and SAE 30 motor oil).

Element Replacement

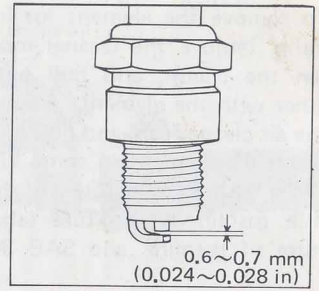
Replace the element after 10,000 km (6,000 mi), after cleaning it 5 times, or if it is damaged.

Note: When the element is replaced, be sure that the clamp is secure but not so tight that it will damage the tube.

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 some kind of solvent having a low flash point to clean the element.

Spark Plug Maintenance



The standard spark plug is a NGK B7HS. It should have a 0.6~0.7 mm (0.024~0.028 in) gap, and be tightened with 2.5~3.0 kg-m (18.5 ~21.5 ft-lbs) of torque.

Maintenance

The spark plug should be taken out after the first 800 km (500 mi) and after every subsequent 3,000 km (2,000 mi) for cleaning and to reset the gap. If the plug is oily or has carbon built up on it, clean it (preferably in a sand-blasting device) and then clean off any abrasive particles. The plug may also be cleaned using 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.

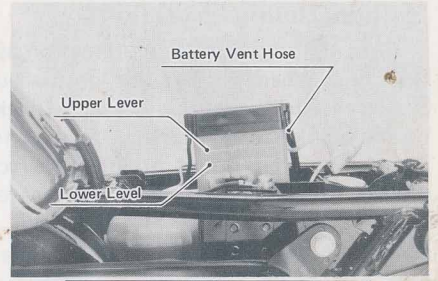
Heat Range

To find out whether the right temperature plug is being used, pull it out and examine the ceramic insulator around the center 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 the next colder type, NGK B8HS. If the ceramic is black, the plug should be replaced with the next hotter type, NGK B6HS.

Battery Maintenance

Battery Electrolyte Level Inspection

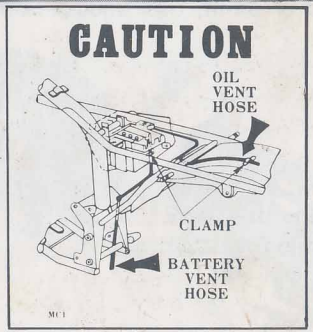
Keep the electrolyte level between the upper and lower level marks. When it gets low, remove the battery filler caps and add only distilled water until the electrolyte level in each cell reaches the upper level mark. Anne Riley



CAUTION: •Route the battery vent hose as shown in the caution label.

•Make sure the battery vent hose end is kept away from the chain, as electrolyte from the battery vent hose will corrode and dangerously weaken the chain.

•Do not let the battery vent hose get folded or pinched, and route it away from the exhaust system.

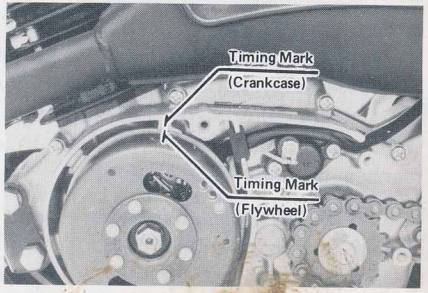


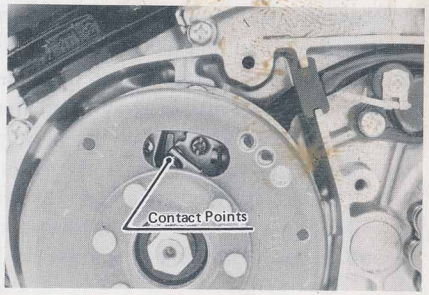
Ignition Timing Inspection

Turn the flywheel in the direction of engine rotation. When the left line on the outer circumference of flywheel is aligned with the mark on the crankcase, the contact points should be just starting to open if timing is correctly set.

If ignition timing is incorrect, have it adjusted by your authorized Kawasaki Dealer.

Note: If the contact points become badly pitted or burnt, they should be replaced.



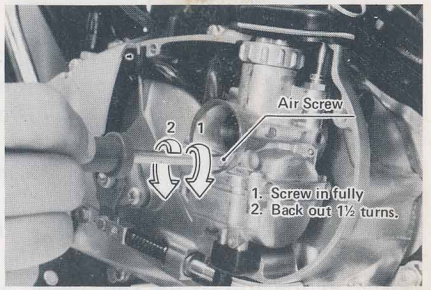


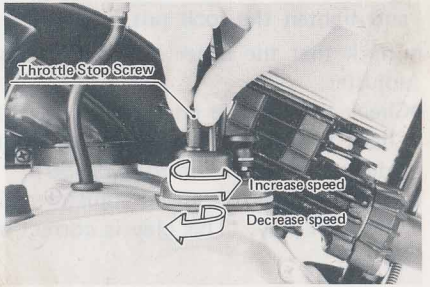
Idle Speed Adjustment

Idle speed adjustment is carried out using the air screw and the throttle stop screw.

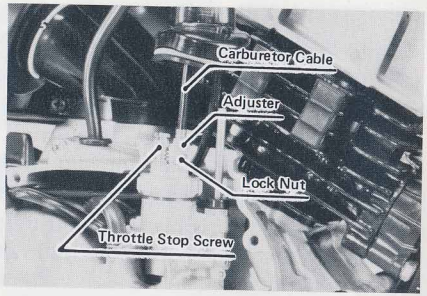
- First screw in the air screw fully, but not tightly, and back it out 1½ turns.
- After thoroughly warming up the engine, screw in the throttle stop screw until the engine is at its lowest possible rpm, and then screw it out until the engine reaches its lowest stable rpm. Bill Riley
- With the engine idling, turn the handlebar to either side. If handlebar movement changes idle speed, the throttle, carburetor or oil pump cables may be damaged, or the routing of the cables may be unsatisfactory.

Note: If necessary, ask your authorized Kawasaki Dealer to make the inspection and adjustment.





Carburetor Cable Adjustment

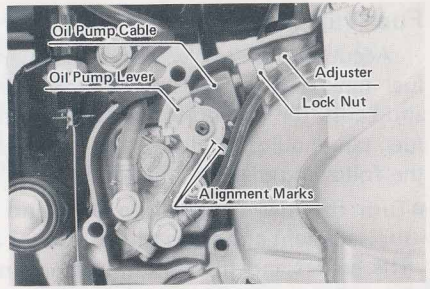


Due to stretching of the carburetor cable, the throttle valve may not respond immediately to the opening of the throttle, and the oil pump output may be too large at certain throttle openings. Check and adjust the carburetor cable periodically (Pg. 40).

- Screw in the throttle stop screw until the throttle valve is fully closed. Using the adjuster at the top of the carburetor, adjust all the play out of the outer sleeve of the cable, and tighten the lock nut.
- Check that the outer sleeve of the carburetor cable is seated properly in the cable adjuster.
- Check the throttle grip play. (Pg. 54)
- Check the oil pump adjustment. (Pg. 61)
- Adjust engine idle speed. (Pg. 59)

Note: After the idle speed adjustment is made, the carburetor cable will have a small amount of play. This play is correct and should not be altered.

Oil Pump Cable Adjustment



Due to stretching of the oil pump cable, the oil pump output may be too low at certain throttle openings. Check and adjust the oil pump cable periodically (Pg. 40).

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. Tighten the lock nut.

Note: •Make sure the banjo bolts are tight, but do not overtighten them. Any oil leakage should be corrected before riding.

- After oil pump cable adjustment, check that the outer sleeve of the oil pump cable is seated properly in the cable adjuster.

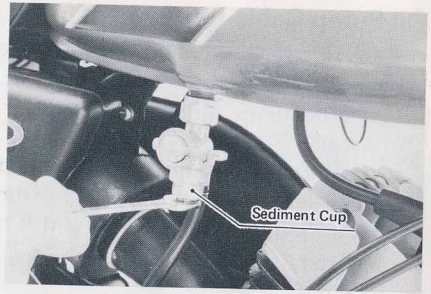
Fuel Tap Cleaning

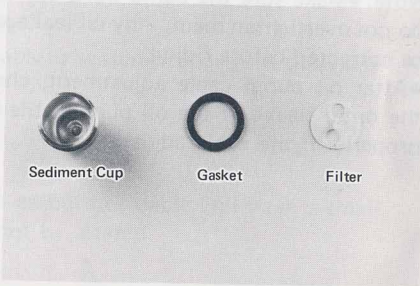
Accumulation of water or sediment in the fuel tank and tap will restrict the flow of fuel and cause the carburetor to malfunction. The fuel tap should be cleaned out periodically in the following manner (Pg. 40).

- Turn the fuel tap lever to **OFF**, and unscrew the sediment cup from the bottom of fuel tap. The gasket and filter are mounted on the fuel tap. Being careful not to damage the gasket and filter, remove the filter using a screwdriver.
- Using a piece of cloth, wipe out the inside of the fuel tap, wash the cup and filter in regular solvent and then reassemble.

Note: ○If water has accumulated in the sediment cup, water may also be accumulated in the float bowl. In this case have the carburetor checked by your authorized Kawasaki Dealer.

○After washing, check the gasket and filter. Replace them if damaged.





○Make sure the sediment cup is tight. Turn the fuel tap lever a few times to the **RES** position, and check for leaks. If fuel leaks from the sediment cup, the gasket may be damaged. Visually inspect the gasket and repalce it if necessary.

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

○Never clean out the fuel tank or tap when the engine is still warm.

○Wipe any fuel off the engine before starting it.

Decarbonization

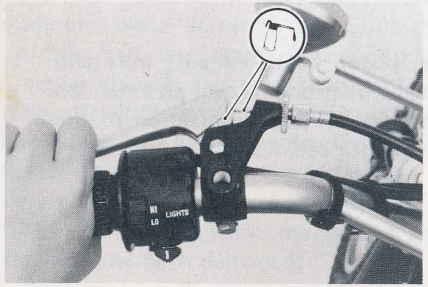
The exhaust system (i.e., baffle tube, muffler, piston head, exhaust port and cylinder head) can fill up with carbon and other exhaust by-products over an extended period of operation, resulting in a drop in performance. Decarbonization of the exhaust system should be done periodically by an authorized Kawasaki Dealer.

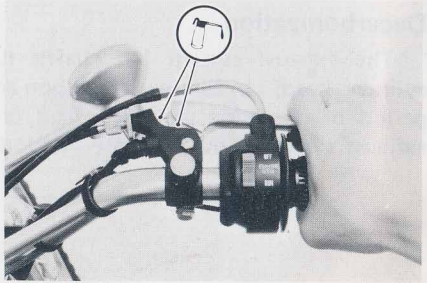
Lubrication

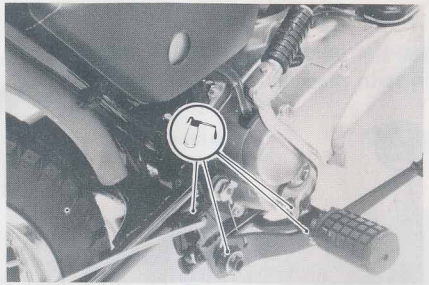
In order to get maximum length of use from all parts, and to keep the motorcycle running safely, it must be kept properly lubricated.

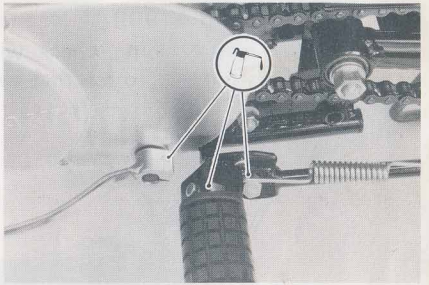
Using SAE 30 motor oil, lubricate the points indicated whenever they are dry, after riding through rain, or after washing the motorcycle. Lee Waldie Craig Scott Chris Koira

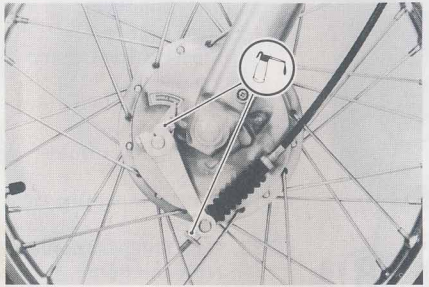
After several thousand kilometers of service, in addition to the points shown here, other parts should be inspected and lubricated by a Kawasaki Dealer.

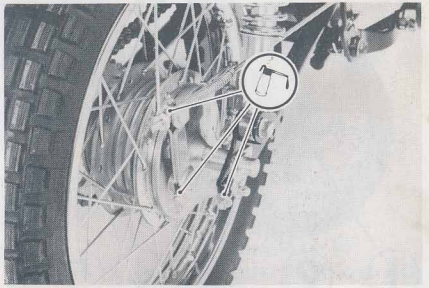






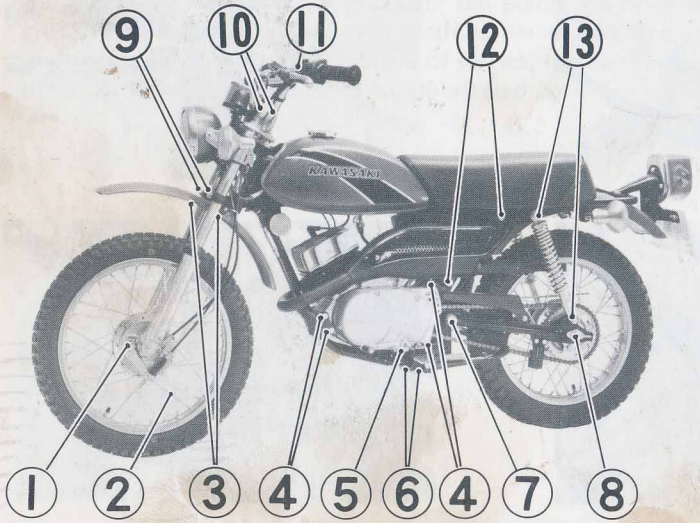




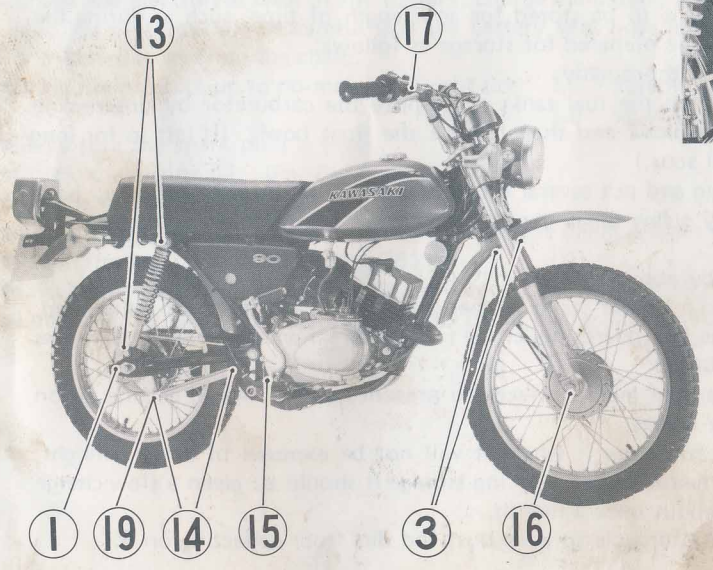


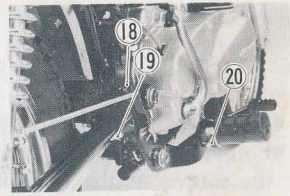
Bolt and Nut Tightening

Every day before riding, check without fail the tightness of the bolts and nuts listed here. Also, check to see that each cotter pin is in place and in good condition.



1. Brake Cam Lever Bolt
2. Spoks
3. Front Fender Mounting Bolts David Riley
4. Engine Mounting Bolt
5. Shift Pedal Bolt
6. Footrest Mounting Bolts
7. Pivot Shaft Nut
8. Rear Axle Nut
9. Steering Stem Clamp Bolts
10. Handlebar Holder Mounting Bolts
11. Clutch Lever Holder Bolt
12. Muffler Mounting Bolts
13. Rear Shock Absorber Nuts and Bolts





14. Torque Link Nuts
15. Kick Starter Pedal Bolt
16. Front Axle Nut
17. Front Brake Lever Holder Bolt
18. Cotter Pin (Brake Rod)
19. Cotter Pins (Torque Link)
20. Cotter Pin (Footrest)

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 carburetor by unscrewing the screws at the float bowl and then remove the float bowl. (If left in for long time, the gasoline will sour.)
- Remove the spark plug and put several drops of SAE 30 oil into the cylinder. Kick the engine over slowly a few times to coat the cylinder wall with oil, and replace the plug.
- 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.

To put the motorcycle back into use after storage:

- Check the electrolyte level in the battery, charge the battery if necessary, and install it in the motorcycle. Be careful that the battery vent hose is not pinched and that it is routed away from the chain.
- Bring tire pressure up to normal:

Front tire	1.6	kg/cm^2	(23 psi)
Rear tire	1.8	kg/cm^2	(26 psi)

- Make sure the spark plug is tight.
- Check the engine oil. (Pg. 27)
- Fill the fuel tank with fuel.
- Run the engine for about five minutes to warm the oil, and drain the transmission oil.
- Put in fresh transmission oil. (Pg. 28)
- Check all the points listed under Daily Safety Checks. (Pg. 36)
- Lubricate the chain and the other points listed in the Lubrication Section (Pg. 64)

CLEANING

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.

2) Where to be careful

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

- Speedometer
- Front and rear hubs

If water gets inside the hubs, the brakes will not function until they dry out.

- Under the fuel tank and the seat

If 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.

3) After washing

- Remove the plastic bags, and clear the air cleaner intake.
- Test the brakes before motorcycle operation.
- Lubricate the chain immediately to avoid rust.

TROUBLESHOOTING G

e doesn't start

- gasoline in tank
- soline 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.
- Choke not working normally
  - ○Choke knob 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
- Overhea
  - ○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

MEMO FRONT FORK OIL 95 cc SAE 20 EACH LEG

REAR SPROCKET – ORIGINAL 36T. CHANGED FOR EARLY

KH100 39T WASSELL No 92778. FRONT SPROCKET 14T (174-17461-40 DT175MX)

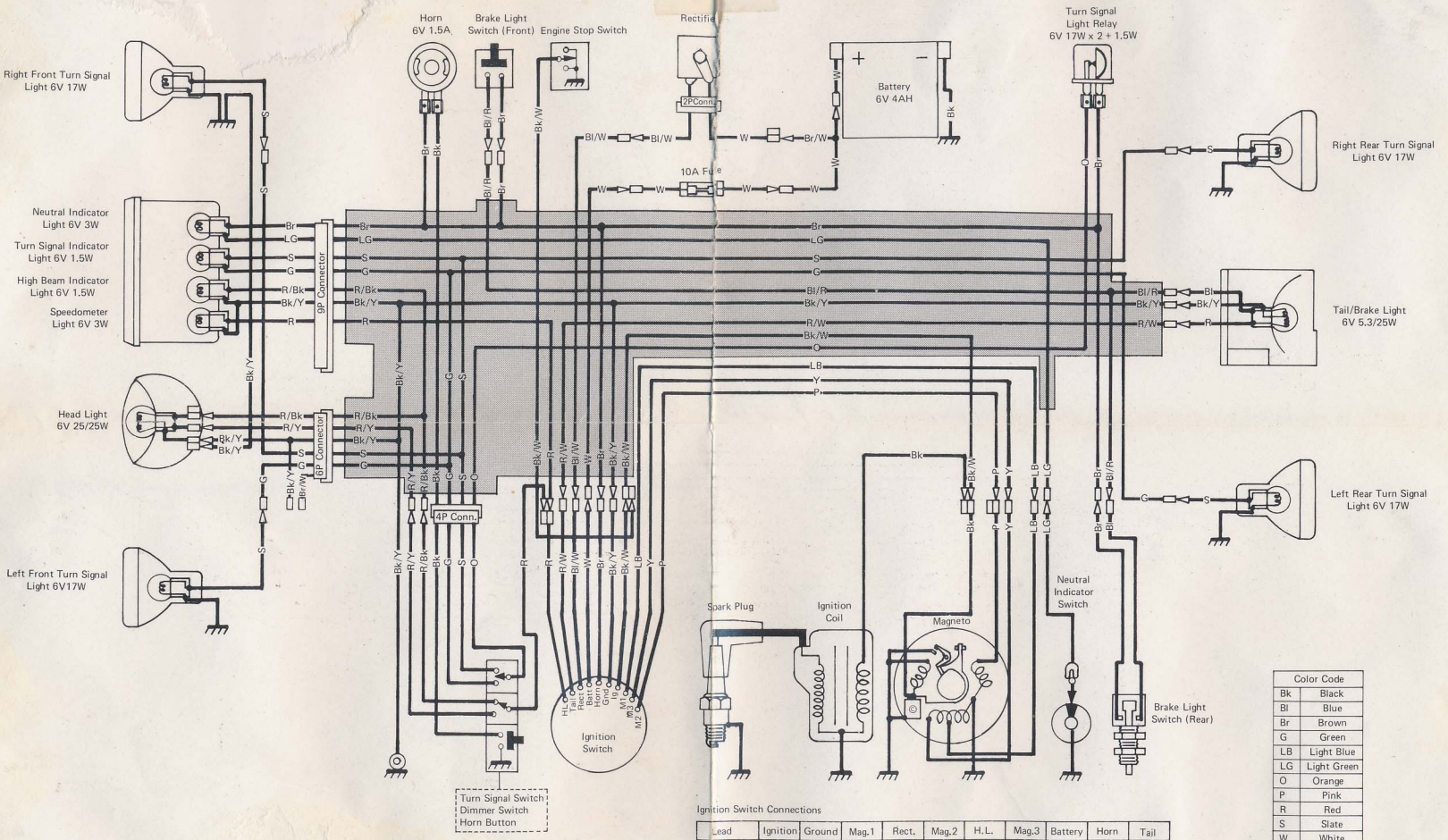
SIDE STAND 5J0-27311-00-33 SIDE STAND SPRING 90506-25047

L/H REAR WHEEL OIL SEAL

REAR WHEEL BEARING (6301Z) 93306-30103 93106-20002

REAR CHAIN MINIMUM FREE PLAY 45mm ($1\frac{3}{4}$") WHEEL OFF GROUND

REBORE AT 11975 MILES 1·0mm OVERSIZE.



Ignition Switch Connections

Lead	Ignition	Ground	Mag.1	Rect.	Mag.2	H.L.	Mag.3	Battery	Horn	Tail
Color	Bk/W	Bk/Y	LB	Bl/W	Pink	Red	Yellow	White	Brown	R/W
OFF	●	●								
DAY			●	●				●	●	
NIGHT				●	●	●	●	●	●	●

Color Code	
Bk	Black
Bl	Blue
Br	Brown
G	Green
LB	Light Blue
LG	Light Green
O	Orange
P	Pink
R	Red
S	Slate
W	White
Y	Yellow

(151-1)