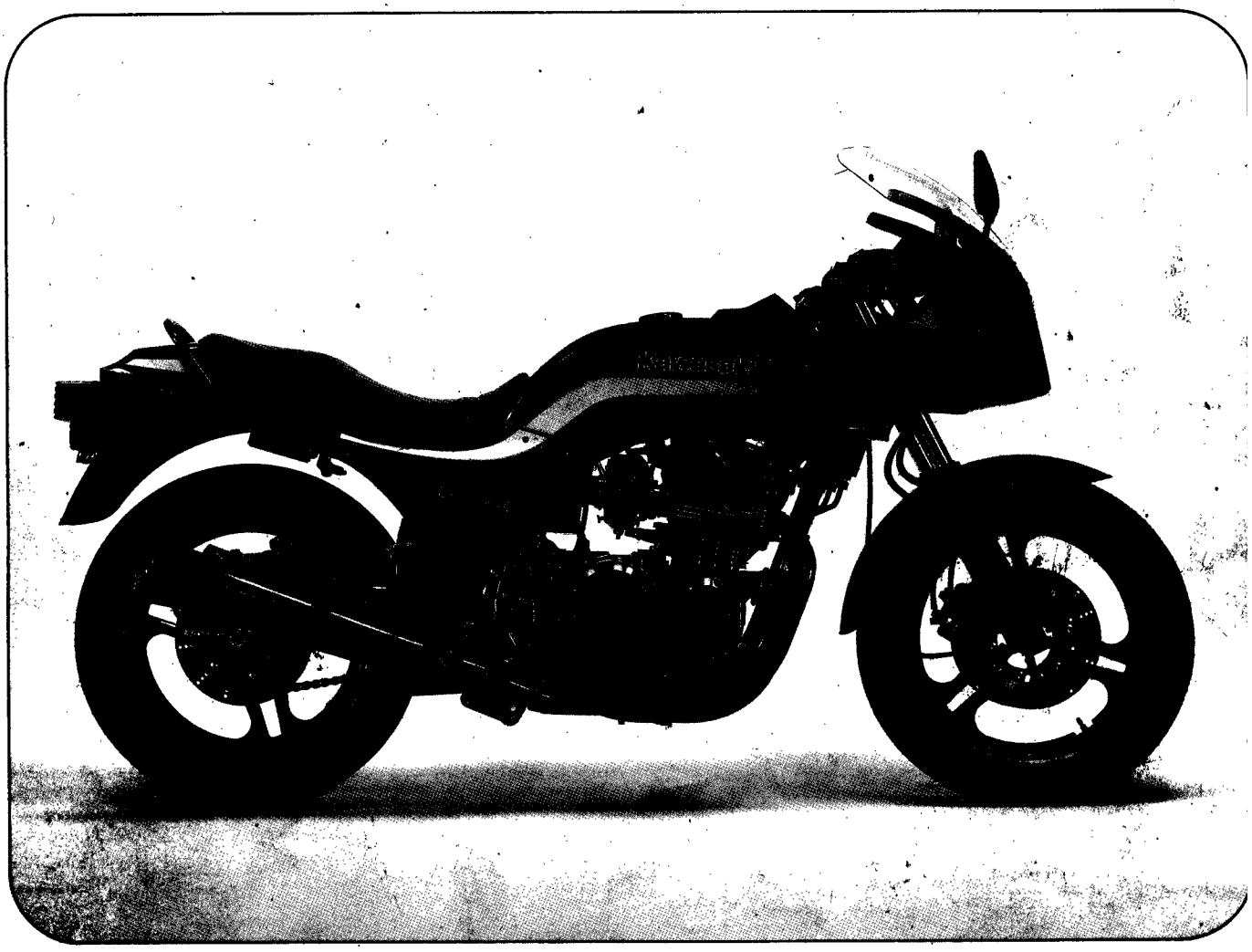
Kawasaki

KZ750 Four



Motorcycle Service Manual

Decimal Equivalents

INCH					MM INCH
1/64				.015625	
	1/32			.03125	1mm= .03937 inch
3/64				.046875	
		1/16		.0625	
5/64				.078125	2mm= .07874 inch
	3/32			.09375	
7/64				.109375	3mm= .11811 inch
			1/8	.125	
9/64				.140625	
	5/32			.15625	4mm= .15748 inch
11/64				.171875	
		3/16		.1875	5mm= .19685 inch
13/64				.203125	
	7/32			.21875	
15/64				.234375	6mm= .23622 inch
			1/4	.25	
17/64				.265625	7mm= .27559 inch
	9/32			.28125	
19/64				.296875	
		5/16		.3125	8mm= .31496 inch
21/64				.328125	
	11/32			.34375	9mm= .35433 inch
23/64				.359375	
			3/8	.375	
25/64				.390625	10mm= .39370 inch
	13/32			.40625	
27/64				.421875	11mm= .43307 inch
		7/16		.4375	
29/64				.453125	
	15/32			.46875	12mm= .47244 inch
31/64				.484375	
			1/2	.5	13mm= .51181 inch

INCH					MM INCH
33/64				.515625	
	17/32			.53125	
35/64				.546875	14mm= .55118 inch
		9/16		.5625	
37/64				.578125	15mm= .59055 inch
	19/32			.59375	
39/64				.609375	
			5/8	.625	16mm= .62992 inch
41/64				.640625	
	21/32			.65625	17mm= .66929 inch
43/64				.671875	
		11/16		.6875	
45/64				.703125	18mm= .70866 inch
	23/32			.71875	
47/64				.734375	19mm= .74803 inch
			3/4	.75	
49/64				.765625	
	25/32			.78125	20mm= .78740 inch
51/64				.796875	
		13/16		.8125	21mm= .82677 inch
53/64				.828125	
	27/32			.84375	
55/64				.859375	22mm= .86614 inch
			7/8	.875	
57/64				.890625	23mm= .90551 inch
	29/32			.90625	
59/64				.921875	
		15/16		.9375	24mm= .94488 inch
61/64				.953125	
	31/32			.96875	25mm= .98425 inch
63/64				.984375	
			1	1.	

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

$$°C \rightarrow °F: \frac{9\,(°C + 40)}{5} - 40 = °F$$

$$°F \rightarrow °C: \frac{5\,(°F + 40)}{9} - 40 = °C$$

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

KZ750 Four

Motorcycle Service Manual

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.

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

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

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

"NOTE" indicates points of particular interest for more efficient and convenient operation.

This manual is divided into the following sections:

(1) Adjustment

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

(2) Disassembly

This section shows the best method for the removal, disassembly, assembly, and installation which are necessary for maintenance and repair. Do not disassemble parts further than explained in this manual. For spare parts, refer to the Parts Catalog. Since assembly and installation are usually the reverse of disassembly and removal, assembly and installation are not explained in detail in most cases. Instead, assembly notes and installation notes are provided to explain special points.

In cases where removal procedure is readily apparent, such as for the seat, side stand, etc., no information are given in this section.

(3) Maintenance and Theory of Operation

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

(4) Appendix

The appendix in the back of this manual contains miscellaneous information, including a special tool list and wiring diagram.

(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 this Service Manual is based on the first production units of the KZ750-E1, -H1, there may be minor discrepancies between some vehicles and the illustrations and text in this manual. Major changes and additions pertaining to later year units will be explained in a supplement following the appendix or by a new edition.

QUICK REFERENCE GUIDE

To use, bend the manual back and match the desired section below against the black spot showing at the edge of these pages.

Specifications

Adjustment
- Engine
- Chassis

Disassembly
- Introduction
- Engine (Installed)
- Engine (Removed)
- Chassis

Maintenance & Theory
- Engine
- Chassis
- Electrical

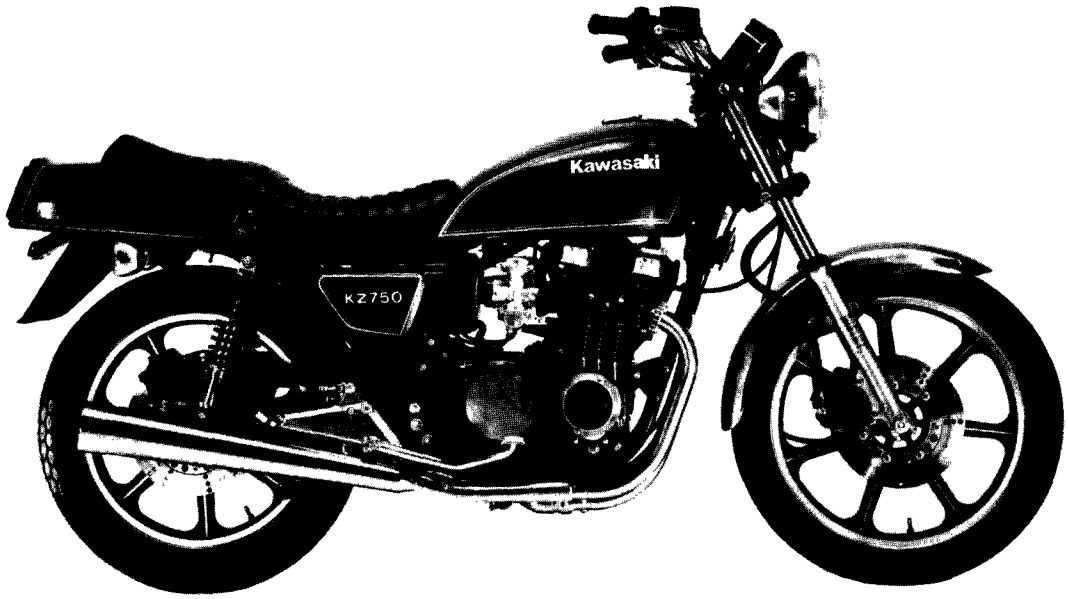
Troubleshooting

Appendix

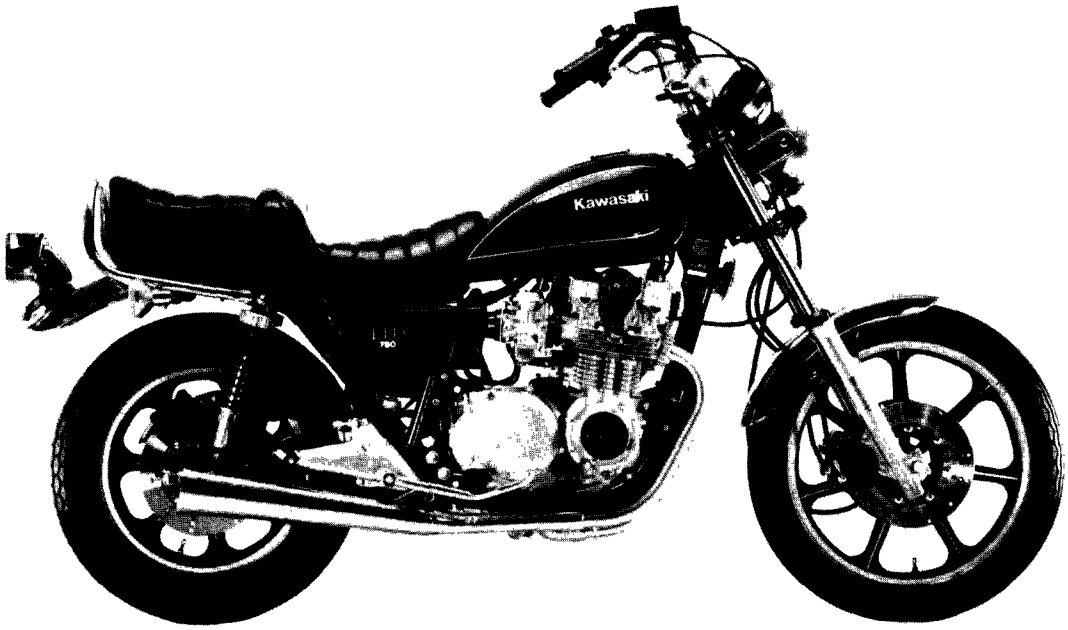
Supplement

Model Identification

KZ750-E1



KZ750-H1



Specifications

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RUNNING PERFORMANCE CURVES 9
PERIODIC MAINTENANCE CHART 10

6 SPECIFICATIONS

SPECIFICATIONS

		KZ750-E1	KZ750-H1
Dimensions			
Overall length		2,190 mm Ⓔ 2,192 mm ©Ⓤ 2,130 mm	2,195 mm
Overall width		780 mm ©Ⓤ 835 mm	810 mm
Overall height		1,135 mm	1,235 mm
Wheelbase		1,420 mm	1,450 mm
Road clearance		150 mm	155 mm
Dry weight		210 kg	211.3 kg
Fuel tank capacity		17.3 ℓ	12.4 ℓ
Performance			
Climbing ability		30°	*
Braking distance		12.5 m from 50 kph	*
Minimum turning radius		2.4 m	2.5 m
Engine			
Type		DOHC 4 cylinder, 4 stroke, air-cooled	*
Bore and stroke		66.0 x 54.0 mm	*
Displacement		738 cc	*
Compression ratio		9.0	*
Maximum horsepower		74 HP @9,000 rpm	*
Maximum torque		6.4 kg-m @7,500 rpm	*
Valve timing			
Inlet	Open	30° BTDC	*
	Close	60° ABDC	*
	Duration	270°	*
Exhaust	Open	60° BBDC	*
	Close	30° ATDC	*
	Duration	270°	*
Carburetors		Keihin CV34 x 4	*
Lubrication system		Forced lubrication (wet sump)	*
Engine oil	Type	SE class SAE 10W40, 10W50, 20W40, or 20W50	*
	Capacity	3.5 ℓ	*
Starting system		Electric starter	*
Ignition system		Battery and coil (transistorized ignition)	*
Cylinder numbering method		Left to right, 1–2–3–4	*
Firing order		1–2–4–3	*
Ignition timing (mechanically advanced)		From 10° BTDC @1,050 rpm to 40° BTDC @3,650 rpm	*
Spark plugs		NGK B8ES or ND W24ES-U ©Ⓔ NGK BR8ES or ND W24ESR-U	*
Transmission			
Transmission type		5-speed, constant mesh, return shift	*
Clutch type		Wet, multi disc	*
Driving system		Chain drive	*
Gear ratio:	1st	2.33 (35/15)	*
	2nd	1.63 (31/19)	*
	3rd	1.27 (28/22)	*
	4th	1.04 (26/25)	*

			KZ750-E1	KZ750-H1
Primary reduction ratio			2.55 (27/23 x 63/29)	*
Final reduction ratio			2.54 (33/13)	2.46 (32/13)
Overall drive ratio			5.66 @top gear	5.49 @top gear
Electrical Equipment				
Maximum alternator output			238 VA @10,000 rpm	*
Battery			Furukawa FB12A-A (12V 12AH)	*
Headlight	Type		Semi-sealed Ⓒ Ⓤ Sealed beam	Semi-sealed
	Bulb		12V 50/40W Ⓔ 12V 60/55W Ⓒ Ⓤ 12V 60/50W (quartz halogen light)	12V 60/55W (quartz halogen light)
Tail/Brake light(s)			12V 8/27W Ⓐ Ⓔ 12V 5/21W	12V 8/27W Ⓔ 12V 5/21W
City light			12V 3.4W Ⓔ 12V 4W	12V 4W
Turn signal lights			12V 23W Ⓔ 12V 21W	*
Turn signal/running position lights			12V 23/8W	*
Horn			12V 3A	*
Frame				
Type			Tubular, double cradle	*
Steering angle			39° to either side	*
Castor			27°	30°
Trail			108 mm	121 mm
Tire	Front		3.25H-19 4PR Tubeless	*
	Rear		4.00H-18 4PR Tubeless	130/90-16 67H Tubeless
Suspension type	Front		Telescopic fork	*
	Rear		Swing arm	*
Wheel travel	Front		160 mm	180 mm
	Rear		95 mm	100 mm
Front fork oil	Type		SAE 10W	*
	Capacity (each fork)		232 cc Ⓒ Ⓤ 248 cc	280 cc
Brakes				
Type	Front		Dual disc brakes	*
	Rear		Single disc brake	*
Effective disc diameter		Front	226 mm	*
		Rear	226 mm	*

* : Same as left column

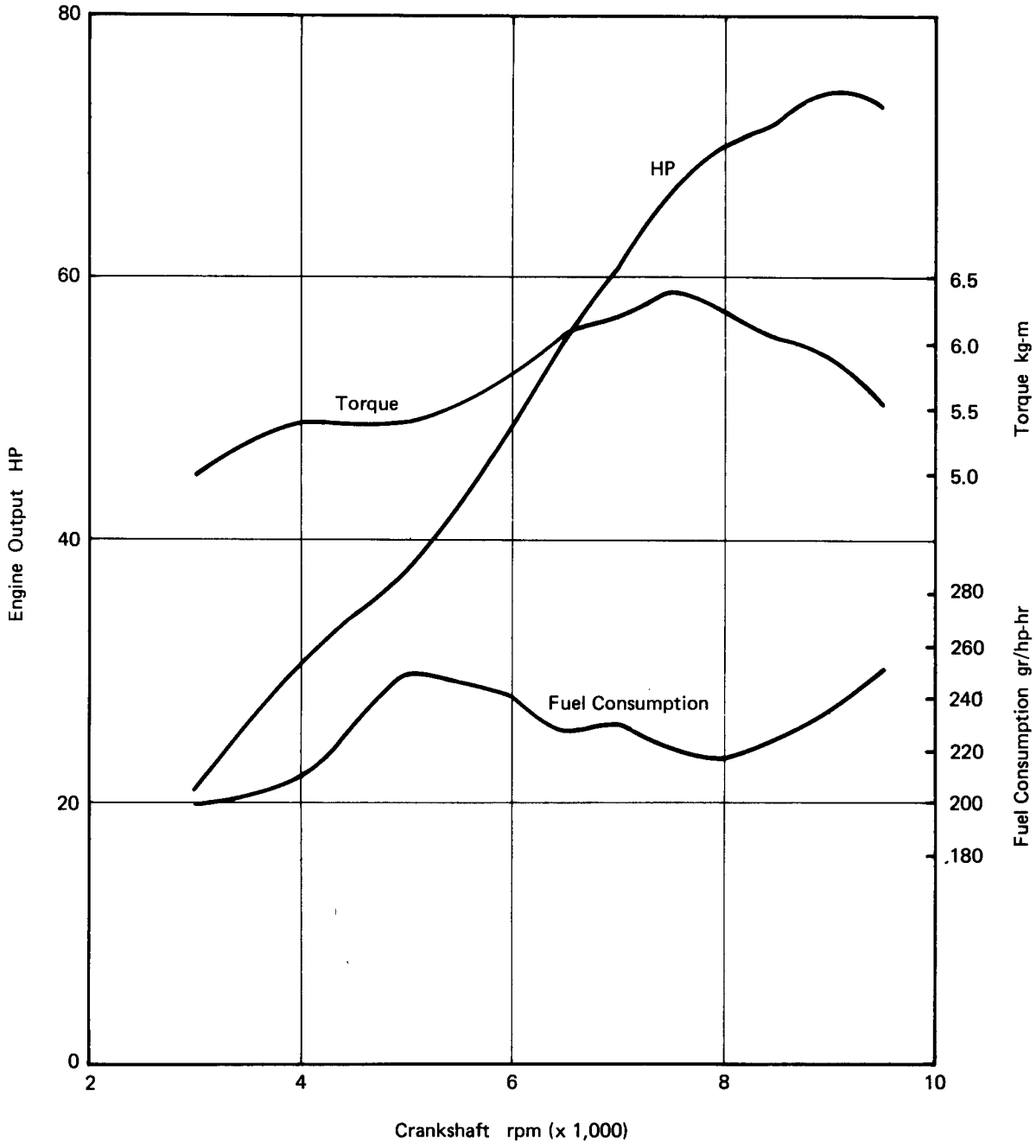
Ⓐ : Australian model Ⓒ : Canadian model Ⓔ : European model Ⓤ : US model

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

8 SPECIFICATIONS

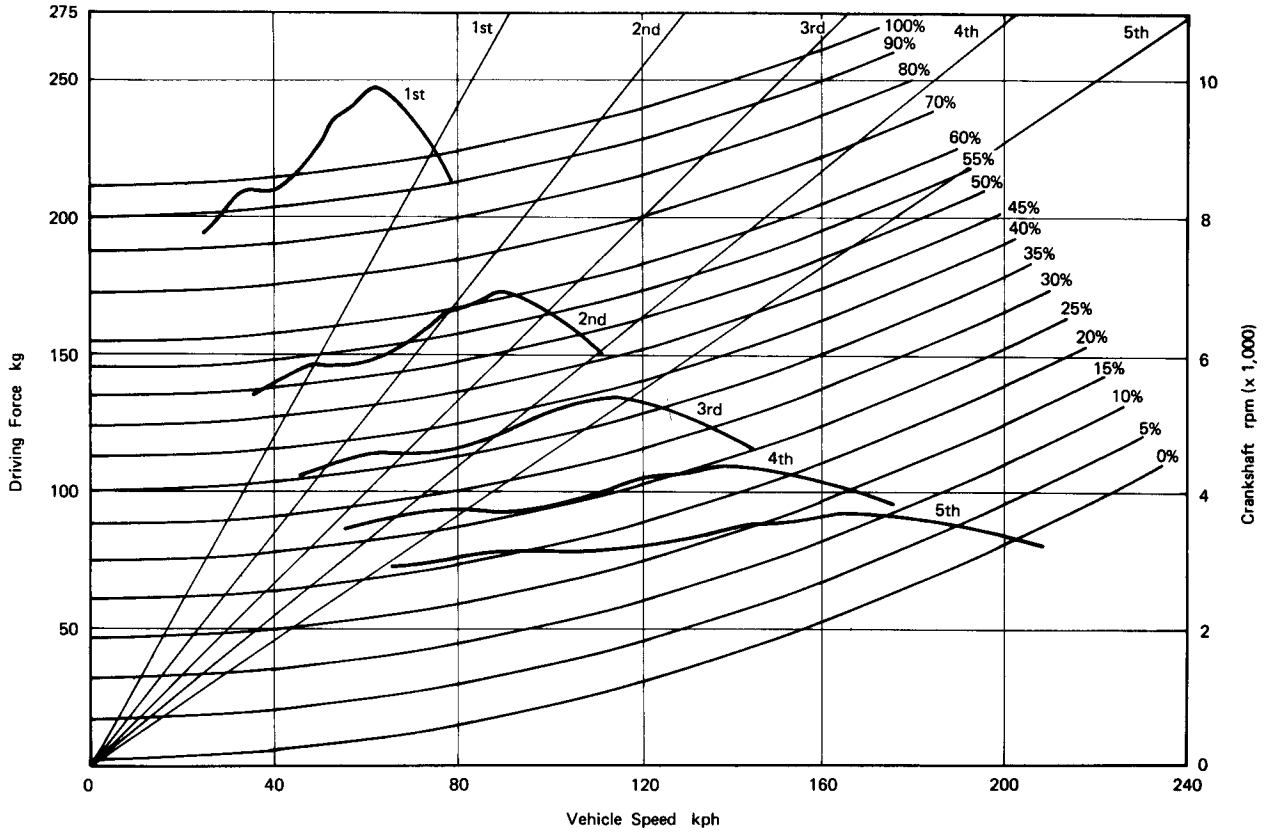
ENGINE PERFORMANCE CURVES

KZ750-E1, H1

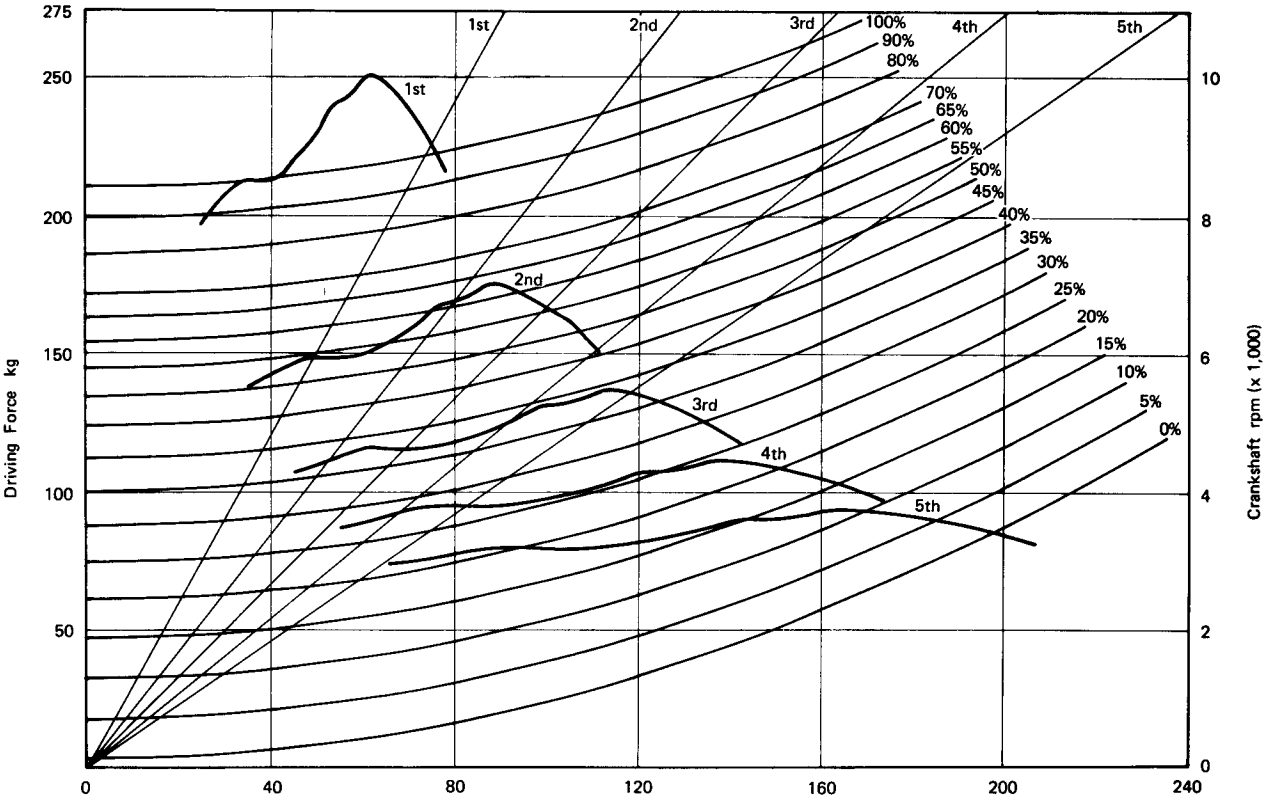


RUNNING PERFORMANCE CURVES

KZ750-E1



KZ750-H1



10 SPECIFICATIONS

PERIODIC MAINTENANCE CHART

The maintenance and adjustments must be done in accordance with this chart to keep the motorcycle in good running condition. **The initial maintenance is vitally important and must not be neglected.**

OPERATION / FREQUENCY	Whichever comes first — Every	ODOMETER READING* 800 km	5,000 km	10,000 km	15,000 km	20,000 km	25,000 km	30,000 km	See Page
Battery electrolyte level — check †	month	•	•	•	•	•	•	•	218
Brake wear — check †			•	•	•	•	•	•	201~205
Brake fluid level — check †	month	•	•	•	•	•	•	•	207
Brake fluid — change	year			•		•		•	206
Clutch — adjust		•	•	•	•	•	•	•	17
Carburetors — adjust		•	•	•	•	•	•	•	15
Throttle cable — adjust		•	•	•	•	•	•	•	14
Steering play — check †		•	•	•	•	•	•	•	26
Drive chain wear — check †			•	•	•	•	•	•	198
Front fork — inspect/clean		•	•	•	•	•	•	•	211
Rear shock absorbers — inspect		•	•	•	•	•	•	•	214
Nuts, Bolts, Fasteners — check and torque		•		•		•		•	35~39
Spark plugs — clean and gap †		•	•	•	•	•	•	•	12
Valve clearance — check †		•	•	•	•	•	•	•	12
Air suction valves — check †			•	•	•	•	•	•	166
Air cleaner element — clean			•		•		•		148
Air cleaner element — replace	5 cleanings			•		•		•	148
Fuel system — clean		•	•	•	•	•	•	•	19
Tire tread wear — check †			•	•	•	•	•	•	193
Engine oil — change	year	•	•	•	•	•	•	•	18
Oil filter — replace		•		•		•		•	18
General lubrication — perform			•	•	•	•	•	•	29
Front fork oil — change				•		•		•	212
Timing advancer — lubricate				•		•		•	227
Swing arm — lubricate				•		•		•	215
Wheel bearings — grease	2 years					•			197
Speedometer gear housing — grease	2 years					•			197
Steering stem bearings — grease	2 years					•			209
Drive chain — lubricate	Every 300 km								198
Drive chain — adjust	Every 800 km								23

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

†Replace, add or adjust if necessary.

Adjustment–Engine

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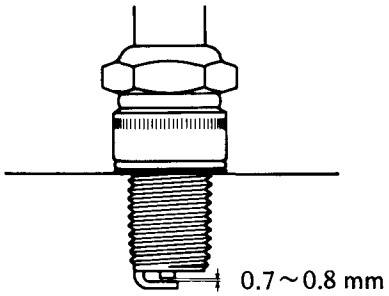
Oil Level Inspection 19
Oil and Oil Filter Change 19
FUEL SYSTEM 19
SHIFT PEDAL LINKAGE 19

SPARK PLUGS

Neglecting the spark plug eventually leads to difficult starting and poor performance. If the spark plug is used for a long period, the electrodes gradually burn away and carbon builds up along the insulator. In accordance with the Periodic Maintenance Chart (Pg. 10), the plug should be removed for inspection, cleaning and to reset the gap.

- Remove the spark plugs 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. If the spark plug electrodes are corroded or damaged, or if the insulator is cracked, replace the plug. Use the standard plug or its equivalent.
- Measure the gap with a wire-type thickness gauge. If the gap is incorrect carefully bend the outer electrode, with a suitable tool to obtain the correct gap.

Spark Plug Gap (B1)



CAUTION **For cold weather low speed riding, a hotter spark plug (NGK B7ES or BR7ES, ND W22ES-U or W22ESR-U) may be used for quicker warm-ups and more efficient engine operation. However, for normal temperatures and/or high speed use, the standard spark plug (NGK B8ES or BR8ES, ND W24ES-U or W24ESR-U) must be used to prevent engine damage.**

Table B1 Spark Plug

Riding Condition	Normal	Cold weather [below 10°C (50°F)] low speed
Type	NGK B8ES ND W24ES-U	NGK B7ES ND W22ES-U
	Ⓔ NGK BR8ES ND W24ESR-U	Ⓔ NGK BR7ES ND W22ESR-U
Gap	0.7~0.8 mm	
Tightening Torque	2.8 kg-m (20 ft-lbs)	

- Tighten the spark plugs in the cylinder head to specified torque.

VALVE CLEARANCE

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

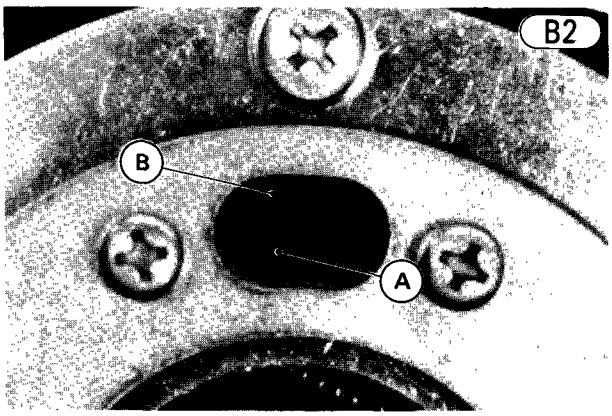
Valve clearance for each valve should be checked and, if incorrect, adjusted in accordance with the Periodic Maintenance Chart (Pg. 10) and any time that clearance may have been affected by disassembly.

When carrying out adjustment, be careful to adjust within the specified clearance. Adjusting to a larger value will both disturb valve timing and cause engine noise.

NOTE: Valve clearance must be checked when the engine is cold.

To check the valve clearance:

- Remove the fuel tank (Pg. 43).
- Remove the ignition coils (Pg. 51).
- Remove the cylinder head cover (See the Camshaft Removal: Pg. 53).
- Check the tightening torque of the camshaft cap bolts [1.2 kg-m (104 in-lbs)].
- Remove the pick-up coil cover.
- Using a 17 mm wrench on the crankshaft, turn the crankshaft so that the "1 4" T mark on the timing advancer is aligned with the timing mark.

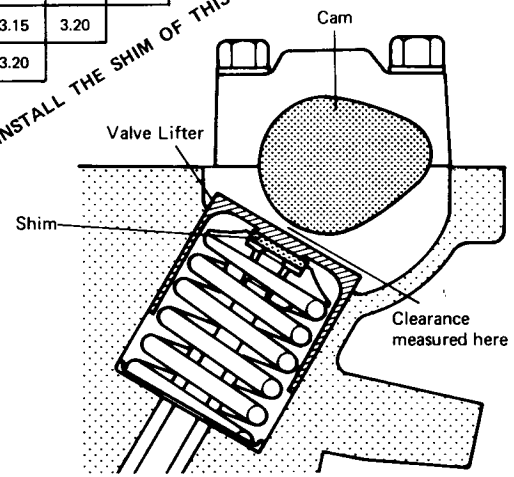


ble B2 Valve Clearance Adjustment Chart

	PRESENT SHIM SIZE																								
PART NUMBER (92025-)	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114
THICKNESS (mm)	2.00	2.05	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20

VALVE CLEARANCE (mm)																										
0.00~0.03			2.00	2.00	2.05	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05
0.04~0.07		2.00	2.00	2.05	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10
0.08~0.18	SPECIFIED CLEARANCE / NO CHANGE REQUIRED																								
0.19~0.22	2.05	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	
0.23~0.27	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20		
0.28~0.32	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20			
0.33~0.37	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20				
0.38~0.42	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20					
0.43~0.47	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20						
0.48~0.52	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20							
0.53~0.57	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20								
0.58~0.62	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20									
0.63~0.67	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20										
0.68~0.72	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20											
0.73~0.77	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20												
0.78~0.82	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20													
0.83~0.87	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20														
0.88~0.92	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20															
0.93~0.97	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20																
0.98~1.02	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20																	
1.03~1.07	2.90	2.95	3.00	3.05	3.10	3.15	3.20																		
1.08~1.12	2.95	3.00	3.05	3.10	3.15	3.20																			
1.13~1.17	3.00	3.05	3.10	3.15	3.20																				
1.18~1.22	3.05	3.10	3.15	3.20																					
1.23~1.27	3.10	3.15	3.20																						
1.28~1.32	3.15	3.20																							
1.33~1.38	3.20																								

INSTALL THE SHIM OF THIS THICKNESS (mm)



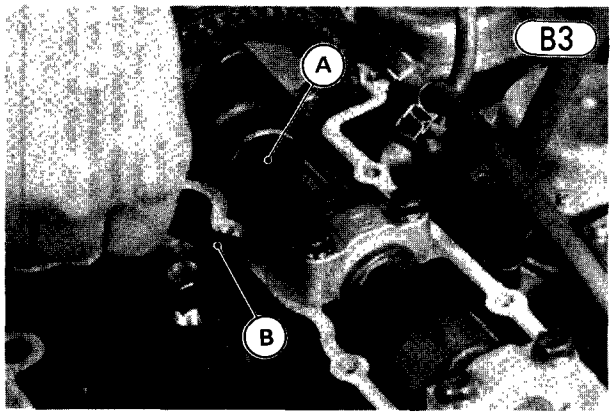
1. Measure the clearance (when cold).
2. Check present shim size.
3. Match clearance in vertical column with present shim size in horizontal column.
4. The shim specified where the lines intersect is the one that will give you the proper clearance.

NOTE: If there is no clearance, select a shim which is several sizes smaller and then measure the clearance.

CAUTION

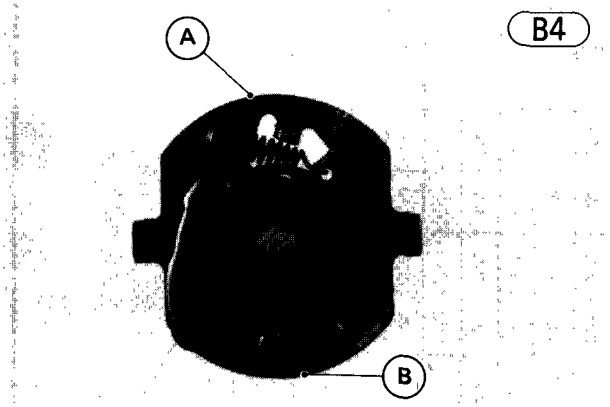
1. **Do not put shim stock under the shim. This may cause the shim to pop out at high rpm causing extensive engine damage.**
2. **Do not grind the shim. This may cause it to fracture, causing extensive engine damage.**
3. **Check the valve clearance with the proper method in the text. Checking the clearance at any other cam position may result in improper valve clearance.**

•For two inlet valves (#1 and #3, or #2 and #4) at a time, measure the clearance between the cam and the valve lifter. The correct clearance is 0.08 ~ 0.18 mm for both inlet and exhaust valves.



A. Inlet Camshaft **B. Thickness Gauge**

•Turn the crankshaft a half turn until the "2 3" T mark is aligned with the timing mark, and measure the clearance of two exhaust valves (#1 and #3, or #2 and #4).

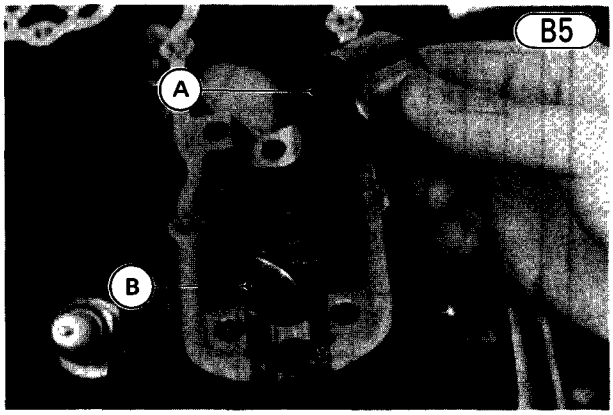


A. "1 4" T Mark **B. "2 3" T Mark**

•Turning the crankshaft another a half turn and then another a half turn to measure the clearance for the remaining valves.
•If the valve clearance is incorrect, continue the following procedures to replace the present shim with a new shim, which will give the proper clearance.

NOTE: If there is no clearance between the valve lifter and cam, select a shim which is several sizes smaller and then remeasure the clearance once it is installed.

To adjust the valve clearance:
•Remove the camshaft (Pg. 53).
•Being careful not to damage the valve lifter, pull off



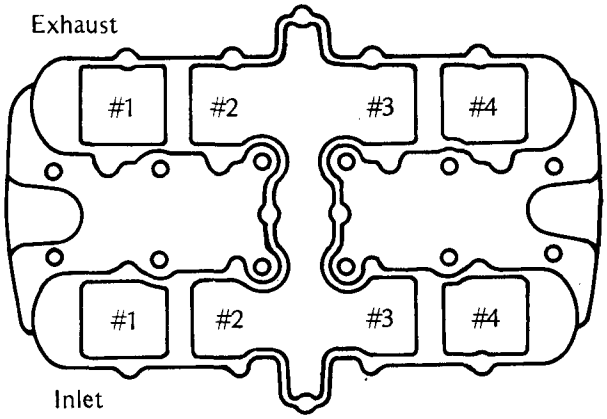
A. Valve Lifter **B. Shim**

•Check the present shim thickness (shim size) which is printed on the shim surface, and referring to the Valve Adjustment Chart (Pg. 13), select a new shim which brings valve clearance within the specified limits. Shims are available in sizes from 2.0~3.2 mm, in increments of 0.05 mm.
•Insert the new shim on the valve spring retainer.

CAUTION
1. Do not put shim stock under the shim. This may cause the shim to pop out at high rpm, causing extensive engine damage.
2. Do not grind the shim. This may cause it to fracture, causing extension engine damage.

NOTE: If the smallest shim does not sufficiently increase clearance, the valve seat is probably worn. In this case, repair the valve seat (Pg. 163), and check the valve stem installed height (Pg. 164).
•Install the camshaft (Pg. 54), remeasure the valve clearance that was adjusted, and readjust if necessary.

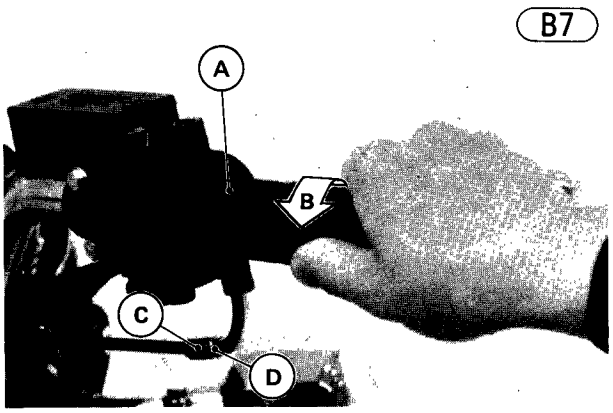
Valve Location B6



THROTTLE CABLE

The throttle cable controls the carburetor butterfly valves. Excessive play in the throttle grip will cause a delay in throttle response, especially at low rpm. Also, the butterfly valves may not open fully at full throttle. On the other hand, if the cable is too tight, the throttle will be hard to control, and the idle speed will be erratic.

To check and adjust the throttle cable:



A. Throttle Grip
B. 2~3 mm play
C. Adjusting Nut
D. Locknut

•If not, loosen the locknut, and turn the adjusting nut until 2~3 mm of throttle grip play is obtained. Tighten the locknut.

NOTE: If the throttle cable cannot be adjusted by using the cable adjusting nut at the upper end of the throttle cable, use the cable adjuster at the lower end of the throttle cable. Do not forget to securely tighten the adjuster locknut.

CARBURETORS

For internal carburetor maintenance and replacement of parts, see the maintenance section (Pg. 150) of this manual. The following procedure covers the idling adjustment, which should be inspect during periodic maintenance or whenever the idling setting has been disturbed. This procedure also includes the necessary steps for obtaining proper carburetor synchronization.

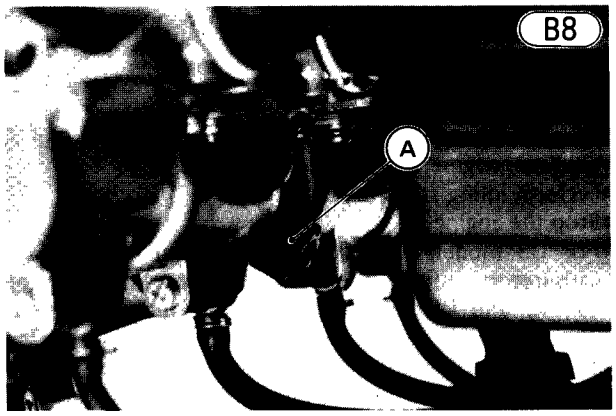
When the idle speed is too low, the engine may stall; when the idle speed is too high, the fuel consumption becomes excessive, and the resulting lack of engine braking may make the motorcycle difficult to control. Poor carburetor synchronization will cause unstable idling, sluggish throttle response, the reduced engine power and performance.

The following procedure consists of two parts: idling adjustment and carburetor synchronization.

Idling Adjustment

•Start the engine, and warm it up thoroughly.

•Adjust the idle speed to 1,000~1,100 rpm by turning



A. Idle Adjusting Screw

•Open and close the throttle a few times to make sure that the idle speed does not change. Readjust if necessary.

NOTE: With the engine idling, turn the handlebar to either side. If handlebar movement changes idle speed, the throttle cable may be improperly adjusted or incorrectly routed, or they may be damaged.

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

NOTE: If proper idle speed cannot be obtained by this adjustment above, first check the following and correct as necessary.

Engine Oil
Spark Plugs
Throttle Cable
Cylinder Compression
Air Cleaner Element
Air Cleaner Duct and Carburetor Holder Leakage
Camshaft Chain
Valve Clearance
Kawasaki Clean Air System
Carburetor Function Checks

Carburetor Synchronization

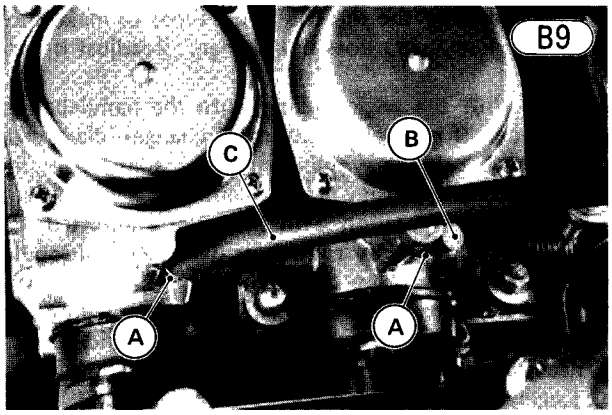
Fine adjustment of carburetor synchronization, necessary for smooth engine operation, requires the use of vacuum gauges. A difference between left two cylinders and right two cylinders might be found from exhaust noise and exhaust pressure; but to synchronize each carburetor, using vacuum gauges is essential.

NOTES: 1. During carburetor synchronization, the fuel tank will be removed. In most cases, it will be necessary to temporarily replace the standard fuel lines with lines long enough to reach the fuel tank while it is located on your workbench.

2. If fuel is supplied to the carburetors from another optional tank, the vacuum hose for the automatic fuel tap will be open and extra air drawn into the carburetor bore through the vacuum hose. This results in improper carburetor synchronization. To prevent this, plug the open end of the vacuum hose during carburetor synchronization so that no extra air can be

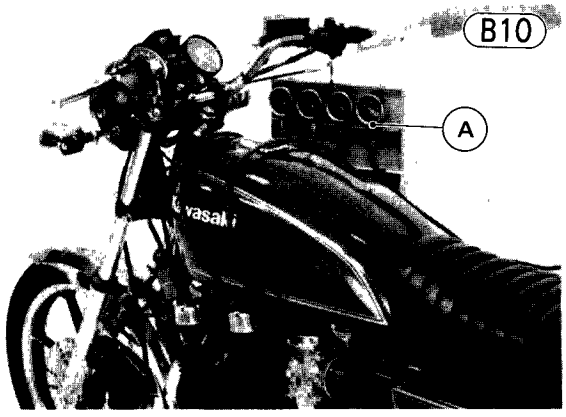
WARNING **Use extreme caution when working with gasoline, open fuel lines, etc. to avoid a fire or explosion.**

To check the carburetor synchronization:
- Start the engine, and warm it up thoroughly.
- Perform idling adjustment.
- Stop the engine.
- For US model, pull off the rubber cap from the #3 carburetor, and pull off the vacuum hoses (3) from the #1, #2, and #4 carburetors sliding the hose clamps out of position.
- Except for US model, pull off the rubber caps (3) from the #1, #3, and #4 carburetors, and pull off the vacuum hose from the #2 carburetor sliding the hose clamp out of position.



A. Vacuum Gauge Attachment **C. Vacuum Hose**
B. Rubber Cap

- Attach the vacuum gauges (special tool) fitting the gauge hoses to the vacuum gauge attachments.

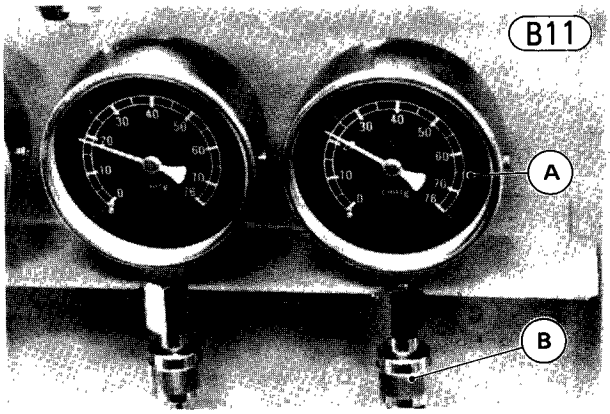


A. Vacuum Gauge Set (57001-127)

- Turn the fuel tap lever to the "PRI" position.
- With the engine running at idle speed, close the vacuum gauge damper valves until gauge needle flutter is less than 3 cmHg. Note the gauge reading.

Table B3 Engine Vacuum

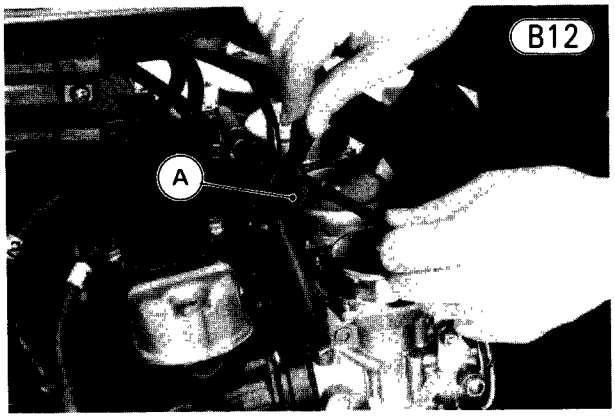
Engine Vacuum	22 cmHg
Difference between	less than 2cmHg



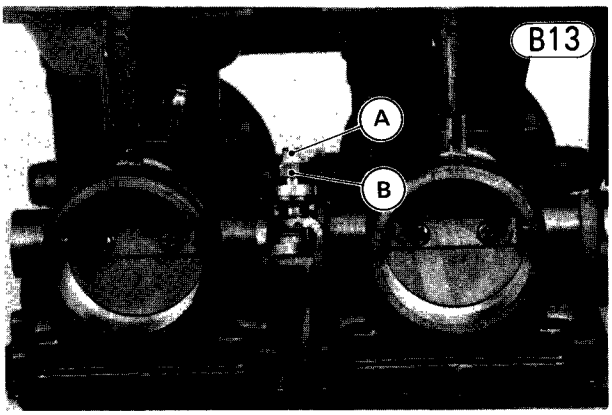
A. Vacuum Gauge **B. Damper Valve**

- If the difference in vacuum readings between any two cylinders is greater than the specified value, synchronize the carburetors according to the following procedure.

To synchronize the carburetors:
- Remove the fuel tank (Pg. 43), and supply fuel for carburetors by some means during adjustment.
- With the engine running at idle speed, loosen the locknut and alter the balance adjusting screw position using the balance adjuster (special tool) to obtain a difference in readings which is less than the specified value. Tighten the locknut.



A. Balance Adjuster (57001-351)



- Perform idling adjustment again.
- Open the throttle grip and let it snap shut a few times. Make sure the vacuum readings stay within the specified vacuum reading. If they do not, repeat the last two steps.
- If any gauge reads 5cmHg or more below the specified pressure after synchronizing the carburetors; check the points listed in the end of the idling adjustment.
- After the carburetors are properly synchronized, tighten the locknuts without changing the positions of the adjusting screws.
- Detach the vacuum gauges, and install the vacuum plugs (1 or 3). Connect the vacuum hoses (1 or 3) to the fitting(s). Slide the hose clamp(s) back into palce.
- Install the fuel tank (Pg. 43).

CLUTCH

Stretching of the clutch cable causes the clutch lever to develop excessive play. Too much play will prevent complete disengagement and may result in shifting difficulty and possible clutch and transmission damage. Most of the play must be adjusted out, but a small amount must remain so that the clutch release lever will function properly.

Clutch plate wear also causes the clutch to go out of adjustment. This wear causes the play between the push rod and the adjusting screw to gradually diminish until the push rod touches the adjusting screw. When this play is lost, the clutch will not engage fully, causing the clutch to slip.

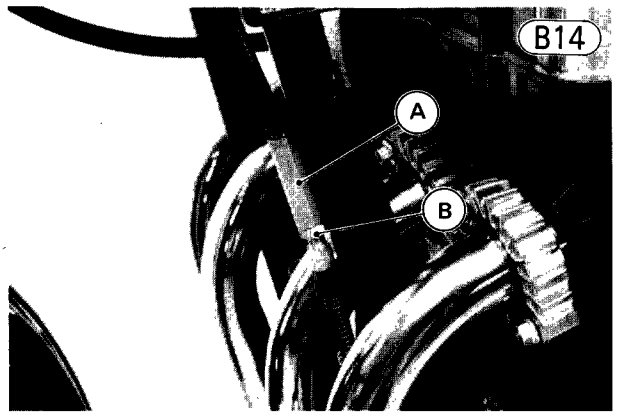
NOTE: Even though the proper amount of play exists at the clutch lever, clutch lever play alone cannot be used to determine whether or not the clutch requires adjustment.

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

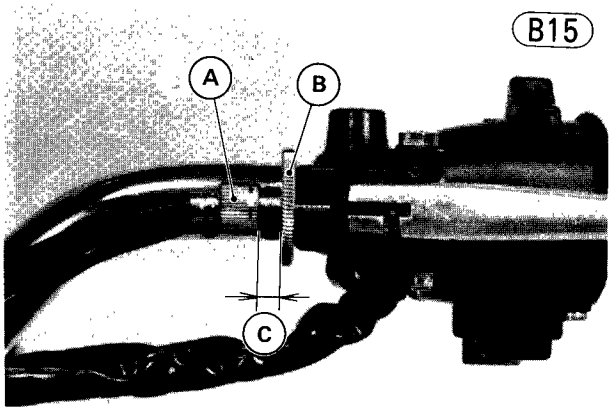
WARNING **To avoid a serious burn, never touch a hot engine or exhaust pipe during clutch adjustment.**

To adjust the clutch:

- Turn in fully the locknut and adjusting nut at the center of the clutch cable to give the cable plenty of play.

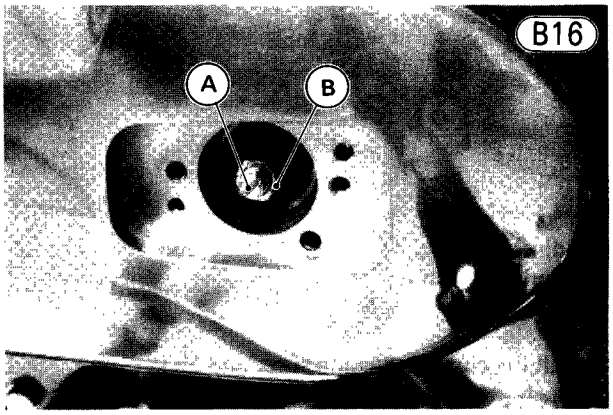


- Loosen the knurled locknut at the clutch lever just enough so that the adjuster will turn freely, and then turn the adjuster to make a 5 ~ 6 mm gap between the adjuster and locknut.



A. Adjuster **C. 5~6 mm**
B. Knurled Locknut

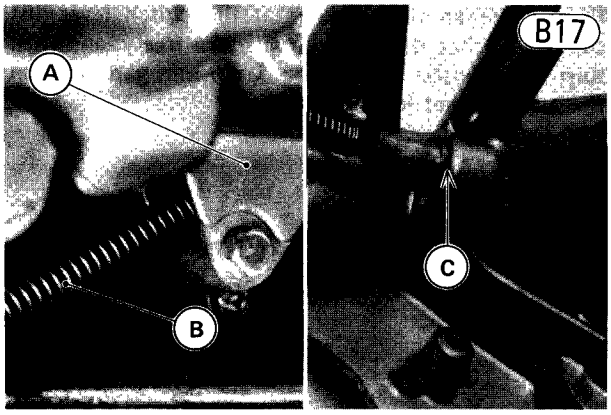
- Remove the clutch adjusting cover.
- Loosen the locknut, and back out the clutch adjusting screw a couple of turns.



A. Adjusting Screw **B. Locknut**

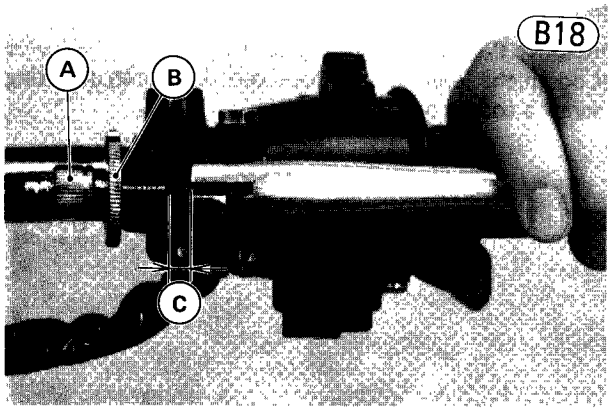
- Turn the adjusting screw in until it becomes hard to turn. This is the point where the clutch is just starting to release.
- Back out the adjusting screw ½ turn from that point, and tighten the locknut without changing the adjusting screw position.
- Take up all the cable play with the adjusting nut at the center of the cable, and then tighten the locknut.
- Make sure the lower end of the clutch outer cable is properly fitted into the cable bracket hole in the engine sprocket cover.

WARNING **If the cable is not fully seated in the cable bracket hole in the engine sprocket cover, it could slip into place later and the clutch would not**



A. Engine Sprocket Cover **C. Cable Bracket Hole**
B. Clutch Cable

- Turn the adjuster at the clutch lever so that the clutch lever will have 2~3 mm of play as shown in the figure, and tighten the knurled locknut.



A. Adjuster **C. 2~3 mm**
B. Knurled Locknut

- Install the clutch adjusting cover and gasket.
- Start the engine and check that the clutch has no slippage and that it releases properly.

ENGINE OIL

In order for the engine, transmission, and clutch to function properly, always maintain the engine oil at the proper level. Change the oil and replace the oil filter in accordance with the Periodic Maintenance Chart (Pg. 10).

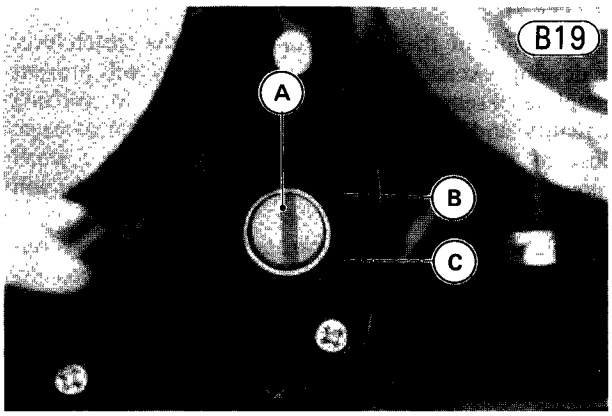
WARNING Motorcycle operation with insufficient, deteriorated, or contaminated engine oil will cause accelerated wear and may result in engine or

Oil Level Inspection

- Set the motorcycle up on its center stand.
- If the oil has just been changed, start the engine and run it for several minutes at idle. This fills the oil filter with oil. Then wait several minutes until the oil settles.

CAUTION Run the engine at idle at least until the oil pressure light turns off. Racing the engine before the oil reaches every part can cause engine damage and seizure.

- If the motorcycle has just been used, wait several minutes for all the oil to drain down.
- Check the engine oil level through the oil level gauge in the lower right side of the engine. With the motorcycle held level or on the center stand, the oil level should come up between the lines next to the gauge.



A. Engine Oil Level Gauge **C. Lower Level Line**
B. Upper Level Line

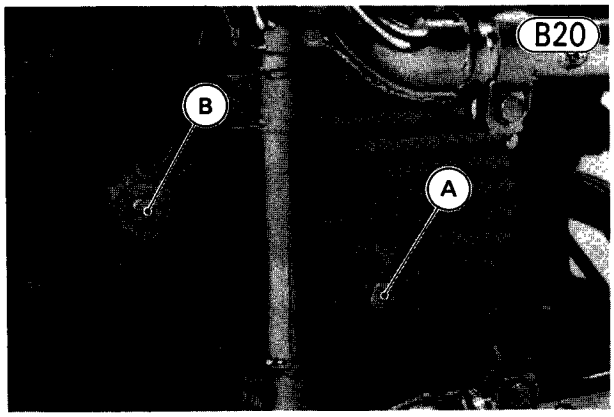
- If the oil level is too high, remove the excess oil, using a syringe or some other suitable device.
- If the amount of oil is insufficient, add oil through the oil filler opening. Use the same type and brand of oil that already is in the engine.

CAUTION If the engine oil level gets extremely low or if the oil pump or oil passages clog up or otherwise do not function properly, the red oil pressure warning light in the switch panel will light. If this light stays on when the engine speed is above 1,200 rpm, stop the engine immediately and find the cause.

WARNING If the engine is run without oil, it will be severely damaged. In addition, the engine may suddenly seize, locking the rear wheel and causing an accident if the clutch lever is not pulled in fast enough.

Oil and Oil Filter Change

- Warm up the engine thoroughly, and then stop the engine.
- Set the motorcycle up on its center stand, place an oil pan beneath the engine, and remove the engine



A. Engine Drain Plug **B. Oil Filter Mounting Bolt**

- If the oil filter is to be changed, remove the filter mounting bolt and drop out the oil filter.
- Replace the oil filter with a new one. Check that it is properly assembled.

NOTE: Check for **O** ring damage. If necessary, replace them with new ones.

- Install the oil filter, tightening its bolt to 2.0 kg-m (14.5 ft-lbs) of torque.
- After the oil has completely drained out, install the engine drain plug. Proper torque for the drain plug is 3.8 kg-m (27 ft-lbs).
- Fill the engine up to the upper level with a quality motor oil specified in the table.

NOTE: After the engine has been run and then stopped for a few minutes, the oil level should come to between the upper and lower marks.

Table B4 Engine Oil

Grade	Viscosity	Filling Engine Oil Capacity	
SE class	SAE 10W40 10W50 20W40 20W50	When filter is not changed	When filter is changed
		3.0 liters	3.5 liters

FUEL SYSTEM

Water anywhere in the fuel system can cause starting difficulty, poor running, and lack of power. Clean out the fuel system as follows.

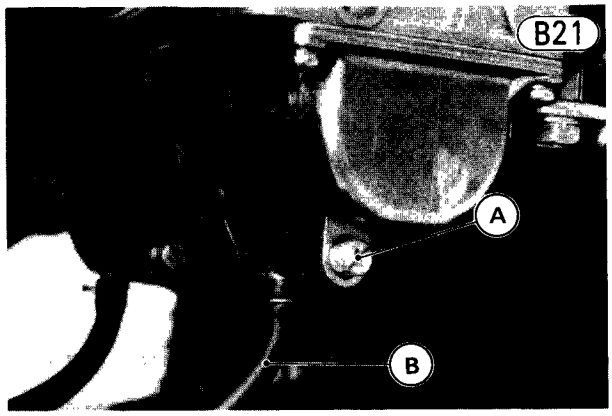
WARNING

1. Clean the fuel system in a well-ventilated area, and take ample care that there are no sparks or flame anywhere near the

2. Never clean out the fuel system when the engine is still warm.

3. Wipe any fuel off the engine before starting it.

- Pull the overflow tubes off the bottom of the air cleaner housing, and run the tubes to a container.
- Turn the fuel tap lever to the "PRI" position.
- Loosen the drain screws, and drain the fuel in the fuel tank and float bowls through the overflow tubes. Tighten the drain screws.



A. Drain Screw **B. Overflow Tube**

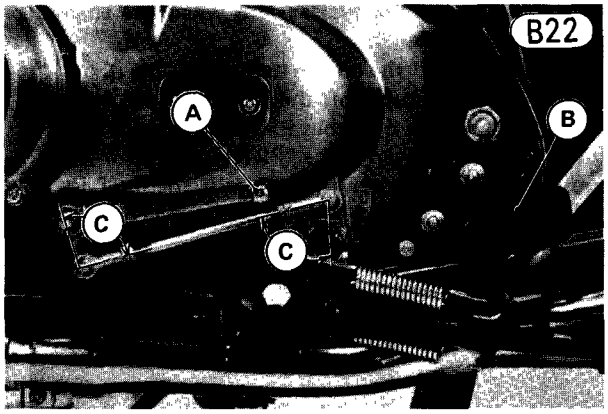
- If any dirt comes out, clean the following parts in according to the procedure in the Maintenance Section.
  - Fuel Tank (Pg. 149)
  - Fuel Tap (Pg. 149)
  - Carburetors (Pg. 150)
- Run the overflow tubes to each fitting on the air cleaner housing.

SHIFT PEDAL LINKAGE

For the motorcycle which has the shift pedal linkage, to make the shift pedal function most effectively, the shift pedal linkage should be at 90° angles. Improper angles of the shift pedal linkage may cause inaccurate shift operation.

Inspection

- Check that the shift pedal linkage angles are at 90°.
- Check that the shift pedal end matches the level of the

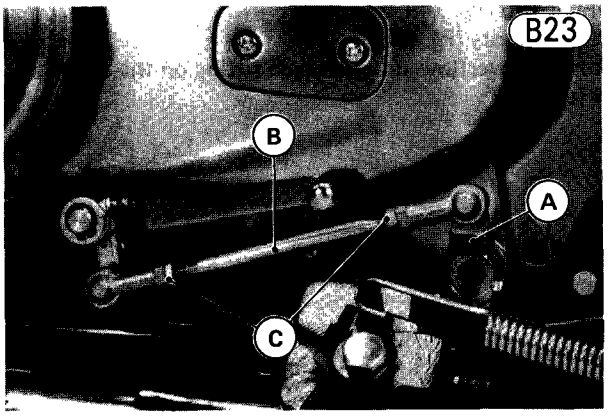


A. Shift Pedal **B. Left Footpeg** **C. 90°**

- If the pedal is found improperly adjusted by either one of the above checks, adjust the shift pedal.

Adjustment

- In case of the linkage angle at the shift lever is improper, first remove the lever, and then remount it at a new position on the shift shaft for the proper angle.
- Tighten the lever bolt.
- Loosen the locknuts of the shift linkage rod.
- Turn the rod to make the proper pedal position, and tighten the locknuts.



A. Shift Lever **C. Locknuts**
B. Shift Linkage Rod

Adjustment–Chassis

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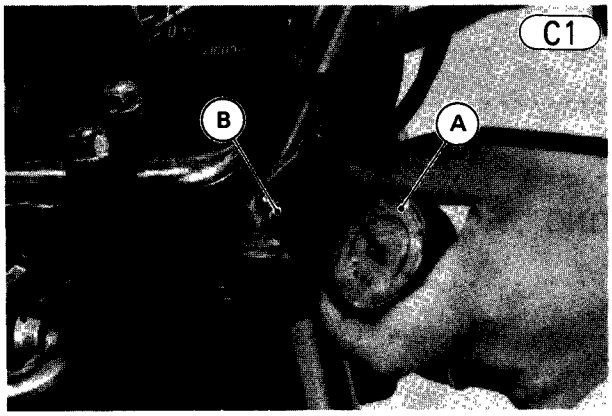
FRONT FORK

The front fork can be adjusted to any air pressure within the usable range to suit various riding and load conditions. They can be adjusted to lower air pressure for cruising on smooth roads, but should be adjusted to higher pressure to high speed riding, or riding on bad roads. Before making any adjustments, however, read the procedures in this chapter.

To check the front fork air pressure:

- Put the motorcycle up on its center stand.
- Raise the front wheel off the ground by using a jack under the engine. All weight must be off the front wheel.
- Remove the air valve cap, and check the air pressure with the air pressure gauge (special tool).



A. Air Pressure Gauge (52005-1003)
B. Air Valve

NOTES: 1. Check the air pressure when the fork legs are cold.
2. Do not use tire gauges for checking air pressure. They may not indicate the correct air pressure because of air leaks that occur when the gauge is applied to the valve.

To adjust the front fork air pressure:

- Inject air through the valve with a pump to adjust the pressure, but do not exceed 2.5 kg/cm^2 (36 psi, 250 kPa).

NOTES: 1. A normal tire pump can be used.
2. Adjust the air pressure to suit various riding conditions referring to the Front and Rear Suspension Setting (Pg. 23).

Table C1 Air Pressure

	Standard kg/cm^2 (psi, kPa)	Usable Range kg/cm^2 (psi, kPa)
KZ750-E	0.7 (10, 70)	0.6~0.9 (8.5~13, 60~90)
KZ750-H	0.6 (8.5, 60)	0.5~1.0

CAUTION
1. Try to set the air pressure of the right and left fork legs as equally as possible. The difference in air pressure between the right and left fork legs must be within 0.1 kg/cm^2 (1.4 psi, 10 kPa).
2. Inject air little by little so that air pressure does not rise rapidly. Air pressure exceeding 2.5 kg/cm^2 (36 psi, 250 kPa) may damage the oil seals.

WARNING
1. Be sure to adjust the air pressure within the usable range. Front fork adjusted too low or too high adversely affect handling and stability and could lead to accident and injury.
2. Only air or nitrogen gas can be used. Never inject oxygen or any other kind of gas. Other gases could produce an explosion.
3. Do not incinerate the front fork.

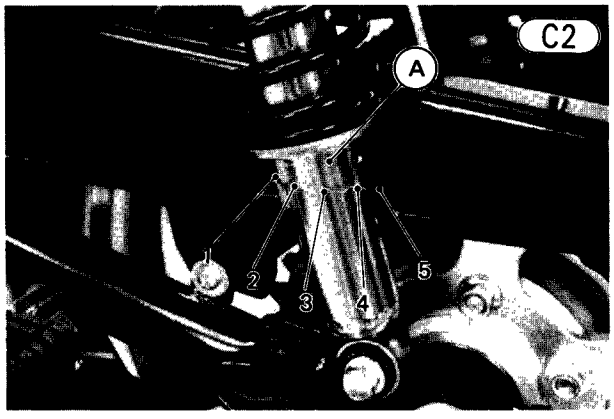
REAR SHOCK ABSORBERS

The rear shock absorbers can be adjusted by changing the spring force and damping force to suit various riding and loading conditions. The spring force and damping force can be left soft for average riding. But they should be adjusted harder for high speed riding, or riding with a passenger.

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

Spring Adjustment

The spring adjusting sleeve on each rear shock absorber has 5 positions so that the spring can be adjusted for different road and loading conditions.



A. Spring Adjusting Sleeve

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

Table C2 Spring Action

Position	1	2	3	4	5

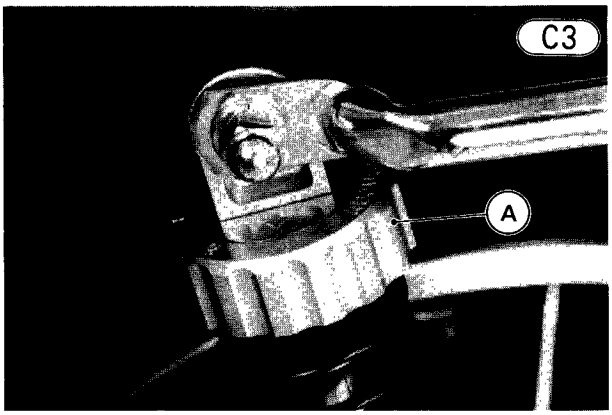
To adjust the spring force:
- Turn the adjusting sleeve on each shock absorber to the desired position with a hook spanner.
- Check to see that both adjusting sleeves are turned to the same relative position.

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

NOTE: Match the spring adjusting sleeve position with the damper adjuster position referring to the Front and Rear Suspension Setting.

Damper Adjustment

The damper adjuster on each rear shock absorber has 4 positions so that the damping force can be adjusted for different road and loading conditions. The numbers on the adjuster show the setting position of the damper.



A. Damper Adjuster

If the damper setting feels too soft or too stiff, adjust it in accordance with the following table:

Table C3 Damping Force

Position	1	2	3	4
Damping Force	Larger ⟶			

To adjust the damping force:
- Turn the adjuster to the desired number until you feel a click.
- Check to see that both adjuster are turned to the same relative position.

WARNING **If both damper adjuster are not adjusted equally, handling may be impaired and a hazardous condition may result.**

NOTE: Match the damper adjuster position with the spring adjusting sleeve position referring to the Front and Rear Suspension Setting.

FRONT AND REAR SUSPENSION SETTING

The following table shows an example of setting for the front and rear suspension. To obtain the stable handling or suitable riding condition, adjust the air pressure, spring force, or damping force for different road and loading conditions if necessary. For instance, setting **A** shown in the table is softest and designed for an average-built rider of 68 kg (150 lbs) with no accessories. Ordinarily, the heavier the total load becomes, the harder the suspension should be set.

DRIVE CHAIN

Chain and sprocket wear causes the chain to stretch, which results in power loss, accelerated chain and sprocket wear, and increased noise. A chain that has been adjusted too loose may be thrown off the sprockets. A chain that has been adjusted too tight will wear excessively and possibly break.

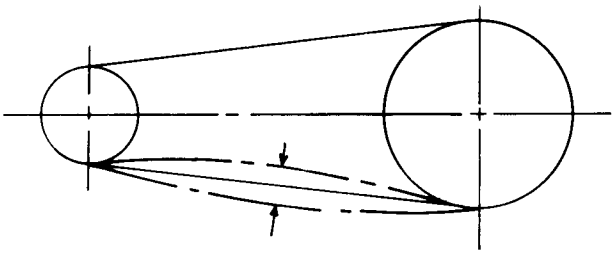
To check the drive chain slack:
- Check to see if the drive chain wear is past the service limit (Pg. 198). A chain worn past the service limit must be replaced with a new one.

WARNING **A chain worn past the service limit must be replaced. Such wear cannot be adequately compensated for by adjustment.**
- Set the motorcycle up on its center stand.
- Rotate the rear wheel to find the position where the chain is tightest, and measure the vertical movement midway between the sprockets. If it is less than 20 mm or more than 35 mm, adjust the chain so that the vertical movement will be about 20~30 mm.

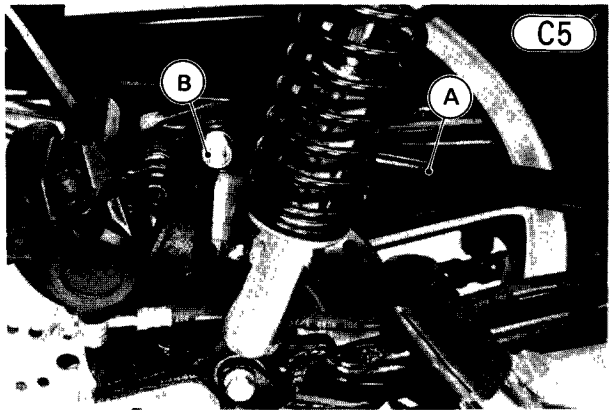
Table C4 Front and Rear Suspension Setting (example)

Suspension Setting		Rear Shock Absorber		Front Fork Air Pressure kg/cm² (psi, kPa)	
		Spring Force (Sleeve Position)	Damping Force (Adjuster Position)	KZ750-E	KZ750-H
Soft ↕	A	1 or 2	1 or 2	0.6 (8.5, 60) ~ 0.9 (13, 90)	0.5 (7.1, 50) ~ 1.0 (14, 100)
	B	2 or 3	2 or 3		
	C	3 or 4	3 or 4		

Drive Chain Slack C4

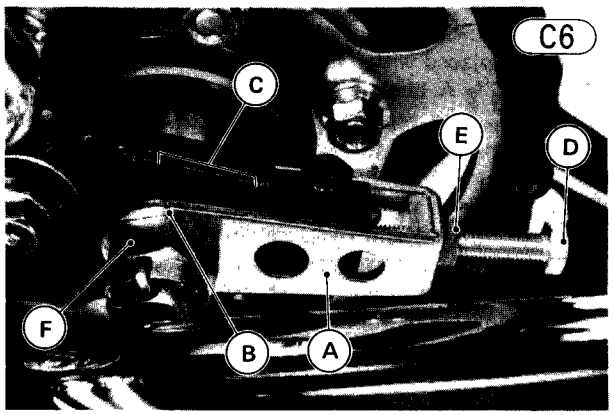


To adjust the drive chain:
- Loosen the nut at the torque link rear end.



A. Torque Link **B. Nut**

- Loosen the left and right chain adjuster locknut.



A. Chain Adjuster
B. Notch
C. Swing Arm Marks
D. Adjusting Bolt
E. Locknut
F. Axle Nut

- Remove the cotter pin, and loosen the rear axle nut.
- If the chain is too tight, back out the left and right chain adjusting bolts evenly, and kick the wheel forward or backward until the drive chain has the correct amount of slack. To keep the chain and wheel aligned, the notch on the left chain adjuster should align with the same swing arm mark that the right chain adjuster notch aligns with.

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

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

- Tighten both chain adjuster locknuts (Make sure the axle stays aligned).
- Tighten the axle nut to 12.0 kg-m (87 ft-lbs) of torque.
- Rotate the wheel, measure the vertical movement again at the tightest position, and readjust if necessary.
- Tighten the torque link nut to 3.0 kg-m (22 ft-lbs) of torque.
- Insert a new cotter pin through the axle nut and axle, and spread its end.

WARNING **Take care not to damage the brake hose. Damaging the brake line greatly reduces the brake line strength and causes brake fluid leakage, resulting in the loss of brake control.**

- Turn the left and right chain adjusting bolts evenly until the drive chain has the correct amount of slack. To keep the chain and wheel aligned, the notch on the left chain adjuster should align with the same swing arm mark that the right chain adjuster notch aligns with.

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

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

- Tighten both chain adjuster locknuts (Make sure the axle stays aligned).
- Tighten the axle nut to 12.0 kg-m (87 ft-lbs) of torque.
- Rotate the wheel, measure the vertical movement again at the tightest position, and readjust if necessary.
- Tighten the torque link nut to 3.0 kg-m (22 ft-lbs) of torque.
- Insert a new cotter pin through the axle nut and axle, and spread its end.

BRAKES

Front Brake

Disc and disc pad wear is automatically compensated for and has no effect on brake lever action. So there are no parts that require adjustment on the front brake. However if the brake lever has a soft, or "spongy feeling", check the brake fluid level in the master cylinder and bleed the air from the brake line (Pg. 206).

NOTE: Check the brake fluid level in accordance with the Periodic Maintenance Chart (Pg. 10).

Rear Brake

Disc and disc pad wear is automatically compensated for and has no effect on brake pedal action. However, the brake pedal position may occasionally require adjustment due to wear of the brake pedal pivot, or in case of disassembly. If the brake pedal has a soft, or "spongy feeling", check the brake fluid level in the reservoir and bleed the air from the brake line (Pg. 206).

NOTE: Check the brake fluid level in accordance with the Periodic Maintenance Chart (Pg. 10).

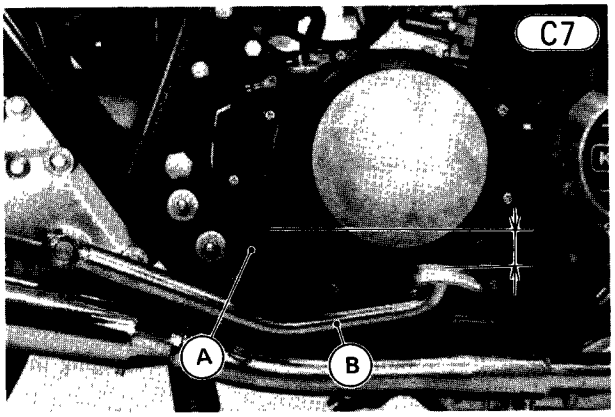
To check the brake pedal position:

- When the brake pedal is in its rest position, it should

Table C5 Pedal Position
(lower than the top of the footpeg)

KZ750-E	KZ750-H
8~12 mm, Ⓔ 13~17 mm	4~8 mm

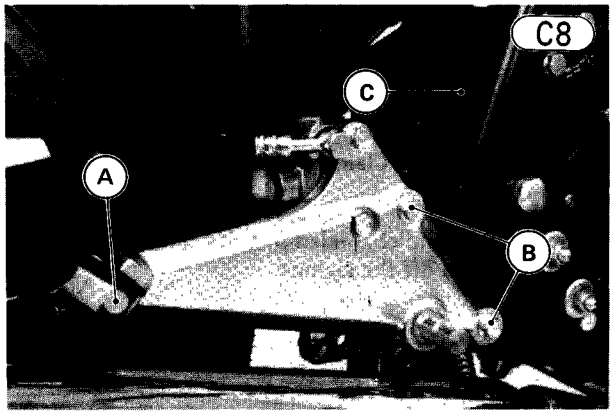
Ⓔ: European model, Australian model, and South African model



A. Footpeg **B. Brake Pedal**

•If it is not, adjust the brake pedal position as follows.

To adjust the brake pedal position:
•Remove the brake pedal bolt and brake pedal.
•Use a jack under the right muffler or other suitable means to hold the muffler in place.
•Remove the footpeg mounting bolt, nut, and flat washer.

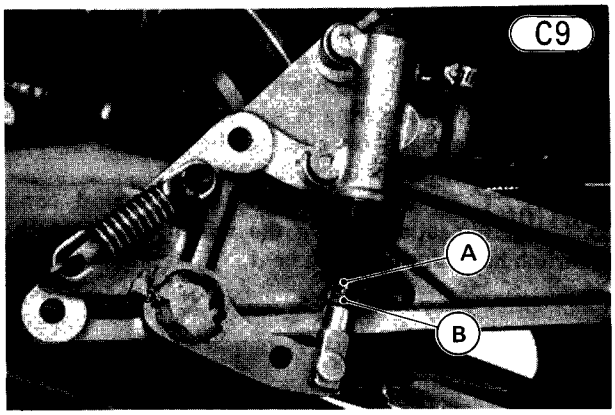


A. Mounting Bolt **C. Brake Light Switch Spring**
B. Mounting Bracket Bolts

•Remove the muffler mounting bracket bolts (2), and free the rear brake light switch spring from the switch.

CAUTION **Take care not to damage the brake hose. Damage the brake line greatly reduces the brake line strength and causes brake fluid leakage, resulting in the loss of brake control.**

•Loosen the locknut and turn the push rod to adjust the



A. Push Rod **B. Locknut**

•Temporarily install the muffler mounting bracket with its bolts.
•Install the brake pedal so that the line mark on the pedal is aligned with the punch mark on the shaft, and check the brake pedal position (Fig. C7).
•If the pedal position is not correct, remove the pedal and bracket, and readjust the position.

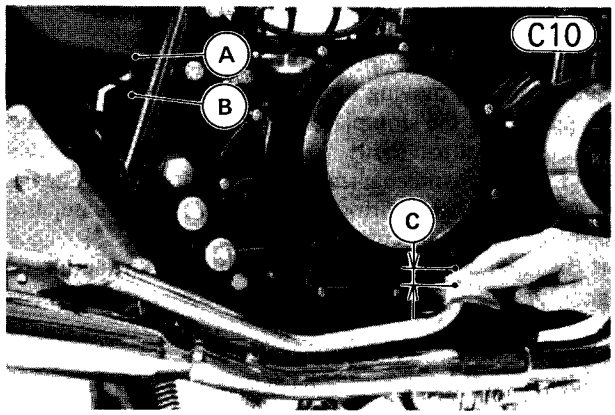
NOTE: If the pedal position cannot be adjusted by turning the push rod, the brake pedal may be deformed or incorrectly installed.

•Install the rear brake light switch spring between the switch and the tab of the brake pedal shaft arm.
•Tighten the mounting bracket bolts (2).
•Install the brake pedal is its correct position, and tighten its bolt.
•Install the footpeg mounting bolt, and tighten its nut with the flat washer.

BRAKE LIGHT SWITCH

The front brake light switch, mounted on the front brake master cylinder, is operated simple electrical contact and does not need adjustment. However, the rear brake light switch, activated by a spring attached to the brake pedal shaft arm, requires periodic adjustment to compensate for any change in spring shape or tension.

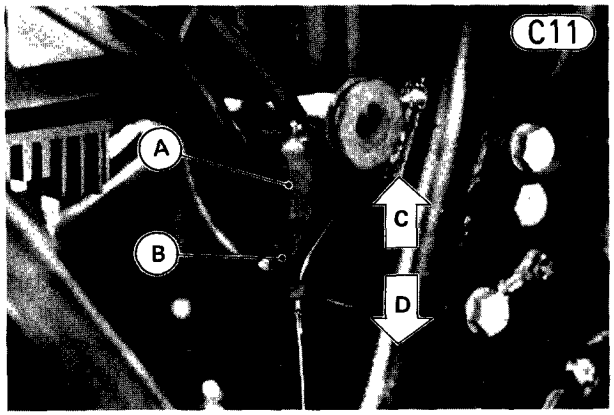
To check and adjust the rear brake light switch:
•Check the operation of the swing by turning on the ignition switch and depressing the brake pedal. The brake light should go on after 15 mm of pedal travel.



A. Rear Brake Light Switch **C. 15 mm**

- If it does not, adjust the switch so that the brake light will go on after the proper amount of brake pedal travel. Raising the switch will make the light go on after less travel; lowering it will require more travel. Adjustment is made by altering the position of the adjusting nut on the brake switch body.

CAUTION **To avoid damaging the electrical connections inside the switch, do not turn the switch body during adjustment.**



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

STEERING

For safety, the steering should always be kept adjusted so that the handlebar will turn freely but have no play.

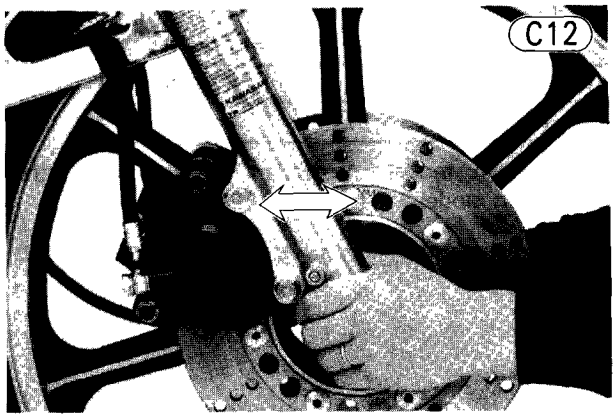
If the steering is too tight, it will be difficult to turn the handlebar quickly, the motorcycle may pull to one side, and the steering stem bearings may become damaged. If the steering is too loose, the handlebar will vibrate and the motorcycle will be unstable and difficult to steer in a straight line.

To check the steering adjustment:

- Set the motorcycle on its center stand.
- Using a jack under the engine, lift the front wheel off the ground.
- From the straightforward position of the handlebar, slowly push the handlebar to either side.
- If the handlebar begins to turn by the action of gravity and continues moving until the ridge on the stem base stops against the stop plate on the frame head pipe, the steering is not too tight.

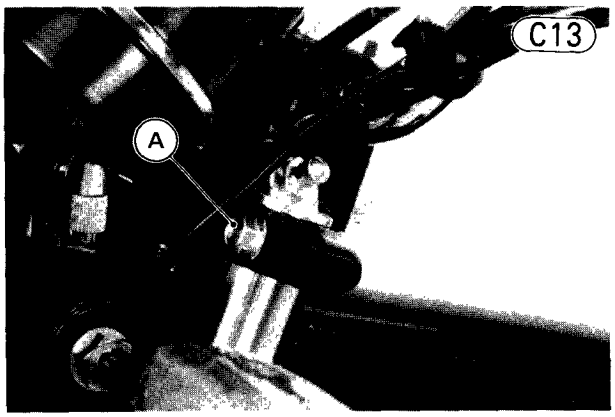
NOTE: The handlebar may catch halfway by means of the cables and wiring harnesses. In this case, the steering couldn't be considered to be too tight.

- If the handlebar does not begin to turn by the action of gravity, the steering is too tight necessitating adjustment.
- Squat in front of the motorcycle and grasp the lower ends of the front fork. Push and pull the fork end back and forth.



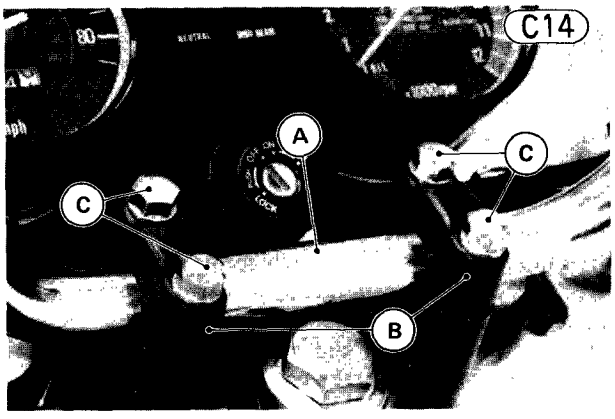
To adjust the steering:

- Put the motorcycle up on its center stand, and jack or prop up the engine so that the front wheel will be off the ground.
- Remove the fuel tank (Pg. 43) to avoid damaging the painted surface.
- Loosen the front fork upper clamp bolts (2) to free the fork tubes from the steering stem during adjustment.



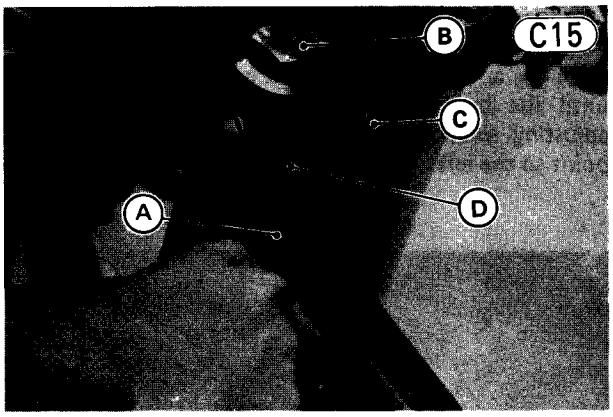
A. Front Fork Upper Clamp Bolt

- Remove the handlebar clamp bolts and lockwashers (4 ea), and take off the clamps.



●Loosen the steering stem head bolt and head clamp bolt, and back out the steering stem locknut using the stem nut wrench (special tool) 1 or 2 turns until it turns without drag.

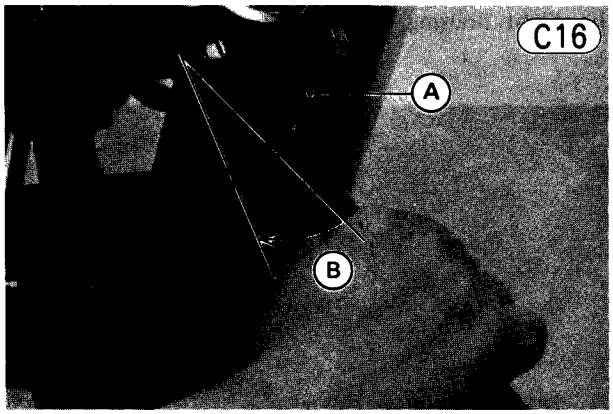
NOTE: Do not back out the steering stem locknut more than a couple of turns. If the locknut is backed off too far, the bearing balls in the steering stem may fall out of place. This will necessitate steering stem removal and installation.



A. Stem Nut Wrench (57001-1100)
B. Stem Head Bolt
C. Head Clamp Bolt
D. Stem Locknut

●Tighten the stem locknut to 2.0 kg-m (14.5 ft-lbs) of torque.

NOTE: If a suitable torque wrench is not available, tighten the steering stem locknut lightly (until it just becomes hard to turn), and then continue for another 1/16 turn (about 20° travel) from that point.



A. Stem Nut Wrench (57001-1100)
B. Another 1/16 Turn

●Tighten the steering stem head bolt to 4.0 kg-m (29 ft-lbs) of torque.
●Tighten the steering stem head clamp bolt nut to 1.8 kg-m (13.0 ft-lbs) of torque.
●Tighten the front fork upper clamp bolts (2) to 2.0

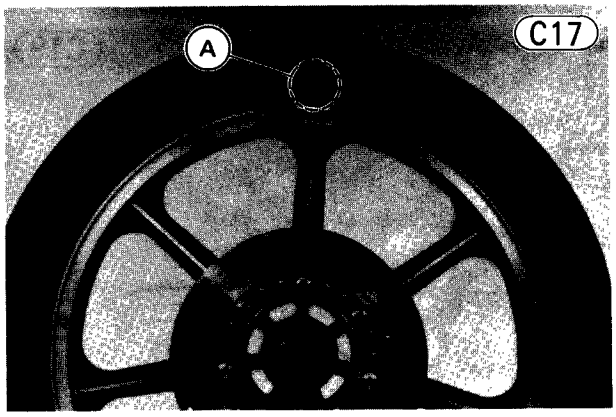
●Check the steering again. If the steering is too tight or too loose in spite of correct adjustment, inspect the steering stem parts according to the maintenance section (Pg. 208).
●Install the handlebar referring to the handlebar installation section.
●Remount the fuel tank (Pg. 43).

WHEEL BALANCE

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

Check and balance the wheels when required, or when a tire is replaced with a new one.

To check the wheel balance:
●Remove the wheel (Pg. 109 or 110).
●Check that the wheel is not damaged.
●Suspend the wheel so that it can be spun freely.
●Spin the wheel lightly, and mark the wheel at the top when the wheel stops.



A. Mark

●Repeat this procedure several times. If the wheel stops of its own accord in various positions, it is well balanced.

To adjust the wheel balance:
●If the wheel always stops in one position, provisionally attach a balance weight on the rim at the marking using an adhesive tape.
●Rotate the wheel ¼ turn and see whether or not the wheel stops in this position. If it does, the correct