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Kawasaki

KE125



Motorcycle Service Manual

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Unit Conversion Table

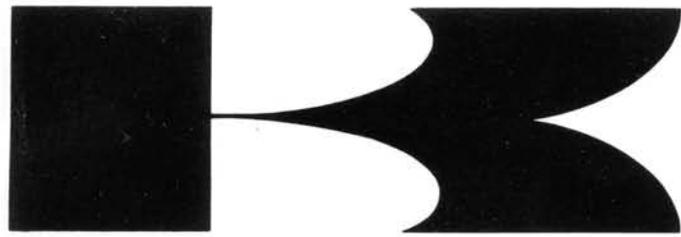
cc	x	.0610	=	cu in
cc	x	.02816	=	oz (imp)
cc	x	.03381	=	oz (US)
cu in	x	16.39	=	cc
ft-lbs	x	12	=	in lbs
ft-lbs	x	.1383	=	kg-m
gal (imp)	x	4.546	=	litres
gal (imp)	x	1.201	=	gal (US)
gal (US)	x	3.7853	=	liters
gal (US)	x	.8326	=	gal (Imp)
grams	x	.03527	=	oz
in	x	25.40	=	mm
in lbs	x	.0833	=	ft-lbs
in lbs	x	.0115	=	kg-m
kg	x	2.2046	=	lbs
kg	x	35.274	=	oz
kg-m	x	7.233	=	ft-lbs
kg-m	x	86.796	=	in-lbs
kg/cm ²	x	14.22	=	lbs/in ²
km	x	.6214	=	mile
lb	x	.4536	=	kg
lb/in ²	x	.0703	=	kg/cm ²
litre	x	28.16	=	oz (imp)
litre	x	33.81	=	oz (US)
litre	x	.8799	=	qt (imp)
litre	x	1.0567	=	qt (US)
metre	x	3.281	=	ft
mile	x	1.6093	=	km
mm	x	.03937	=	in
oz (imp)	x	35.51	=	cc
oz (US)	x	29.57	=	cc
oz (weight)	x	28.35	=	grams
qt (imp)	x	1.1365	=	litre
qt (imp)	x	1.201	=	qt (US)
qt (US)	x	.9463	=	litre
qt (US)	x	.8326	=	qt (imp)
kg/cm ²	x	98.07	=	kPa
lbs/in ²	x	6.896	=	kPa
kPa	x	.1450	=	lbs/in ²

$$^{\circ}\text{C} \rightarrow ^{\circ}\text{F}: \frac{9 (^{\circ}\text{C} + 40)}{5} - 40 = ^{\circ}\text{F}$$

$$^{\circ}\text{F} \rightarrow ^{\circ}\text{C}: \frac{5 (^{\circ}\text{F} + 40)}{9} - 40 = ^{\circ}\text{C}$$

List of Abbreviations

ABDC	after bottom dead center
ATDC	after top dead center
BBDC	before bottom dead center
BDC	bottom dead center
BTDC	before top dead center
cc	cubic centimeters
cu in	cubic inches
ft	foot, feet
ft-lbs	foot-pounds
gal	gallon, gallons
hp	horsepower
in	inch, inches
in-lb	inch-pounds
kg	kilogram, kilograms
kg/cm ²	kilograms per square centimeter
kg-m	kilogram meters
km	kilometer
kph	kilometers per hour
lb, lbs	pound, pounds
lbs/in ²	pounds per square inch
ltr	liter, litre
m	meter, meters
mi	mile, miles
mm	millimeters
mph	miles per hour
oz	ounce, ounces
psi	pounds per square inch
qt	quart, quarts
rpm	revolutions per minute
sec	second, seconds
SS	standing start
TDC	top dead center
"	inch, inches
r/min	revolutions per minute
ℓ	liter, litre
kPa	kilo-Pascals



Kawasaki

KE 125



Motorcycle Service Manual

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Foreword

This manual is designed primarily for use by motorcycle mechanics in a properly equipped shop although it contains enough detail and basic information to make it useful to the motorcycle user who desires to carry out his own basic maintenance and repair work. Since a certain basic knowledge of mechanics, the proper use of tools, and workshop procedures must be understood in order to carry out maintenance and repair satisfactorily; the adjustments, maintenance, and repair should be carried out only by qualified mechanics whenever the owner has insufficient experience or has doubts as to his ability to do the work so that the motorcycle can be operated safely.

In order to perform the work efficiently and to avoid costly mistakes, the mechanic should read the text, thoroughly familiarizing himself with the procedures before starting work, and then do the work carefully in a clean area. Whenever special tools or equipment is specified, makeshift tools or equipment should not be used. Precision measurements can only be made if the proper instruments are used, and the use of substitute tools may adversely affect safe operation of the motorcycle.

This manual is divided into the following chapters:

(1) Adjustment

The adjustment chapter gives the procedure for all adjustments which may become necessary periodically and which do not involve major disassembly.

(2) Disassembly

This chapter shows the best method for the removal, disassembly assembly, and installation which are necessary for maintenance and repair. Since assembly and installation are usually the reverse of disassembly and removal, assembly and installation are not explained in detail in many cases. Instead, assembly notes and installation notes are provided to explain special points.

(3) Maintenance and Theory of Operation

The procedures for inspection and repair are described in detail in this chapter. An explanation on the structure and functioning of each of the major parts and assemblies is given to enable the mechanic to understand better what he is doing.

(4) Appendix

The appendix in the back of this manual contains miscellaneous information, including special tool list, a torque table, a table for periodic maintenance, and a troubleshooting guide.

(5) Supplement

The maintenance and repair procedures that are unique to later year units since the first publication of the Service Manual, are explained in this chapter per one year unit.

Since the Service Manual is based on the first production units of the 1980 KE125-A7, there may be minor discrepancies between some vehicles and the illustrations and text in this manual. Explanations on major changes and additions pertaining to later year units will be added in the end of the supplement by a new edition, as required.

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Left Side View



Right Side View



Specifications

Dimensions	KE125-A5	
Overall length	2,075 mm	
	2,160 mm (E) (A)	
Overall width	870 mm	
Overall height	1,075 mm	
Wheelbase	1,350 mm	
Road clearance	250 mm	
Dry weight	98 kg	
	99 kg (E) (A)	
Fuel tank capacity	6.7 ℓ	
Oil tank capacity	1.3 ℓ	
Performance		
Climbing ability	32°	
Braking distance	12 m @50 kph	
Minimum turning radius	2.0 m	
Engine		
Type	2-stroke, 1 cylinder, rotary disc valve	
Bore and stroke	56.0 x 50.6 mm	
Displacement	124 cc	
Compression ratio	7.0	
	6.5 (E) (A)	
Maximum horsepower	13 HP @6,500 rpm	
	11.5 HP @6,000 rpm (E) (A)	
	11 HP @6,000 rpm (G)	
Maximum torque	1.5 kg-m @6,000 rpm	
	1.4 kg-m @5,500 rpm (E) (A)	
	1.3 kg-m @5,500 rpm (G)	
Port timing:		
Intake	Open	115° BTDC
	Close	55° ATDC
Scavenging	Open	56° BBDC
	Close	56° ABDC
Exhaust	Open	83° BBDC
	Close	83° ABDC
Carburetor		Mikuni VM24SS
Lubrication system		Superlube (Oil injection)
Engine oil		2-stroke oil for air-cooled engines
Starting system		Primary kick
Ignition system		Magneto
Ignition timing		23° (2.52 mm) BTDC
Spark plug		NGK B8HS
Transmission		
Type		6-speed, constant mesh, return shift
Clutch		Wet, multi disc
Gear ratios:	1st	2.60 (26/10)
	2nd	1.69 (22/13)
	3rd	1.25 (20/16)
	4th	1.05 (23/22)
	5th	0.89 (17/19)
	6th	0.80 (16/20)

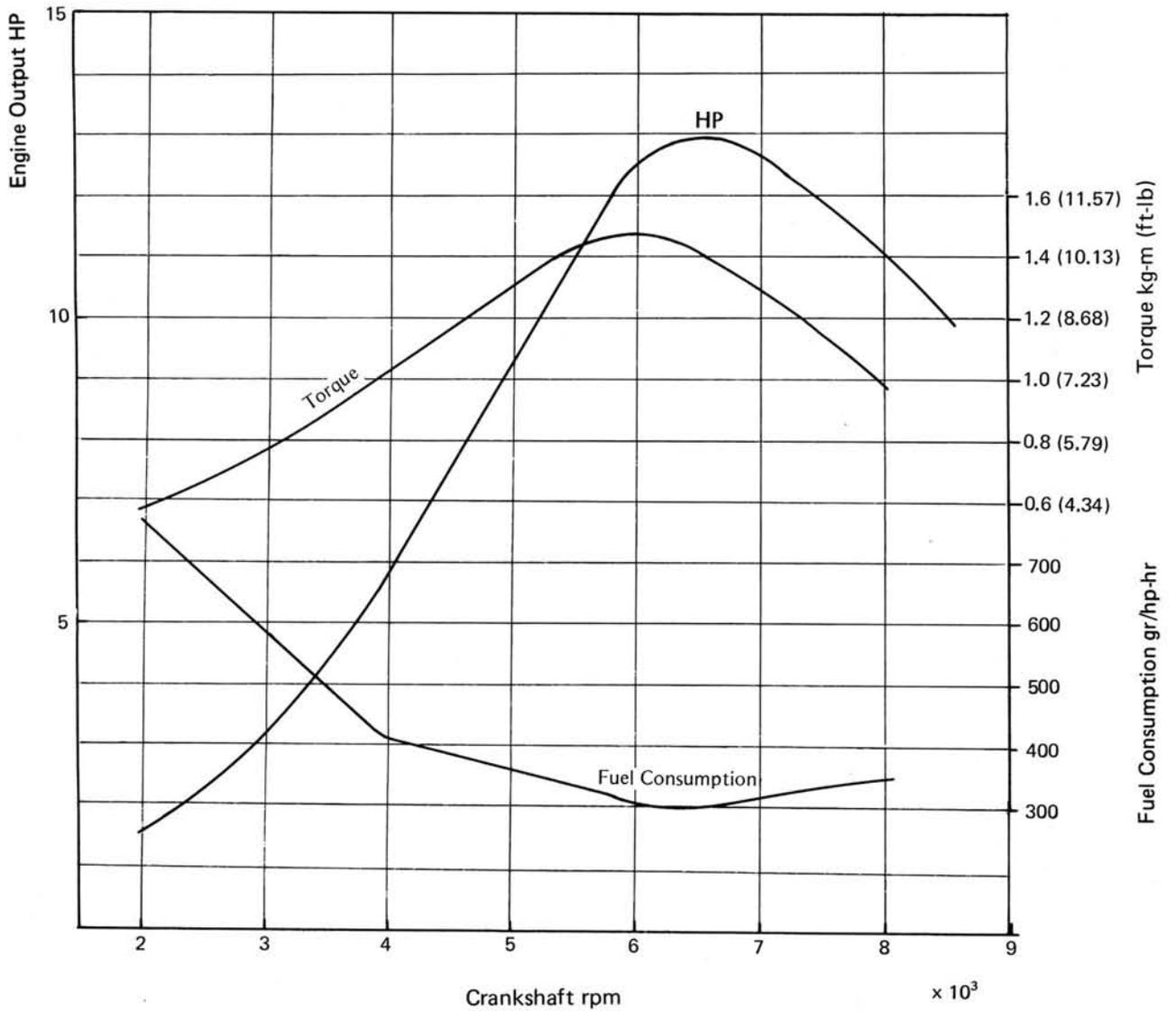
6 SPECIFICATIONS

Primary reduction ratio		3.14 (69/22)
Final reduction ratio		3.57 (50/14)
		3.33 (50/15) ⑤ ①
Overall drive ratio (top gear)		8.96
		8.36 ⑤ ①
Transmission oil	Capacity	0.65 ℓ
	Type	SE class SAE 10W30 or 10W40
Electrical equipment		
Flywheel magneto		Kokusan FP6111
Ignition coil		Kokusan IG3122
Battery		Furukawa 6N6-1D-2 (6V 6AH)
Headlight type		Semi-sealed
		Sealed beam ①
Headlight		6V 30/30W
		6V 35/35W ⑤
		6V 36/36W ⑥
High beam indicator light		6V 1.5W
Tail/Brake light		6V 5.3/25W
		6V 5/21W ⑤
Speedometer light		6V 1.5W
Tachometer light		6V 1.5W
Neutral indicator light		6V 3W
Turn signal lights		6V 17W x 4
		6V 21W x 4 ⑤
Turn signal indicator light		6V 1.5W
City light		6V 4W ⑤
Horn		6V 1.8A
		6V 1.5A ⑤
Frame		
Type		Tubular single down tube
Steering angle		51° to either side
Castor		31°
Trail		135 mm
Tire size	Front	2.75-21 4PR
	Rear	3.50-18 4PR
Suspension	Front	Telescopic fork
	Rear	Swing arm
Suspension stroke	Front	150 mm
	Rear	90 mm
Front fork oil capacity (each fork)		145~ 155 cc
Front fork oil		SAE 5W20
Brake		
Type		Internal expansion, leading-trailing
Brake drum inside diameter and width	Front	120 x 28 mm
	Rear	130 x 28 mm
① : Australian model	⑤ : European model	
⑥ : German model	① : US model	

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

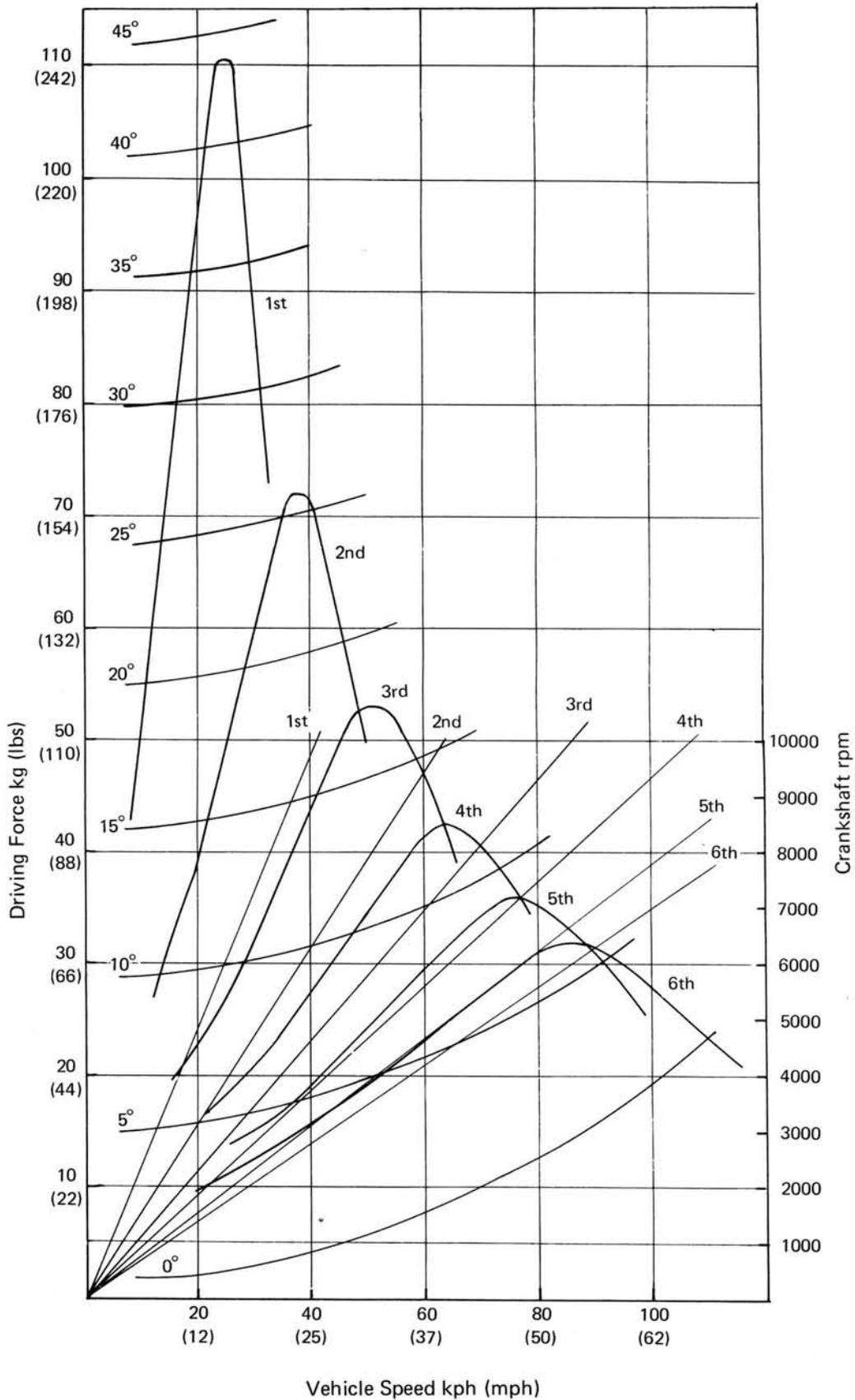
Engine Performance Curves

KE125-A5



Running Performance Curves

KE125-A5



Adjustment

THROTTLE CONTROL CABLE

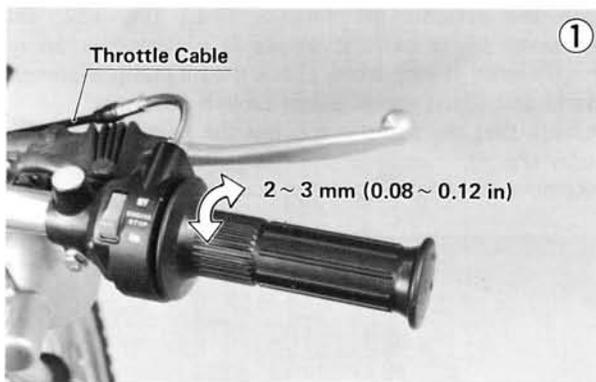
The throttle control cable is actually an assembly of three cables: the throttle cable, the carburetor cable, and the oil pump cable. The throttle cable runs from the throttle grip to the cable assembly junction where it connects to the carburetor cable, which leads to the carburetor, and the oil pump cable, which leads to the oil pump.

Since the throttle grip controls both the carburetor and the oil pump simultaneously, it is important that each cable be adjusted to its designated base position so that the quantity of oil and fuel/air mixture reaches the engine in the correct proportion at all throttle openings. Stretching of the cables creates excess play at the throttle grip and alters the base positions of the cables at the carburetor and the oil pump, necessitating periodic adjustment.

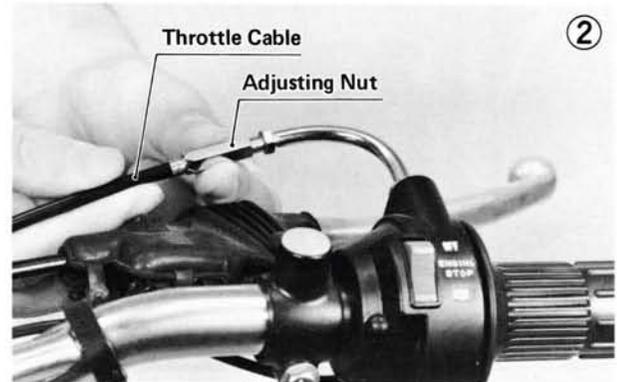
Throttle Cable

The throttle cable, connecting to both the carburetor cable and the oil pump cable, controls both the carburetor throttle valve and the oil pump lever. If there is too much play in the cable, neither the carburetor nor the oil pump will respond immediately when the grip is turned. Most of this excess play must be adjusted out. However, a small amount has to be left so that the steering movement will have no effect on the throttle valve or oil pump lever.

Check that the throttle grip has 2~3 mm (0.08~0.12 in) of play and turns smoothly. If there is too much or too little play, adjust the cable.



- Loosen the lock nut at the throttle grip end of the throttle grip cable.
- Turn the adjusting nut until the proper amount of throttle grip play is reached.
- Tighten the lock nut.



- Check the oil pump cable adjustment.
- If the throttle cable had insufficient play, adjust the carburetor cable.

Carburetor Cable

The carburetor cable forms one of the two lower branches of the throttle control cable assembly. It is adjusted so that, should the throttle valve be closed fully (not at idle but all the way down), all the play in the carburetor cable would be taken up.

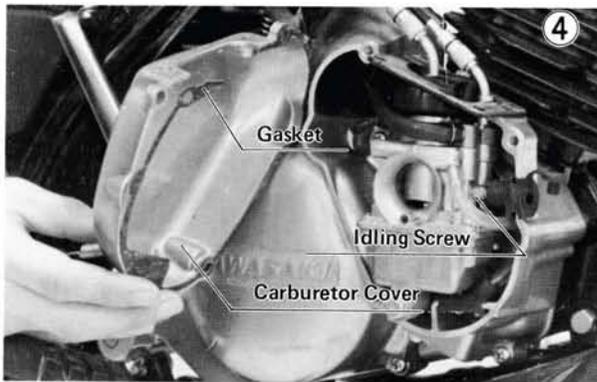
The play that develops as the cable stretches will cause a delayed engine response, and should faulty adjustment cause the cable to pull the throttle valve out of its rest position, proper idling cannot be achieved. If the carburetor cable is out of adjustment, the oil and fuel/air mixture ratio will be incorrect, resulting in over or underlubrication. Adjust the carburetor cable in accordance with the Periodic Maintenance Chart (Pg. 152) to compensate for cable stretch and whenever the throttle does not respond properly.

- Remove the nuts (2) from the muffler exhaust collar.
- Remove the bolts (2) that connect the muffler to the frame and to the bracket at the rear shock absorber, and then remove the muffler and gasket.
- Check to see that the throttle grip has the proper amount of play (Pg. 9).
- Remove the bolts (4) from the carburetor rim, and slide the rim and carburetor rubber cap up the cables.



10 ADJUSTMENT

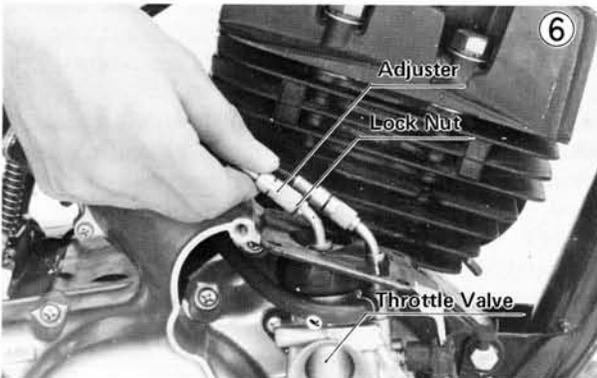
- Remove the carburetor cover and gasket, and pull out the cap from the hole to the idling screw.



- Back out the idling screw (throttle stop screw) 3 or 4 turns.



- Loosen the lock nut, and turn in the adjuster so that the throttle valve is at its lowest possible position.



- Being careful not to turn the adjuster so far that the throttle valve rises out of its lowest position, turn the adjuster back out to eliminate the play so that the slightest tug on the outer cable will affect the throttle valve.
- Tighten the lock nut.
- Replace the carburetor cover and gasket, slide back the carburetor rubber cap and rim, and tighten the rim bolts.
- Fit the muffler and gasket back into the cylinder exhaust port, and loosely tighten the bolts that connect the muffler to the frame and to the bracket at the rear shock absorber.

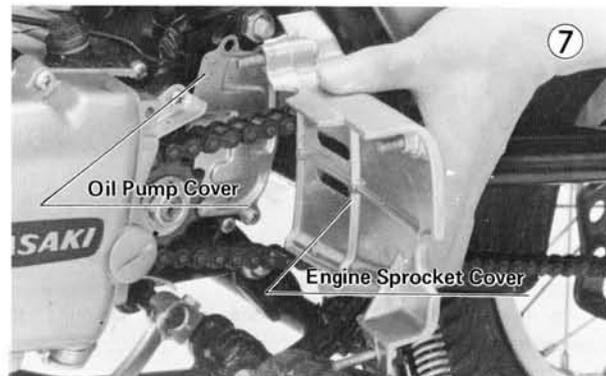
- Replace the muffler exhaust collar nuts, tightening them together so that they tighten evenly to avoid an exhaust leak. Be sure that the spring side of the nuts face out.
 - Tighten the muffler mounting bolts.
 - Check to see that the throttle grip has the proper amount of play (Pg. 9).
 - Check the oil pump cable adjustment (Pg. 10).
 - Turn in the idling screw 3 or 4 turns, and start the engine.
 - Replace the cap on the idling screw hole.
 - Warm the engine up for 5 minutes, and then adjust the idling speed with the idling screw to the lowest stable speed obtainable, which will normally be 1,300 rpm.
- NOTE:** After this adjustment has been completed, a certain amount of play will exist between the carburetor inner cable and the throttle valve, the extent of which may be detected by taking out the adjuster clip and pulling on the outer cable. This play, which is the proper amount for a correct oil and fuel/air mixture ratio, must not be altered. To ensure the proper ratio, the oil pump alignment marks should be checked after the carburetor cable adjustment.

Oil Pump Cable

The oil pump cable forms one of the two lower branches of the throttle control cable assembly and connects to the oil pump lever. The cable must be kept adjusted so that the oil pump output which is dependent on throttle movement is minimal at zero throttle and increases at a predetermined throttle opening. This adjustment is correct when the lower mark on the oil pump lever lines up with the mark on the oil pump lever stopper at zero throttle (Fig. 8).

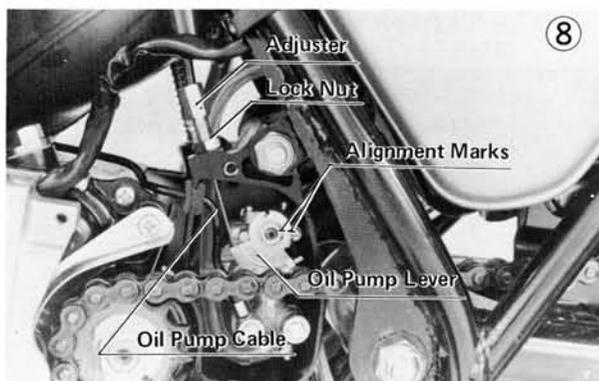
If adjustment is neglected or not carried out properly whenever necessary, the oil supply to the engine will become too low or too high, resulting in piston seizure from underlubrication or poor performance and spark plug trouble from overlubrication. The oil pump cable must be adjusted whenever the oil pump marks are found to be misaligned at zero throttle. In accordance with the Periodic Maintenance Chart (Pg. 152) and whenever white exhaust smoke is observed or an oil insufficiency is suspected, check the oil pump alignment marks and adjust the oil pump cable if necessary.

- Check that the throttle grip has the proper amount of play (Pg. 9).
- Remove the engine sprocket cover and oil pump cover.



- If the marks are not properly aligned, slide up the adjuster dust cover, loosen the adjuster lock nut, and turn the adjuster so that with the throttle grip fully closed the lower mark on the oil pump lever lines up with the mark on the lever stopper.

NOTE: The upper mark on the oil pump lever is designed to line up with the mark on the lever stopper when the throttle grip is fully open. It may be used to check whether or not the throttle grip is opening fully.



- Tighten the lock nut, and slide back the adjuster cover.
- Replace the oil pump cover and engine sprocket cover.
- Check that the throttle grip has the proper amount of play (Pg. 9).

CARBURETOR

Although some internal carburetor parts can be adjusted by replacement, repositioning, etc., these adjustments are covered in the Maintenance Section of this manual. The following procedure covers the idling adjustment, which is the adjustment necessary in periodic maintenance and whenever the idling setting has been disturbed.

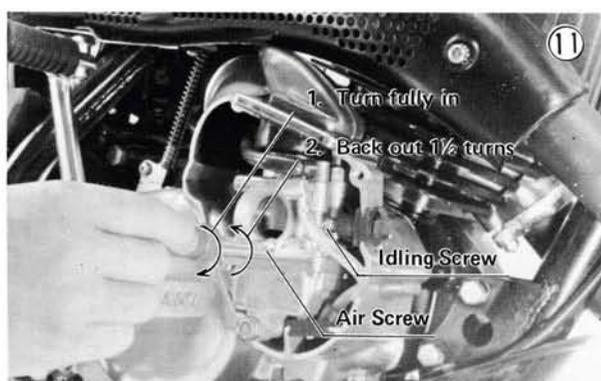
When the idling speed is too low, the engine may stall, and when the idling speed is too high, the fuel consumption becomes excessive, and a resulting lack of engine brake may make the motorcycle difficult to control.

For a proper fuel/air mixture at idling and low speed, it is important when adjusting the idling that the proper setting of the air screw is not neglected.

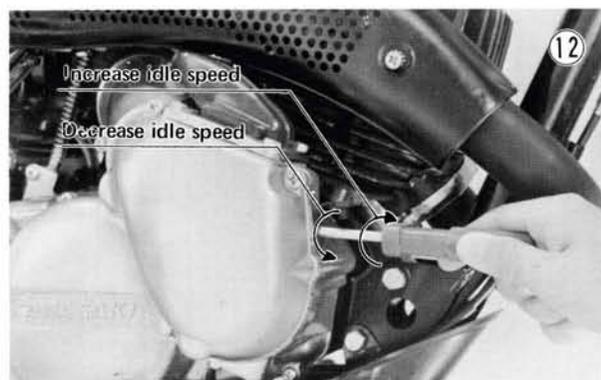
- Remove the carburetor rim bolts (2) which screw into the carburetor cover.



- Remove the carburetor cover.
- Turn in the air screw fully but not tightly, and then back it out 1½ turns (1 turn for Australian model).



- Replace the carburetor cover and tighten the rim bolts with 0.4~0.5 kg-m (35~43 in-lbs) of torque.
- Warm up the engine for about 5 minutes.
- Pull out the cap from the idling screw grommet.
- Adjust the idling speed with the idling screw to the lowest stable speed obtainable, which will normally be 1300 rpm. Turning the idling screw clockwise raises engine speed, while turning it counterclockwise lowers it.



12 ADJUSTMENT

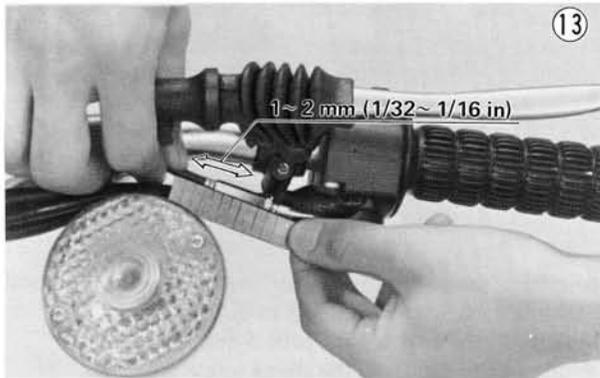
- Turn the throttle grip a few times to make sure that the idling speed is not changed after the grip is returned. Readjust if necessary.
- Turn the handlebar from side to side while idling the engine. If idling speed varies, the throttle control cable assembly may be poorly routed or the throttle grip cable play insufficient.
- Replace the idling screw grommet cap.

NOTE: The ignition timing must be correct for proper idling adjustment.

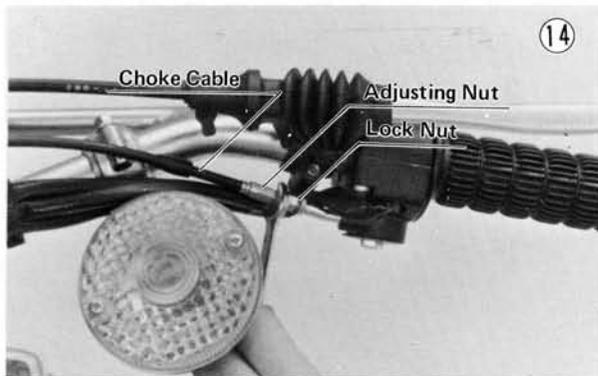
CHOKE CABLE

If the choke cable (more appropriately called a starter cable) is left too loose, the starter plunger may not open far enough when the choke lever is used. If the cable does not have enough play, the starter plunger may not fully close when the choke lever is returned, and the engine will always be running on too rich a mixture.

To determine the amount of cable play, first check to see that the choke lever is all the way returned to the left, and place a ruler alongside the upper end of the choke cable as shown in Fig. 13. Then pull out and push in the cable; the amount of cable travel is the amount of cable play. The proper amount of play is 1~2 mm (1/32~1/16 in). If there is too much or too little play, adjust the choke cable.



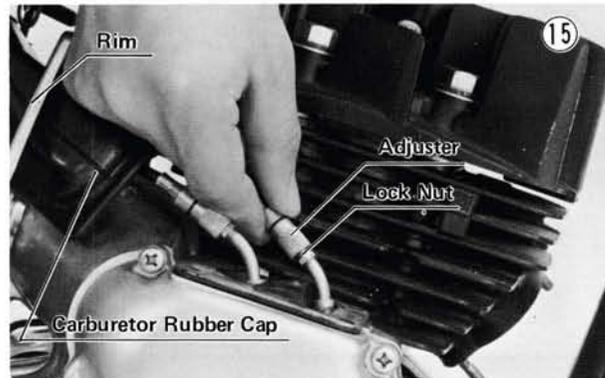
- Loosen the lock nut at the upper end of the choke cable, and turn the adjusting nut until the cable has the proper amount of play.



- Tighten the lock nut.

If the proper amount of play cannot be obtained with the adjusting nut at the upper end of the cable, carry out the following steps:

- Remove the muffler (Pg. 30).
- Remove the bolts (4) from the carburetor rim, and slide the rim and carburetor rubber cap up the cable to gain access to the adjuster at the lower end of the choke cable.
- Loosen the lock nut, and turn the adjuster until the cable has the proper amount of play.

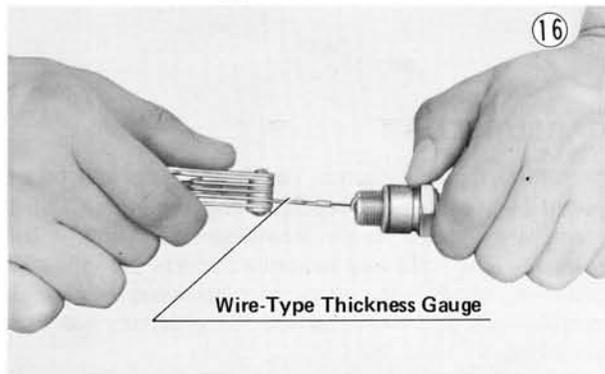


- Tighten the lock nut.
- Slide back the carburetor rubber cap and rim, and tighten the rim bolts.
- Install the muffler (Pg. 30).

SPARK PLUG

Spark plug electrode wear will widen the gap and cause missing and difficulty in starting. Too narrow a gap as a result of maladjustment will also result in poor performance since the small gap will produce only a weak spark.

- Remove the spark plug using a spark plug wrench.
- Clean the spark plug preferably in a sand-blasting device, and then clean off any abrasive particles. The plug may also be cleaned using a high flash-point solvent and a wire brush or other suitable tool.
- Measure the gap with a wire-type thickness gauge. The gap should be 0.6~0.7 mm (0.024~0.028 in); if it is not, bend the outer electrode with a suitable tool to obtain the correct gap.



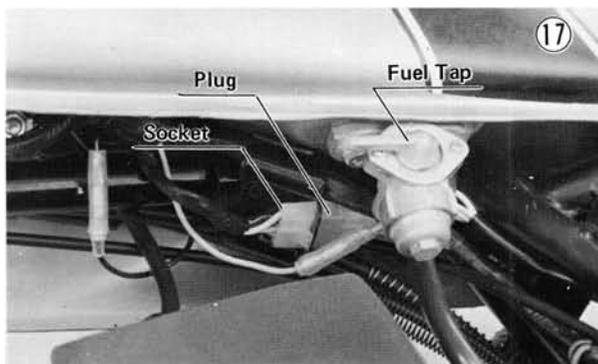
- Tighten the spark plug into the cylinder head to 2.5~3.0 kg-m (18.0~22 ft-lbs) of torque.

IGNITION TIMING

Incorrect ignition timing can cause poor performance, knocking, overheating, and serious engine damage. Periodic adjustment will be necessary to compensate for wear of parts, and the ignition timing must be checked whenever ignition related parts have been disassembled or replaced.

Correct ignition timing is achieved by adjusting through the inspection window of the magneto flywheel the position of the contact breaker base so that the points are just beginning to open when the timing mark on the outer circumference of the flywheel aligns with the timing projection on the crankcase, or when the piston is positioned 2.52 mm (0.0992 in) BTDC (before top dead center) by the use of a dial gauge. When the timing mark is aligned with the timing projection, the piston is positioned 2.52 ± 0.22 mm (0.0992 ± 0.009 in) BTDC, by which the ignition can be set for good performance. However, superior performance is generally achieved by having ignition take place as close as possible to 2.52 mm BTDC. When precise ignition timing is desired, a dial gauge is used in place of the timing mark and projection to set the position of the piston. Once the timing has been adjusted, it may be checked for accuracy by the use of a strobe light. There is no adjustment for maximum point gap.

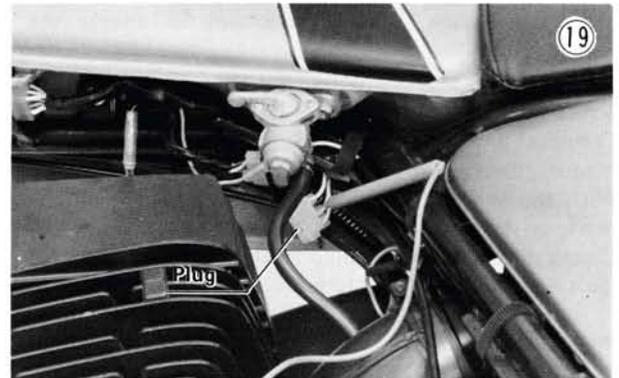
- Remove the engine sprocket cover and left engine cover.
- Undo the white socket and plug from where they connect near the fuel tap.



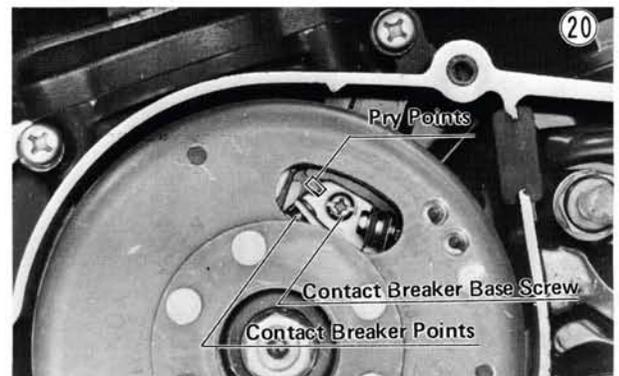
- Turn the magneto flywheel until the timing on the flywheel outer circumference aligns with the projection on the crankcase. (There are two lines on the flywheel of '74 and '75 models. The left line is the timing mark. The line to the right indicates where the woodruff key groove is located on the flywheel hub to facilitate flywheel installation.)



- Connect an ohmmeter set to the Rx1 range across the contact breaker points by securing one lead to chassis ground (such as the crankcase) and inserting the other lead into the hole where the black magneto output lead connects to the white plug. Be sure that the ohmmeter leads are connected with firm electrical contact.



- Loosen the contact breaker base screw just enough to allow the base to move.



- Use a screwdriver on the pry points to adjust the position of the contact breaker until the contact breaker points are just at the point of opening. The ohmmeter needle starts to rise when the points just begin to open. Note that total needle travel as the points open is only about 3Ω .



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- Once the base seems properly positioned, tighten the base screw, rotate the flywheel a little clockwise, and then slowly rotate it counterclockwise. When the needle starts to rise, the timing mark and projection should be aligned. If they are not, readjust and recheck until the correct contact breaker base position is reached.

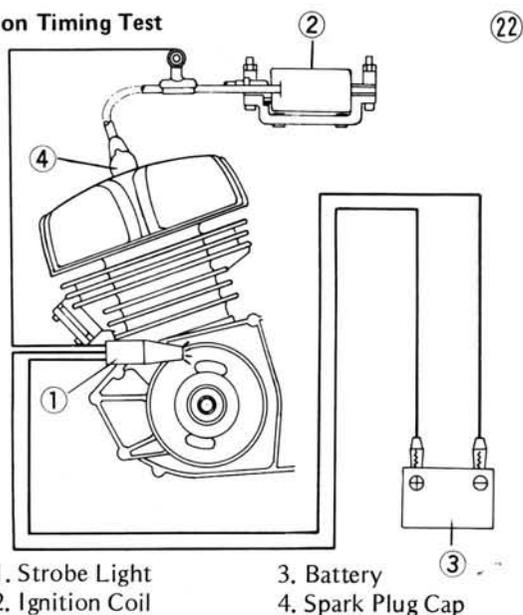
- Disconnect the ohmmeter, and reconnect the white plug and socket, being careful not to reverse the connection.

To check to see whether or not the ignition timing is correctly set, a strobe light may be used.

- Connect the light in the manner prescribed by the manufacturer. One example is shown in Fig. 22 .

- With the engine idling, direct the light at the timing mark on the crankcase. If the timing mark and the timing projection are aligned when the light flashes, the ignition timing is correctly set.

Ignition Timing Test



For even better accuracy, a dial gauge can be used to set the position of the piston. Instead of aligning the timing mark and projection, the following steps can be substituted:

- Remove the cylinder head (Pg. 31). Muffler removal is not necessary.

- Rotate the magneto flywheel counterclockwise until the position of the piston is close to the top.

- Using TDC finder "B" (special tool), mount a dial gauge on the cylinder, rotate the flywheel to set the piston at exact TDC, and set the dial to zero.



- Rotate the flywheel clockwise until the dial gauge reads about 3.0 mm (0.12 in) and then counterclockwise until the dial gauge reads 2.52 mm (0.0992 in).



At this point the piston is properly positioned such that, while using an ohmmeter (or some other suitable device), the contact breaker base can be adjusted to set the timing. When replacing the cylinder head, be sure that the gasket is properly fitted and that the nuts are tightened in a cross pattern with 2.2 kg-m (16 ft-lbs) of torque (Pg. 156).

NOTE: When setting the ignition timing by the use of a dial gauge to determine piston position, the flywheel timing mark is not used to check the timing. The dial gauge reading is referred to throughout the entire adjustment instead of the timing mark and projection. Before checking with a strobe light, first make a new timing mark by marking the flywheel just under the projection once the piston has been set at 2.52 mm (0.0992 in) BTDC.

CLUTCH

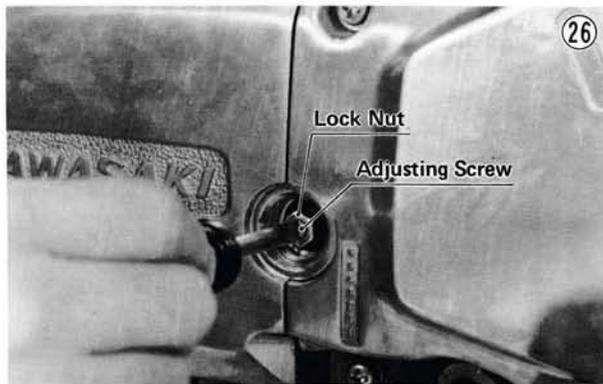
Stretching of the clutch cable causes the clutch lever to develop excessive play. Too much play will prevent the lever from fully disengaging the clutch and will result in shifting difficulty and possible clutch or transmission damage. Most of the play must be adjusted out, but a small amount has to be left so that the clutch will engage fully without slipping.

Besides cable stretch, clutch plate wear also causes the clutch to go out of adjustment. Although the clutch lever is not pulled in, the push rod will begin to oppose clutch spring pressure as this wear progresses. For proper clutch adjustment, the clutch adjusting screw must be screwed out to eliminate the push rod opposition to spring pressure while the clutch is engaged.

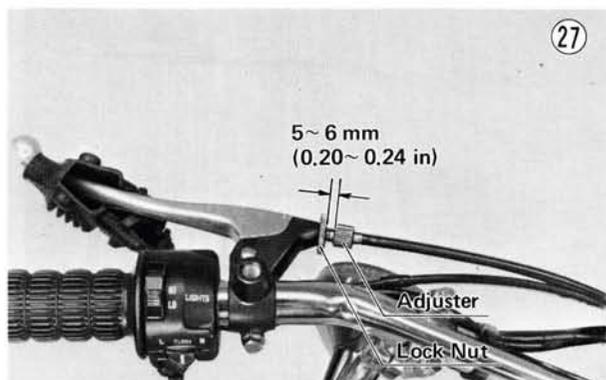
Adjust the clutch in accordance with the Periodic Maintenance Chart (Pg. 152) and whenever the clutch does not function properly. If satisfactory clutch operation is not achieved by clutch adjustment, inspect the clutch for wear and damage (Pg. 104).

The adjustment procedure which follows compensates for both cable stretch and plate wear.

- Unscrew and remove the clutch adjusting hole cap and gasket.
- Loosen the lock nut. If the clutch adjusting screw does not turn loosely already, back it out until it does.

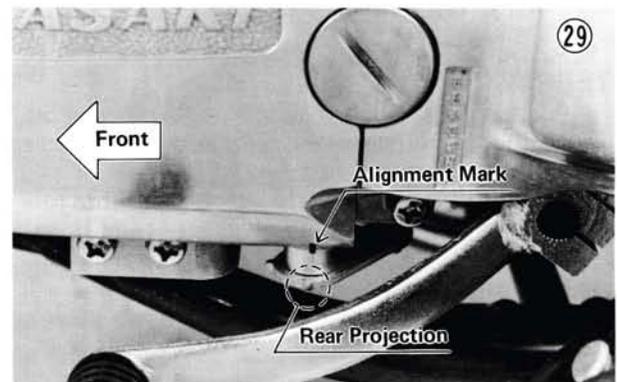


- Slide the clutch lever dust cover out of place.
- Loosen the lock nut just enough so that the adjuster will turn freely, and then turn the adjuster to make a 5~6 mm (0.20~0.24 in) gap between the adjuster and lock nut.



- Loosen the lock nut at the center of the clutch cable, turn the adjusting nut at the center of the clutch cable so that the rear projection on the clutch release lever is just under the mark on the magneto cover, and then tighten the lock nut.

NOTE: When adjusting the release lever position, especially when there is plenty of play in the clutch cable, pull the release lever towards the rear.

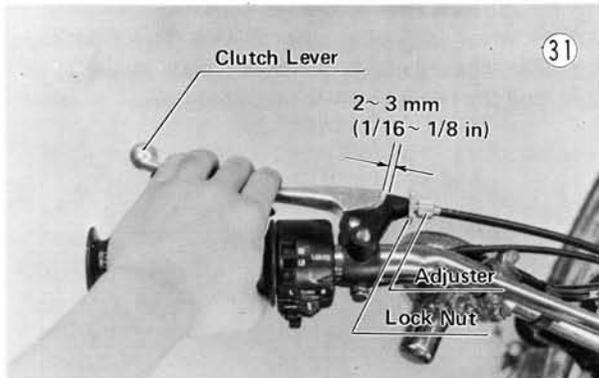


- Turn the clutch adjusting screw in to just where a resistance is felt, and then tighten the locknut.



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- Turn the adjuster at the clutch lever so that the clutch lever will have 2 ~ 3 mm ($\frac{1}{16}$ ~ $\frac{1}{8}$ in) of play, and tighten the lock nut.



- Screw in the clutch adjusting hole cap together with its gasket.
- Slide back the clutch lever dust cover.

STEERING

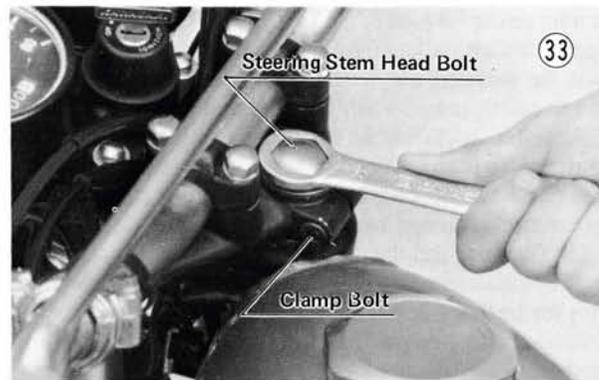
For safety, the steering should always be kept adjusted so that the handlebar will turn freely but not have excessive play.

If the steering is too tight, it will be difficult to turn the handlebar quickly, the motorcycle may pull to one side, and the steering stem bearings may become damaged. If the steering is too loose, the handlebar will vibrate, and the motorcycle will be unstable and difficult to steer in a straight line.

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 no play is felt, the steering is not too loose.



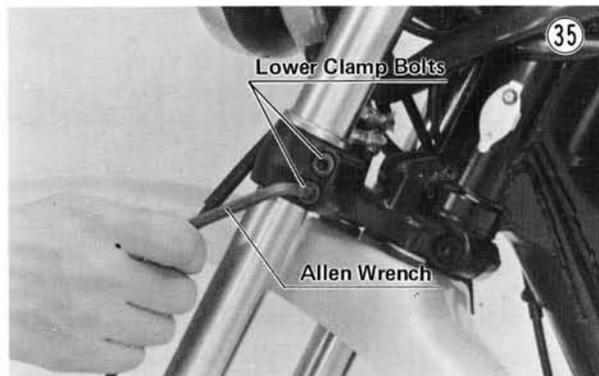
- Loosen the steering stem head bolt and the clamp bolt.



- Using the stem nut wrench, tighten the steering stem lock nut to 1.8 ~ 2.2 kg-m (13 ~ 16 ft-lbs) of torque.



- Tighten down the steering stem head bolt to 3.0 kg-m (22 ft-lbs) of torque.
- Tighten the stem head clamp bolt to 1.6 ~ 2.2 kg-m (11.5 ~ 16 ft-lbs) of torque.
- Loosen the lower clamp bolts (4) on the left and right shock absorbers to let the tubes reseat themselves, and then retighten the bolts to 1.6 ~ 2.2 kg-m (11.5 ~ 16 ft-lbs) of torque.



- Check the steering again, and readjust if necessary.

BRAKES

Brake lining wear, drum wear, and cable stretch cause the brakes to go out of adjustment, increasing lever and pedal play and decreasing braking effectiveness. Brake adjustment to compensate for this consists of correcting the cam lever angle and adjusting the front brake lever and rear brake pedal travel.

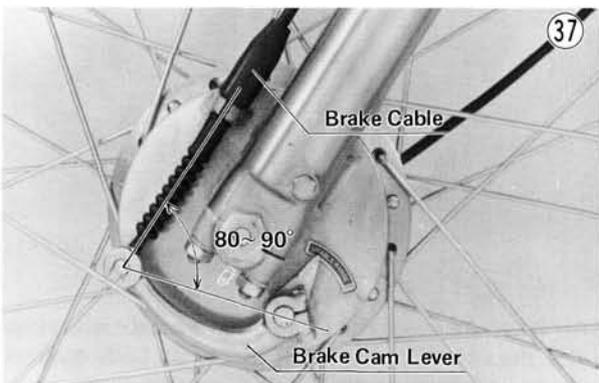
Once the brakes have been adjusted, spin or turn the wheels to check for drag. If any drag is heard or felt, disassemble the brake (Pgs. 65 and 68), and inspect for wear or damage (Pg. 123). Also, if the brake lever or pedal does not return to its rest position quickly upon release, inspect the brake for wear or damage.

On the outside of both the front and rear brake panels there is a brake lining wear indicator. Whenever the indicator has gone past **USABLE RANGE**, the brake shoes must be immediately replaced and the other brake parts examined. Adjustment alone cannot compensate for the wear of a brake worn past **USABLE RANGE**.



Front and Rear Brake Cam Lever Angle

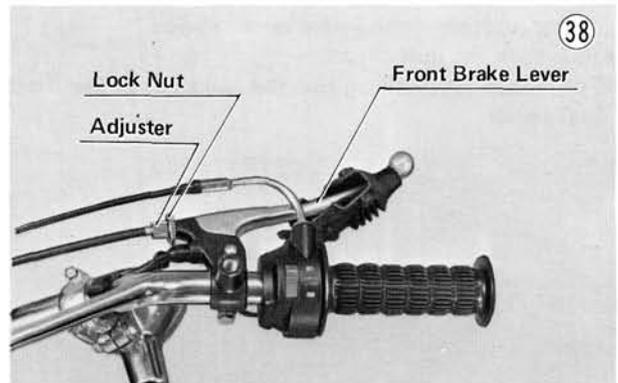
- When the brake is fully applied, the brake cam lever should come to an 80~90° angle with the threaded extension of the brake cable. If it does not, loosen the cable adjusting nut, remount the cam lever at a new position on the shaft for the proper angle, and then adjust cable play.



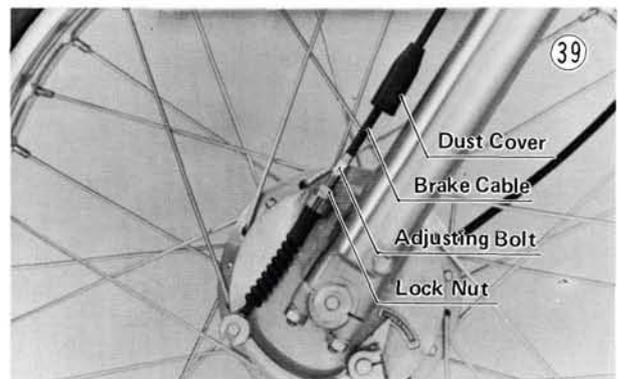
CAUTION: Since a cam lever angle greater than 90° reduces braking effectiveness, this adjustment should not be neglected. When remounting the cam, be sure that the position of the indicator on the serrated shaft is not altered. The change in cam lever angle is caused by wear of internal brake parts. Whenever the cam lever angle is adjusted, also check for drag and proper lever or pedal operation, taking particular note of the brake lining wear indicator position. In case of doubt as to braking effectiveness, disassemble and inspect all internal brake parts. Worn parts could cause the brake to lock or fail.

Front Brake Lever

- Slide the front brake lever dust cover out of place.
- Loosen the lock nut at the front brake lever, screw the adjuster fully in, and tighten the lock nut.

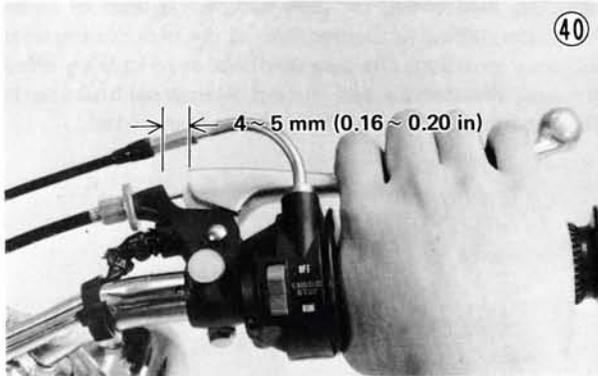


- Slide up the dust cover, and loosen the lock nut at the lower end of the brake cable.



18 ADJUSTMENT

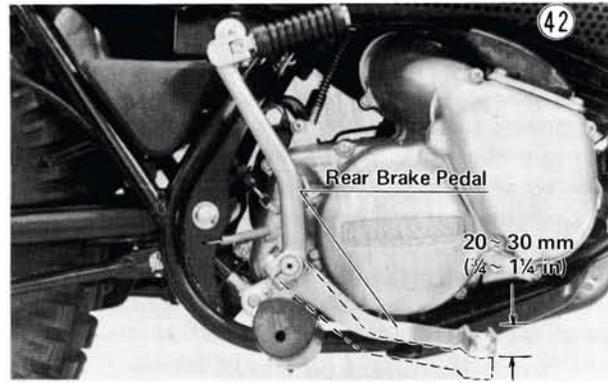
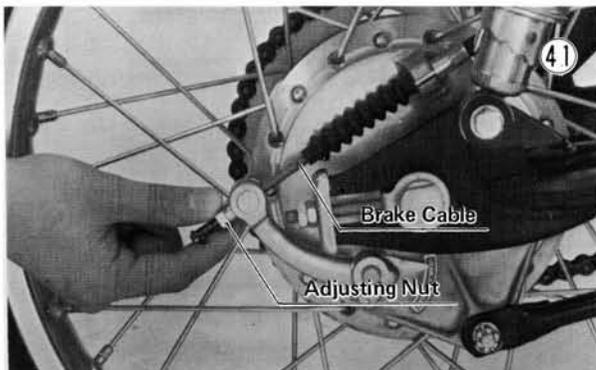
- Turn the adjusting bolt on the lower end of the front brake cable so that the brake lever has 4~5 mm (0.16~0.20 in) of play.



- If sufficient adjustment cannot be made with the adjusting bolt, complete the adjustment with the adjuster at the brake lever, and then tighten all lock nuts.
- Check for brake drag.
- Operate the lever a few times to see that it returns to its rest position immediately upon release.
- Slide back the dust covers.
- For minor corrections, use the adjuster at the front brake lever.

Rear Brake Pedal

- Turn the adjusting nut on the end of the threaded extension of the rear brake cable so that the brake pedal has 20~30 mm ($\frac{3}{4}$ ~ $1\frac{1}{4}$ in) of travel from the rest position to the fully applied position.



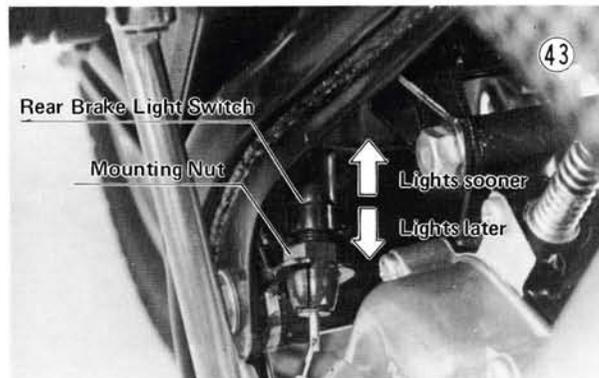
- Check for brake drag.
- Operate the pedal a few times to see that it returns to its rest position immediately upon release.
- Check the rear brake light switch adjustment.

BRAKE LIGHT SWITCH

The front brake light switch, mounted on the front brake lever, is operated by simple electrical contact and should not need adjustment. However, the rear brake light switch, activated by a wire spring attached to the brake pedal, may require adjustment if the spring has gotten stretched or if the spring or brake pedal has gotten bent or warped.

Check the operation of the switch by turning on the ignition switch and depressing the brake pedal. The brake light should go on after 15 mm ($\frac{5}{8}$ in) of pedal travel or shortly before the brake pedal reaches the fully applied position.

- Turn the switch adjusting nut up or down so that the brake light will go on after the correct amount of brake pedal travel. A higher switch position will make the light go on after less travel.

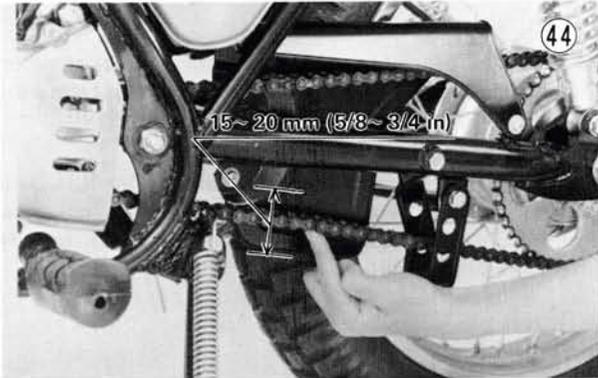


CAUTION: To avoid damaging the electrical connections inside the switch, be sure that the switch body does not turn during adjustment.

DRIVE CHAIN

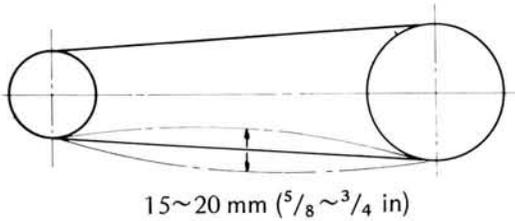
Chain and sprocket wear causes the chain to lengthen, which results in power loss, accelerated chain and sprocket wear, and increased noise. A lengthened chain which is not adjusted properly may possibly be thrown off the sprockets or break. A chain that has been adjusted too tight will wear excessively and possibly break.

First turn the rear wheel to find the part of the chain that is tightest, and make the adjustment using this part. With the motorcycle on its side stand, the chain should have about 15 ~ 20 mm ($\frac{5}{8}$ ~ $\frac{3}{4}$ in) of vertical movement midway between the sprockets. If the slack exceeds 25 mm (1 in), adjust the chain.



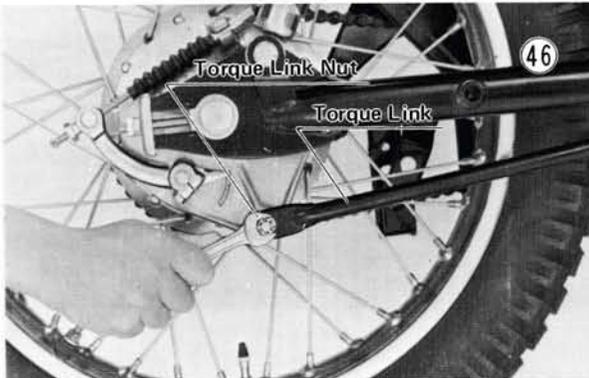
Chain Slack

45

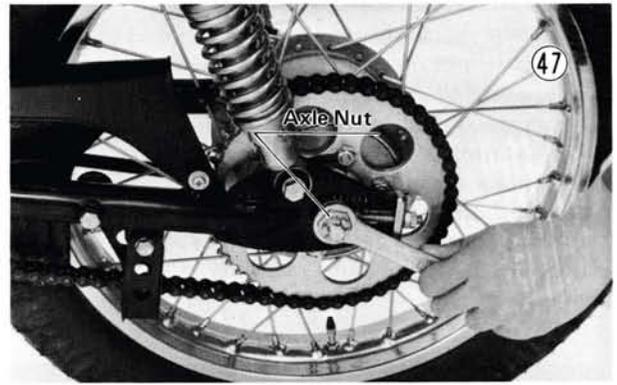


CAUTION: A chain worn past the service limit (Pg.125) should be replaced. Such wear cannot be adequately compensated by adjustment.

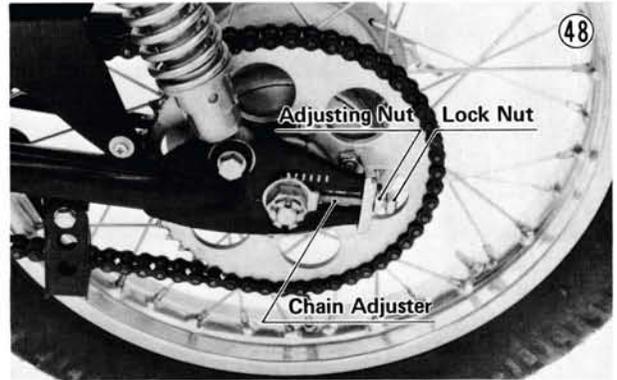
- Remove the cotter pin, and loosen the torque link rear nut.



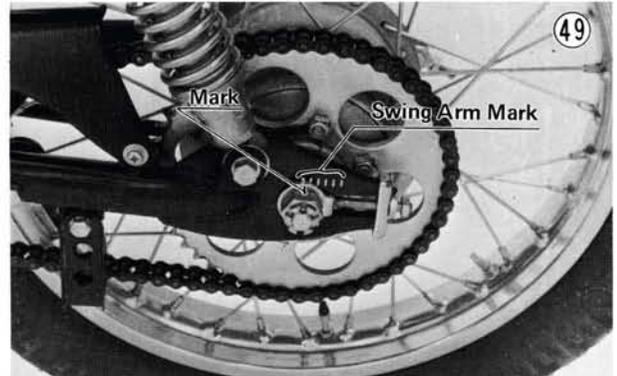
- Remove the cotter pin, and loosen the axle nut.



- Loosen the lock nut on both chain adjusters.



- If the chain is too tight, back out the adjusting nut on both chain adjusters, and then kick the wheel forward until the chain becomes overly loose.
- Turn in the right and left chain adjusting nuts evenly until the chain has the correct amount of slack. To keep the chain and the wheel aligned, the mark on the left chain adjuster must come to the same swing arm mark that the right chain adjuster mark comes to.



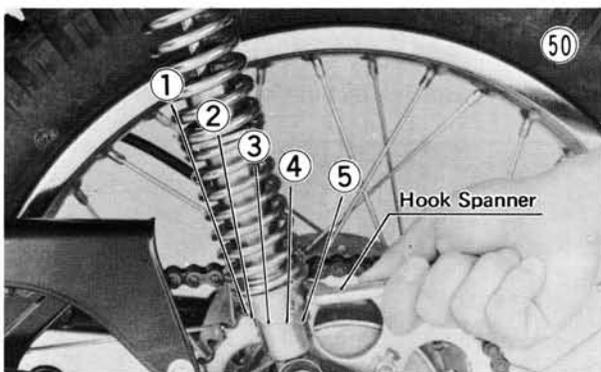
- Tighten both adjuster lock nuts, and then tighten the axle nut with 8.5 ~ 11.5 kg-m (61 ~ 83 ft-lbs) of torque.
- Rotate the wheel, measure the amount of slack, and readjust if necessary.
- Insert a new cotter pin through the axle nut and axle.
- Tighten the torque link rear nut with 2.0 ~ 2.2 kg-m (14.5 ~ 16 ft-lbs) of torque, and insert a new cotter pin.

20 ADJUSTMENT

REAR SHOCK ABSORBERS

The rear shock absorbers can be adjusted to one of 5 positions to suit riding conditions. They can be left soft for average riding but should be adjusted slightly harder for high speed riding or for riding on bad roads.

Adjustment is made by turning the adjusting sleeve with a hook spanner. The higher the adjusting sleeve is positioned, the harder the shock absorption. Be sure to turn both left and right shock absorbers to the same position in order to maintain stability.



- Repeat the previous two steps as many times as necessary to correctly balance the wheel, and then clamp the weights on firmly using pliers.
- Remount the wheel onto the motorcycle.

NOTE: Balance weights are available from Kawasaki Dealers in 10, 20, and 30 gram ($\frac{1}{3}$, $\frac{2}{3}$, and 1 oz) sizes. An imbalance of less than 10 grams will not usually affect running stability.

WHEEL BALANCE

To improve stability and decrease vibration at high speed, the front and rear wheels must be kept balanced.

Check and balance each wheel as follows:

- Remove the wheel (Pg. 64 or 67).
- Check that all the spokes are tightened evenly.
- Suspend the wheel so that it can be spun freely.



- Spin the wheel lightly several times, and see if it stops of its own accord in various positions, indicating that it is correctly balanced.
- If one part of the wheel always stops at the bottom, mark the side of the tire at the top, and attach a balance weight loosely to the spoke closest to the mark.

HEADLIGHT

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

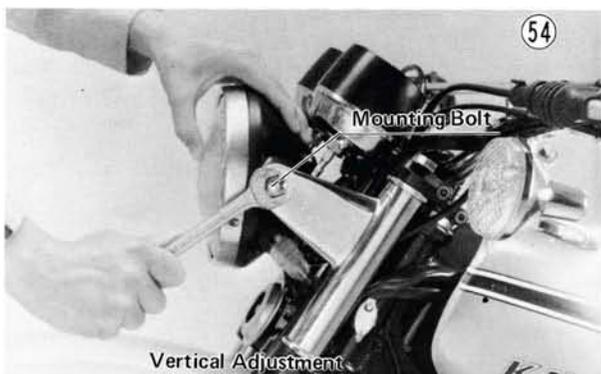
Horizontal Adjustment:

- Turn in or out the small screw on the headlight rim until the beam points straight ahead.



Vertical Adjustment:

- Loosen the headlight housing mounting bolts just enough so that the headlight can be moved.



- Move the headlight up or down by hand to where the vertical aim is correct.



- Tighten the headlight housing mounting bolts.

HORN

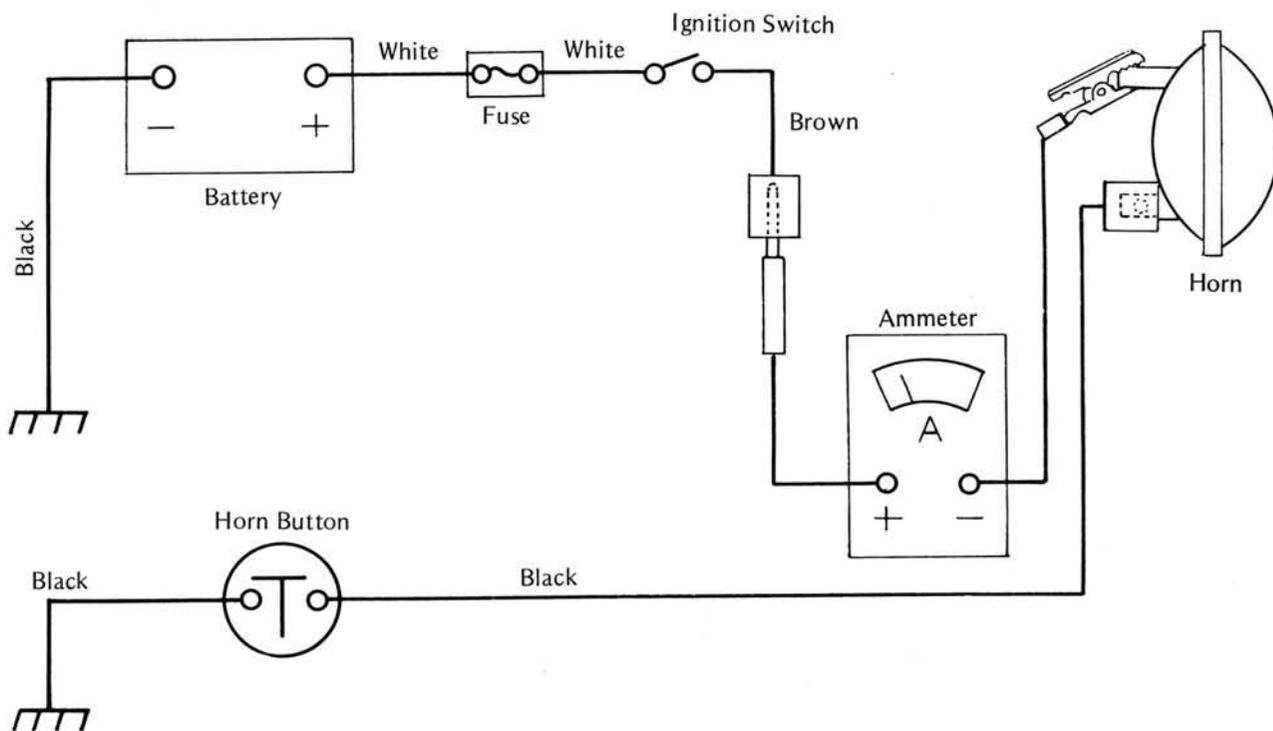
The horn contacts wear down after long use and will need to be adjusted from time to time. Turning out the adjusting screw compensates for contact wear. If satisfactory horn performance cannot be obtained by this adjustment when the rest of the electrical system is functioning properly, the horn must be replaced. It cannot be disassembled.

CAUTION: Do not turn the adjusting screw out too far since doing so will damage the horn spring and increase the horn current, possibly burning out the horn coil.

- Disconnect the brown lead from the horn, and connect an ammeter into the circuit in series. The + ammeter lead goes to the brown lead, and the - ammeter lead goes to the horn terminal.

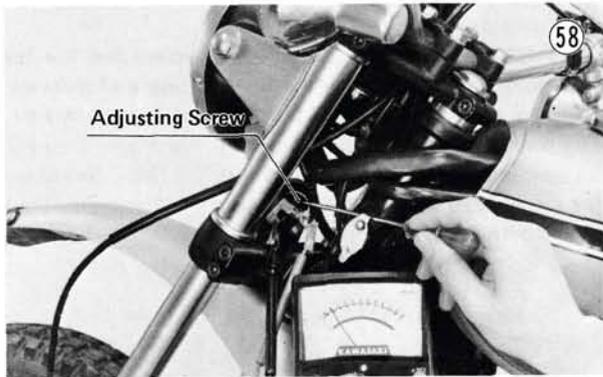


Horn Current Measurement



22 ADJUSTMENT

- Product 1975, 1978, 1979 Kawasaki KE125 Motorcycle Service Repair Workshop Manual
Full Download: <https://www.arepairmanual.com/downloads/1979-kawasaki-ke125-motorcycle-service-repair-workshop-manual/>
- Turn on the ignition key, and keep the horn button pressed while turning the horn adjusting screw. Adjust for a healthy horn sound while keeping the current as close as possible to 1.5 amperes. In no event should the current be allowed to exceed 2.2 amperes since at higher amperage the horn life is seriously shortened.



NOTE: The horn will not sound properly if it is mounted incorrectly or if any cables or other parts are touching it.