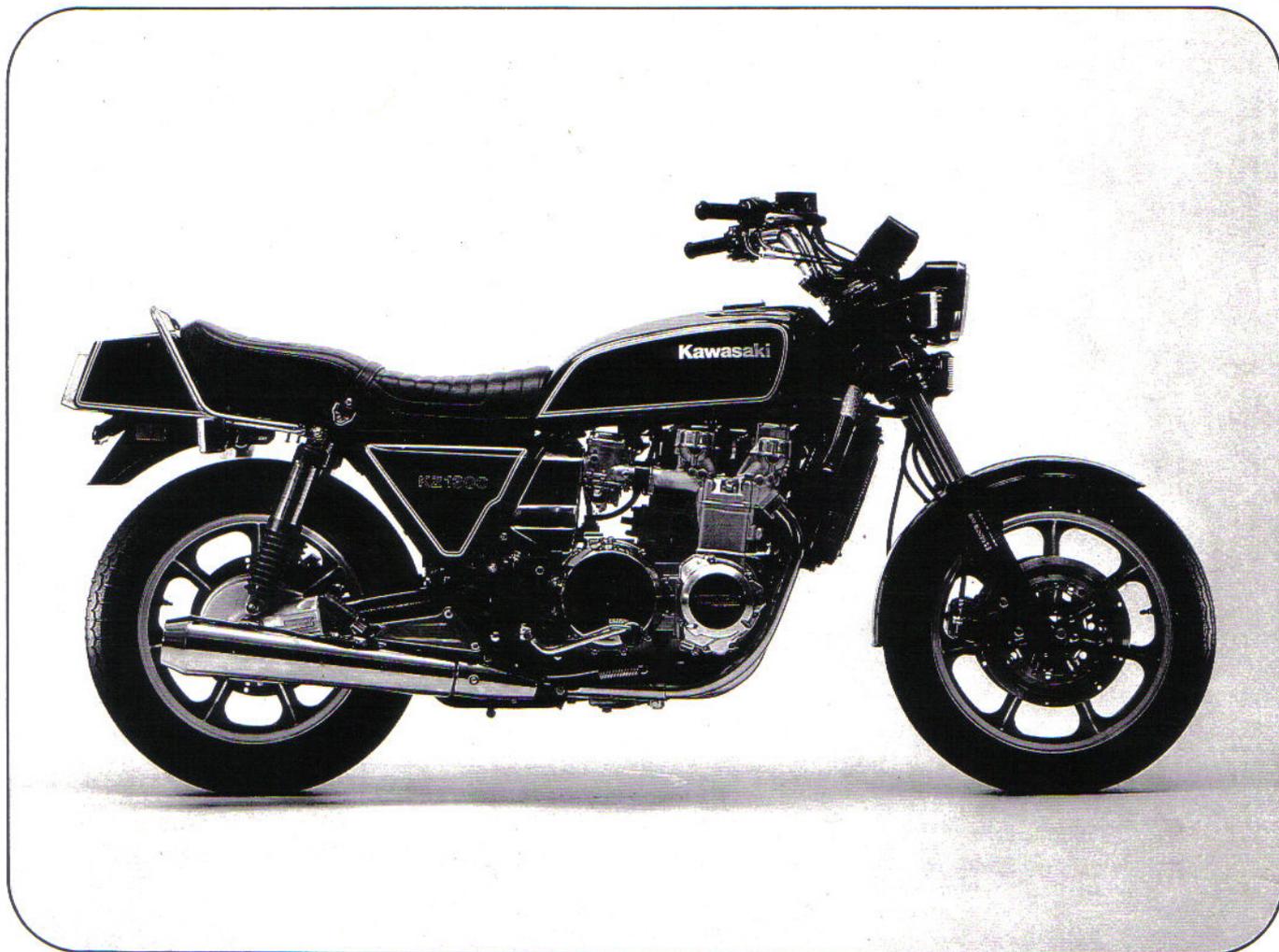


Product: 1979-1983 Kawasaki KZ1300 Motorcycle Service Repair Workshop Manual  
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# Kawasaki

# KZ1300



# Motorcycle Service Manual

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Decimal Equivalents

| INCH            |                 |         | MM                   | INCH            |                 |                 | MM                   |                      |
|-----------------|-----------------|---------|----------------------|-----------------|-----------------|-----------------|----------------------|----------------------|
| INCH            |                 |         | MM                   | INCH            |                 |                 | MM                   |                      |
| $\frac{1}{64}$  |                 | .015625 | 1mm=<br>.03937 inch  | $\frac{33}{64}$ |                 | .515625         | 14mm=<br>.55118 inch |                      |
|                 | $\frac{1}{32}$  | .03125  |                      |                 | $\frac{17}{32}$ |                 |                      | .53125               |
| $\frac{3}{64}$  |                 | .046875 |                      |                 | $\frac{35}{64}$ |                 |                      | .546875              |
|                 | $\frac{1}{16}$  | .0625   |                      |                 |                 | $\frac{9}{16}$  |                      | .5625                |
| $\frac{5}{64}$  |                 | .078125 | 2mm=<br>.07874 inch  | $\frac{37}{64}$ |                 | .578125         | 15mm=<br>.59055 inch |                      |
|                 | $\frac{3}{32}$  | .09375  |                      |                 | $\frac{19}{32}$ |                 |                      | .59375               |
| $\frac{7}{64}$  |                 | .109375 | 3mm=<br>.11811 inch  | $\frac{39}{64}$ |                 | .609375         | 16mm=<br>.62992 inch |                      |
|                 | $\frac{1}{8}$   | .125    |                      |                 |                 | $\frac{5}{8}$   |                      | .625                 |
| $\frac{9}{64}$  |                 | .140625 | 4mm=<br>.15748 inch  | $\frac{41}{64}$ |                 | .640625         | 17mm=<br>.66929 inch |                      |
|                 | $\frac{5}{32}$  | .15625  |                      |                 |                 | $\frac{21}{32}$ |                      | .65625               |
| $\frac{11}{64}$ |                 | .171875 |                      |                 | $\frac{43}{64}$ |                 |                      | .671875              |
|                 | $\frac{3}{16}$  | .1875   |                      |                 |                 | $\frac{11}{16}$ |                      | .6875                |
| $\frac{13}{64}$ |                 | .203125 | 5mm=<br>.19685 inch  | $\frac{45}{64}$ |                 | .703125         | 18mm=<br>.70866 inch |                      |
|                 | $\frac{7}{32}$  | .21875  |                      |                 |                 | $\frac{23}{32}$ |                      | .71875               |
| $\frac{15}{64}$ |                 | .234375 | 6mm=<br>.23622 inch  | $\frac{47}{64}$ |                 | .734375         | 19mm=<br>.74803 inch |                      |
|                 | $\frac{1}{4}$   | .25     |                      |                 |                 | $\frac{3}{4}$   |                      | .75                  |
| $\frac{17}{64}$ |                 | .265625 | 7mm=<br>.27559 inch  | $\frac{49}{64}$ |                 | .765625         | 20mm=<br>.78740 inch |                      |
|                 | $\frac{9}{32}$  | .28125  |                      |                 |                 | $\frac{25}{32}$ |                      | .78125               |
| $\frac{19}{64}$ |                 | .296875 | 8mm=<br>.31496 inch  | $\frac{51}{64}$ |                 | .796875         |                      | 21mm=<br>.82677 inch |
|                 | $\frac{5}{16}$  | .3125   |                      |                 |                 | $\frac{13}{16}$ |                      |                      |
| $\frac{21}{64}$ |                 | .328125 | 9mm=<br>.35433 inch  | $\frac{53}{64}$ |                 | .828125         | 22mm=<br>.86614 inch |                      |
|                 | $\frac{11}{32}$ | .34375  |                      |                 |                 | $\frac{27}{32}$ |                      | .84375               |
| $\frac{23}{64}$ |                 | .359375 | 10mm=<br>.39370 inch | $\frac{55}{64}$ |                 | .859375         | 23mm=<br>.90551 inch |                      |
|                 | $\frac{3}{8}$   | .375    |                      |                 |                 | $\frac{7}{8}$   |                      | .875                 |
| $\frac{25}{64}$ |                 | .390625 | 11mm=<br>.43307 inch | $\frac{57}{64}$ |                 | .890625         | 24mm=<br>.94488 inch |                      |
|                 | $\frac{13}{32}$ | .40625  |                      |                 |                 | $\frac{29}{32}$ |                      | .90625               |
| $\frac{27}{64}$ |                 | .421875 | 12mm=<br>.47244 inch | $\frac{59}{64}$ |                 | .921875         | 25mm=<br>.98425 inch |                      |
|                 | $\frac{7}{16}$  | .4375   |                      |                 |                 | $\frac{15}{16}$ |                      | .9375                |
| $\frac{29}{64}$ |                 | .453125 | 13mm=<br>.51181 inch | $\frac{61}{64}$ |                 | .953125         | 1                    |                      |
|                 | $\frac{15}{32}$ | .46875  |                      |                 |                 | $\frac{31}{32}$ |                      | .96875               |
| $\frac{31}{64}$ |                 | .484375 |                      | $\frac{63}{64}$ |                 | .984375         |                      |                      |
|                 | $\frac{1}{2}$   | .5      |                      |                 |                 | 1               |                      |                      |

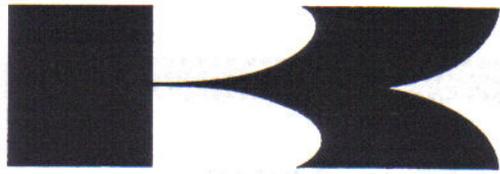
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**Unit Conversion Table**

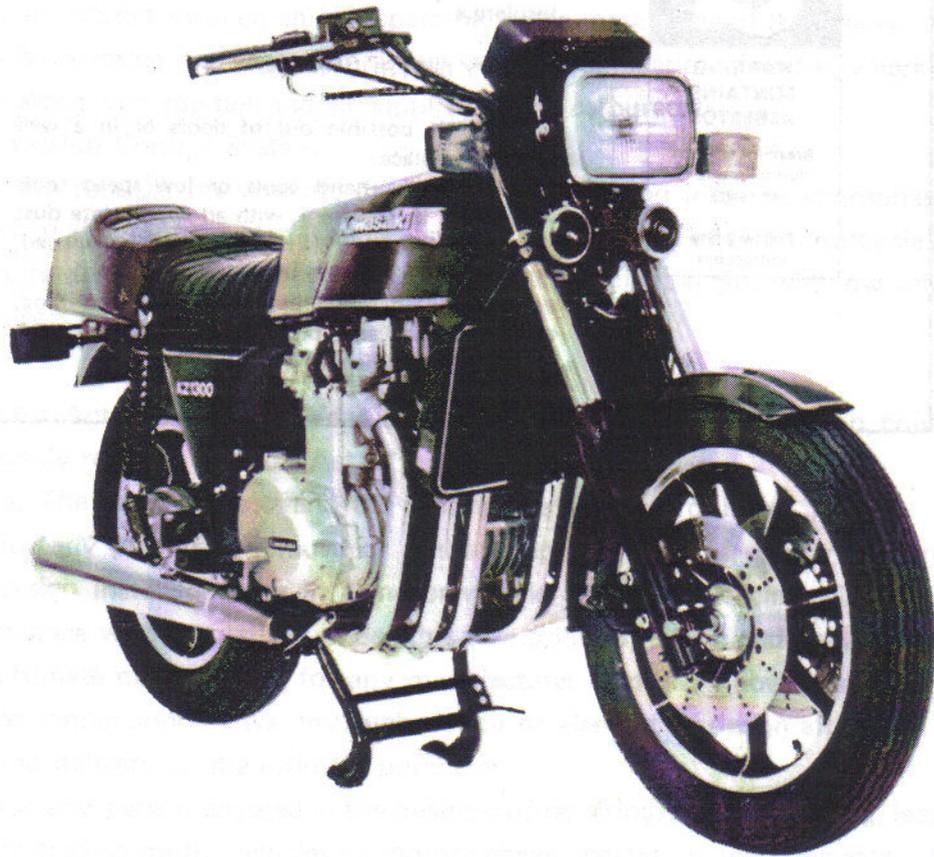
**List of Abbreviations**

|   |   |        |   |                     |                     |                                 |
|---|---|--------|---|---------------------|---------------------|---------------------------------|
| cc  | x | .0610  | = | cu in               | ABDC                | after bottom dead center        |
| cc  | x | .02816 | = | oz (imp)            | ATDC                | after top dead center           |
| cc  | x | .03381 | = | oz (US)             | BBDC                | before bottom dead center       |
| cu in                                     | x | 16.39  | = | cc                  | BDC                 | bottom dead center              |
| ft-lbs                                    | x | 12     | = | in-lbs              | BTDC                | before top dead center          |
| ft-lbs                                    | x | .1383  | = | kg-m                | cc                  | cubic centimeters               |
| gal (imp)                                 | x | 4.546  | = | litres              | cu in               | cubic inches                    |
| gal (imp)                                 | x | 1.201  | = | gal (US)            | ft                  | foot, feet                      |
| gal (US)                                  | x | 3.7853 | = | liters              | ft-lbs              | foot-pounds                     |
| gal (US)                                  | x | .8326  | = | gal (Imp)           | gal                 | gallon, gallons                 |
| grams                                     | x | .03527 | = | oz                  | hp                  | horsepower                      |
| in  | x | 25.40  | = | mm                  | in                  | inch, inches                    |
| in lbs                                    | x | .0833  | = | ft-lbs              | in-lb               | inch-pounds                     |
| in lbs                                    | x | .0115  | = | kg-m                | kg                  | kilogram, kilograms             |
| kg  | x | 2.2046 | = | lbs                 | kg/cm <sup>2</sup>  | kilograms per square centimeter |
| kg  | x | 35.274 | = | oz                  | kg-m                | kilogram meters                 |
| kg-m                                      | x | 7.233  | = | ft-lbs              | km                  | kilometer                       |
| kg-m                                      | x | 86.796 | = | in-lbs              | kph                 | kilometers per hour             |
| kg/cm <sup>2</sup>                        | x | 14.22  | = | lbs/in <sup>2</sup> | lb, lbs             | pound, pounds                   |
| km  | x | .6214  | = | mile                | lbs/in <sup>2</sup> | pounds per square inch          |
| lb  | x | .4536  | = | kg                  | ltr                 | liter, litre                    |
| lb/in <sup>2</sup>                        | x | .0703  | = | kg/cm <sup>2</sup>  | m                   | meter, meters                   |
| litre                                     | x | 28.16  | = | oz (imp)            | mi                  | mile, miles                     |
| litre                                     | x | 33.81  | = | oz (US)             | mm                  | millimeters                     |
| litre                                     | x | .8799  | = | qt (imp)            | mph                 | miles per hour                  |
| litre                                     | x | 1.0567 | = | qt (US)             | oz                  | ounce, ounces                   |
| metre                                     | x | 3.281  | = | ft                  | psi                 | pounds per square inch          |
| mile                                      | x | 1.6093 | = | km                  | qt                  | quart, quarts                   |
| mm  | x | .03937 | = | in                  | rpm                 | revolutions per minute          |
| oz (imp)                                  | x | 35.51  | = | cc                  | sec                 | second, seconds                 |
| oz (US)                                   | x | 29.57  | = | cc                  | SS                  | standing start                  |
| oz (weight)                               | x | 28.35  | = | grams               | TDC                 | top dead center                 |
| qt (imp)                                  | x | 1.1365 | = | litre               | "                   | inch, inches                    |
| qt (imp)                                  | x | 1.201  | = | qt (US)             | r/min               | revolutions per minute          |
| qt (US)                                   | x | .9463  | = | litre               | ℓ                   | liter, litre                    |
| qt (US)                                   | x | .8326  | = | qt (imp)            | kPa                 | kilo-Pascals                    |
| kg/cm <sup>2</sup>                        | x | 98.07  | = | kPa                 |                     |                                 |
| lbs/in <sup>2</sup>                       | x | 6.896  | = | kPa                 |                     |                                 |
| kPa                                       | x | .1450  | = | lbs/in <sup>2</sup> |                     |                                 |
| °C → °F: $\frac{9(°C + 40)}{5} - 40 = °F$ |   |        |   |                     |                     |                                 |
| °F → °C: $\frac{5(°F + 40)}{9} - 40 = °C$ |   |        |   |                     |                     |                                 |



**Kawasaki**

**KZ1300**



# **Motorcycle Service Manual**



This warning may apply to any of the following components or any assembly containing one or more of these components:—

Brake Shoes or Pads  
Clutch Friction Material  
Gaskets  
Insulators

#### SAFETY INSTRUCTIONS

- Operate if possible out of doors or in a well ventilated place.
- Preferably use hand tools or low speed tools equipped, if necessary, with an appropriate dust extraction facility. If high speed tools are used, they should always be so equipped.
- If possible, dampen before cutting or drilling.
- Dampen dust and place it in properly closed receptacle and dispose of it safely.

Kawasaki Heavy Industries, Ltd. accepts no liability for any inaccuracies or omissions in this publication, although every possible care has been taken to make it as complete and accurate as possible. All procedures and specifications subject to change without prior notice, and may not apply to every country.

## EMISSION CONTROL INFORMATION

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

### 1. Crankcase Emission Control System

This system eliminates the release of crankcase vapors into the atmosphere. Instead, the vapors are routed through an oil separator to the intake side of the engine. While the engine is operating, the vapors are drawn into the combustion chamber, where they are burned along with the fuel and air supplied by the carburetors.

### 2. Exhaust Emission Control System

This system reduces the amount of pollutants discharged into the atmosphere by the exhaust of this motorcycle. The fuel and ignition systems of this motorcycle have been carefully designed and constructed to ensure an efficient engine with low exhaust pollutant levels.

The Clean Air Act, which is the Federal law covering motor vehicle pollution, contains what is commonly referred to as the Act's "tampering provisions".

"Sec. 203(a) The following acts and the causing thereof are prohibited...

(3)(A) for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title prior to its sale and delivery to the ultimate purchaser, or for any manufacturer or dealer knowingly to remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser.

(3)(B) for any person engaged in the business of repairing, servicing, selling, leasing, or trading motor vehicles or motor vehicle engines, or who operates a fleet of motor vehicles knowingly to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title following its sale and delivery to the ultimate purchaser..."

Note: The phrase "remove or render inoperative any device or element of design" has been generally interpreted as follows:

1. Tampering does not include the temporary removal or rendering inoperative of devices or elements of design in order to perform maintenance.

**EMISSION CONTROL INFORMATION (CONT.)**

**2. Tampering could include:**

- a. Maladjustment of vehicle components such that the emission standards are exceeded.**
- b. Use of replacement parts or accessories which adversely affect the performance or durability of the motorcycle.**
- c. Addition of components or accessories that result in the vehicle exceeding the standards.**
- d. Permanently removing, disconnecting, or rendering inoperative any component or element of design of the emission control systems.**

**WE RECOMMEND THAT ALL DEALERS OBSERVE THESE PROVISIONS OF FEDERAL LAW, THE VIOLATION OF WHICH IS PUNISHABLE BY CIVIL PENALTIES NOT EXCEEDING \$10,000 PER VIOLATION.**

# 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 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. Do not disassemble the component parts further than explained here. Since assembly and installation are usually the reverse of disassembly and removal, assembly and installation are not explained in detail in some cases. Instead, assembly notes and installation notes are provided to explain special points.

In cases the removal procedures are apparent without explanation such as for the seat or side stand, no information is given.

### (3) Maintenance

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, especially on one of new devices, 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 a 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 unit of 1979 KZ1300-A1, 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 text as “Supplement”, as required.

## 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. 

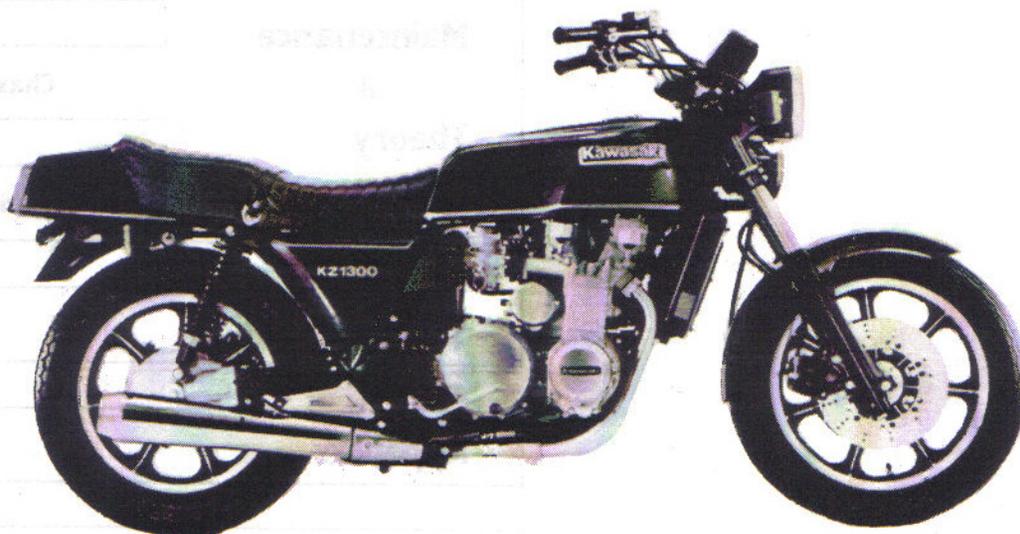
|                                 |  |              |          |                    |          |                  |          |         |          |
|---------------------------------|--|--------------|----------|--------------------|----------|------------------|----------|---------|----------|
| <b>Specifications</b>           | <b>A</b>   |              |          |                    |          |                  |          |         |          |
| <b>Adjustment</b>               | <table border="1"> <tr> <td>Engine</td> <td><b>B</b></td> </tr> <tr> <td>Chassis</td> <td><b>C</b></td> </tr> </table>   | Engine       | <b>B</b> | Chassis            | <b>C</b> |                  |          |         |          |
| Engine                          | <b>B</b>   |              |          |                    |          |                  |          |         |          |
| Chassis                         | <b>C</b>   |              |          |                    |          |                  |          |         |          |
| <b>Disassembly</b>              | <table border="1"> <tr> <td>Introduction</td> <td><b>D</b></td> </tr> <tr> <td>Engine (Installed)</td> <td><b>E</b></td> </tr> <tr> <td>Engine (Removed)</td> <td><b>F</b></td> </tr> <tr> <td>Chassis</td> <td><b>G</b></td> </tr> </table> | Introduction | <b>D</b> | Engine (Installed) | <b>E</b> | Engine (Removed) | <b>F</b> | Chassis | <b>G</b> |
| Introduction                    | <b>D</b>   |              |          |                    |          |                  |          |         |          |
| Engine (Installed)              | <b>E</b>   |              |          |                    |          |                  |          |         |          |
| Engine (Removed)                | <b>F</b>   |              |          |                    |          |                  |          |         |          |
| Chassis                         | <b>G</b>   |              |          |                    |          |                  |          |         |          |
| <b>Maintenance &amp; Theory</b> | <table border="1"> <tr> <td>Engine</td> <td><b>H</b></td> </tr> <tr> <td>Chassis</td> <td><b>J</b></td> </tr> <tr> <td>Electrical</td> <td><b>K</b></td> </tr> </table>  | Engine       | <b>H</b> | Chassis            | <b>J</b> | Electrical       | <b>K</b> |         |          |
| Engine                          | <b>H</b>   |              |          |                    |          |                  |          |         |          |
| Chassis                         | <b>J</b>   |              |          |                    |          |                  |          |         |          |
| Electrical                      | <b>K</b>   |              |          |                    |          |                  |          |         |          |
| <b>Troubleshooting</b>          | <b>L</b>   |              |          |                    |          |                  |          |         |          |
| <b>Appendix</b>                 | <b>M</b>   |              |          |                    |          |                  |          |         |          |
| <b>Supplement</b>               | <b>N</b>   |              |          |                    |          |                  |          |         |          |
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# Model Identification

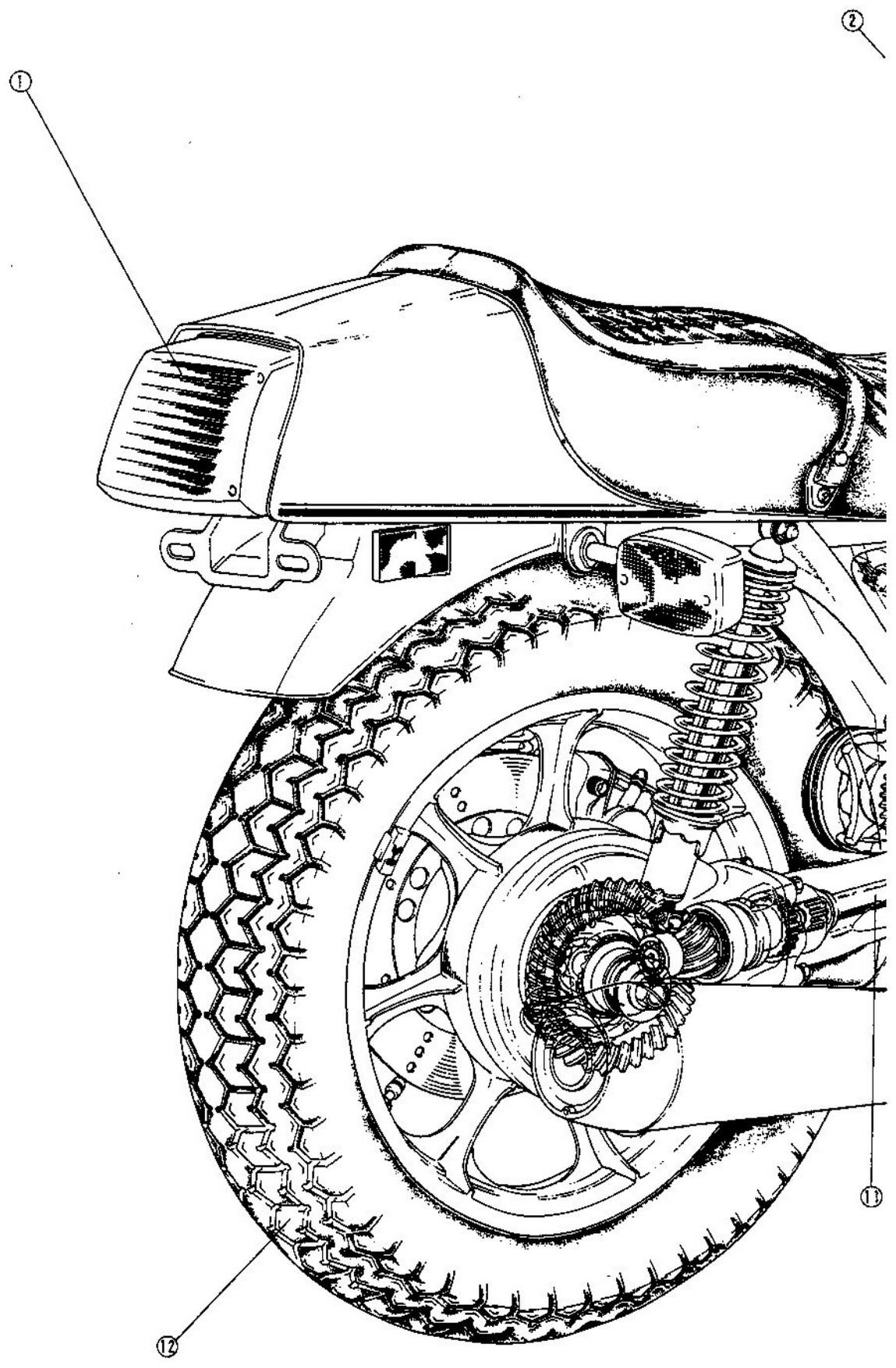
**KZ1300-A1 Left Side View**

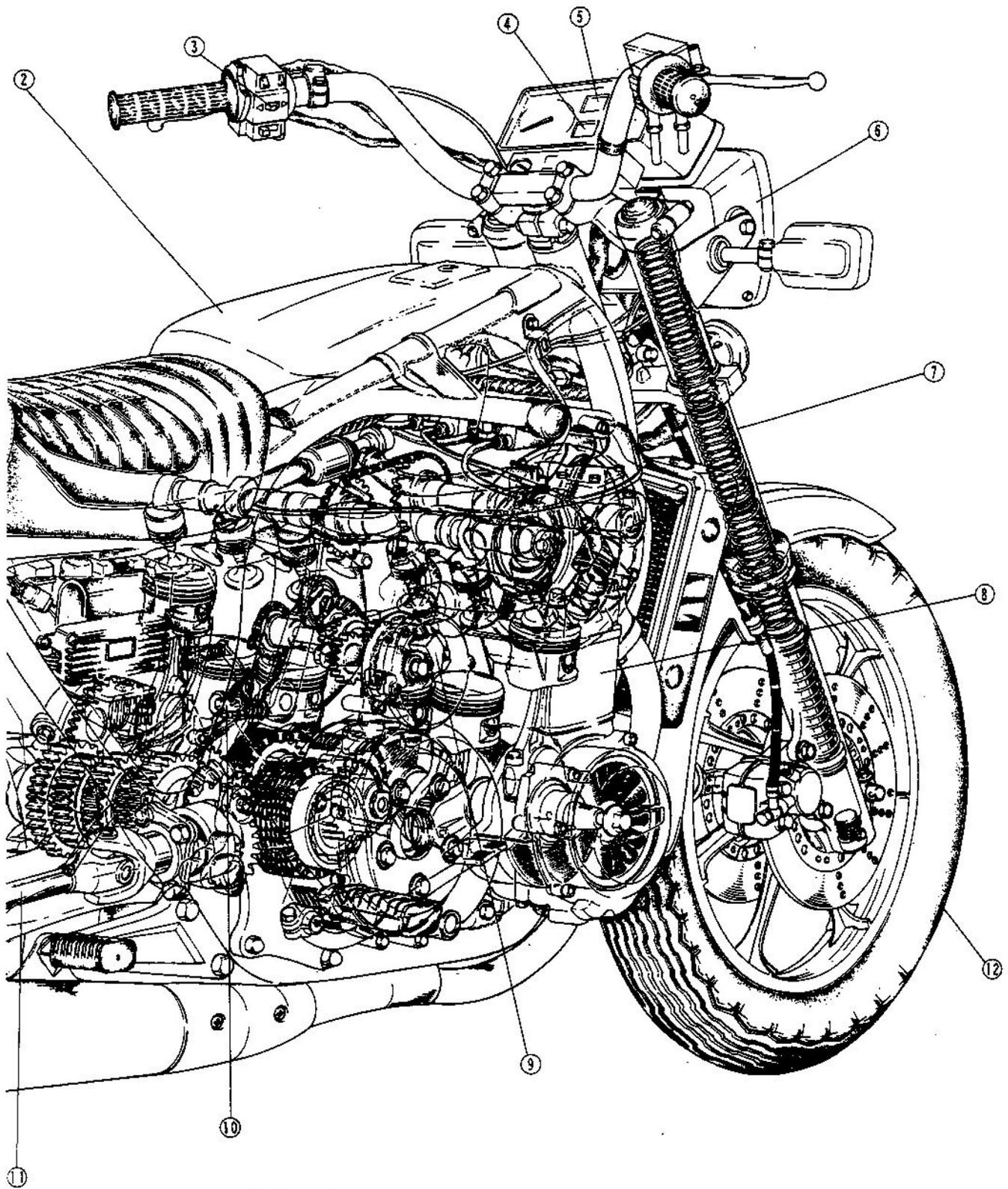


**KZ1300-A1 Right Side View**



# KZI300 PERSPECTIVE





1. Two Bulbs Tail/Brake Light
2. Solenoid Fuel Valve
3. Turn Signal Automatic Cancel Switch
4. Fuel Level Gauge
5. Water Temperature Gauge
6. Quartz Halogen Headlight with Reserve Lighting System

7. Pneumatic Front Fork
8. DOHC Six-cylinder Water-cooled Engine
9. Transisterized Ignition System
10. Automatic Camshaft Chain Tensioner
11. Shaft Drive
12. Tubeless Tires

# Specifications

## Table of Contents

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| ENGINE PERFORMANCE CURVES .....  | 8  |
| RUNNING PERFORMANCE CURVES ..... | 9  |
| PERIODIC MAINTENANCE CHART ..... | 10 |

## 6 SPECIFICATIONS

### SPECIFICATIONS

#### KZ1300-A1

##### Dimensions

|                    |          |              |
|--------------------|----------|--------------|
| Overall length     | 2,295 mm | Ⓔ Ⓐ 2,335 mm |
| Overall width      | 905 mm   | Ⓔ Ⓐ 840 mm   |
| Overall height     | 1,280 mm | Ⓔ Ⓐ 1,155 mm |
| Wheelbase          | 1,580 mm |              |
| Road clearance     | 137 mm   |              |
| Dry weight         | 297 kg   |              |
| Fuel tank capacity | 27.0 ℓ   | Ⓢ 21.4 ℓ     |

##### Performance

|                        |              |
|------------------------|--------------|
| Braking distance       | 12 m @50 kph |
| Minimum turning radius | 2.8 m        |

##### Engine

|                           |  |          |
|---------------------------|--|----------|
| Type                      | DOHC, 6 cylinder, 4 stroke, water-cooled                 |          |
| Bore and stroke           | 62.0 x 71.0 mm   |          |
| Displacement              | 1,286 cc   |          |
| Compression ratio         | 9.9  |          |
| Maximum horsepower        | 120 HP @8,000 rpm  |          |
| Maximum torque            | 11.8 kg-m @6,500 rpm                                     |          |
| Valve timing              |  |          |
| Inlet                     | Open   | 20° BTDC |
|                           | Close  | 70° ABDC |
|                           | Duration   | 270°     |
| Exhaust                   | Open   | 70° BBDC |
|                           | Close  | 30° ATDC |
|                           | Duration   | 280°     |
| Carburetors               | Mikuni BSW32 x 3   |          |
| Lubrication system        | Forced lubrication (Wet sump)                            |          |
| Engine oil                | SE class SAE 10W40, 10W50, 20W40, or 20W50               |          |
| Engine oil capacity       | 4.6 ℓ  |          |
| Coolant Capacity          | 3.5 ℓ  |          |
| Starting system           | Electric starter   |          |
| Ignition system           | Battery and coil (transistorized ignition)               |          |
| Cylinder numbering method | Left to right, 1-2-3-4-5-6                               |          |
| Firing order              | 1-5-3-6-2-4  |          |
| Ignition timing           | From 10° BTDC @850 rpm<br>to 38° BTDC @2,900 rpm         |          |
| Spark plugs               | NGK BP6ES or ND W20EP-U<br>Ⓔ Ⓒ NGK BPR6ES or ND W20EPR-U |          |

##### Transmission

|             |                                      |              |
|-------------|--------------------------------------|--------------|
| Type        | 5-speed, constant mesh, return shift |              |
| Clutch      | Wet multi disc                       |              |
| Gear ratio: | 1st                                  | 2.29 (39/17) |
|             | 2nd                                  | 1.67 (35/21) |
|             | 3rd                                  | 1.28 (32/25) |
|             | 4th                                  | 1.07 (29/27) |
|             | 5th                                  | 0.93 (27/29) |

|                                     |                |                                   |
|-------------------------------------|----------------|-----------------------------------|
| Primary reduction ratio             |                | 1.84 (32/24 x 29/21)              |
| Final reduction ratio               |                | 2.65 (20/24 x 35/11)              |
| Overall drive ratio                 |                | 4.55 (Top gear)                   |
| <b>Electrical Equipment</b>         |                |                                   |
| Alternator                          |                | Kokusan GP9109                    |
| Regulator/Rectifier                 |                | Shindengen SH230-12D              |
| Ignition coils                      |                | Toyo Denso ZC005-TR12V            |
| Igniter                             |                | Toyo Denso UNT1005K-1000          |
| Battery                             |                | Yuasa Y50-N18L-A (12V 20AH)       |
| Starter                             |                | Mitsuba SM-226-K                  |
| Headlight type                      |                | Semi-sealed                       |
| Headlight                           |                | 12V 60/55W (Quartz Halogen Light) |
| City light                          |                | Ⓐ 12V 4W                          |
| Tail/Brake light                    |                | 12V 8/27W Ⓐ 12V 5/21W             |
| Meter lights                        |                | 12V 3.4W                          |
| Indicator lights                    |                | 12V 3.4W                          |
| Turn signal/running position lights |                | Ⓢ 12V 23/8W                       |
| Turn signal lights                  |                | 12V 23W Ⓐ 12V 21W                 |
| Horns                               |                | 12V 2.5A                          |
| <b>Frame</b>                        |                |                                   |
| Type                                |                | Tubular, double cradle            |
| Steering angle                      |                | 38° to either side                |
| Castor                              |                | 28°                               |
| Trail                               |                | 100 mm                            |
| Tire size                           | Front          | 110/90V-18 4PR Ⓢ MN90-18          |
|                                     | Rear           | 130/90V-17 6PR Ⓢ MT90-17          |
| Suspension                          | Front          | Telescopic fork (pneumatic)       |
|                                     | Rear           | Swing arm                         |
| Suspension stroke                   | Front          | 200 mm                            |
|                                     | Rear           | 105 mm                            |
| Front fork oil capacity (each fork) |                | 391 cc                            |
| Front fork oil type                 |                | SAE 10W20                         |
| Final gear case oil                 | Type           | API GL-5 Hypoid Gear Oil          |
|                                     |                | SAE 90 (above 5°C)                |
|                                     |                | SAE 80 (below 5°C)                |
|                                     | Capacity       | 0.25 ℓ                            |
| <b>Brakes</b>                       |                |                                   |
| Type                                | Front and Rear | Disc brake                        |
| Effective disc diameter             | Front          | 260 mm                            |
|                                     | Rear           | 250 mm                            |

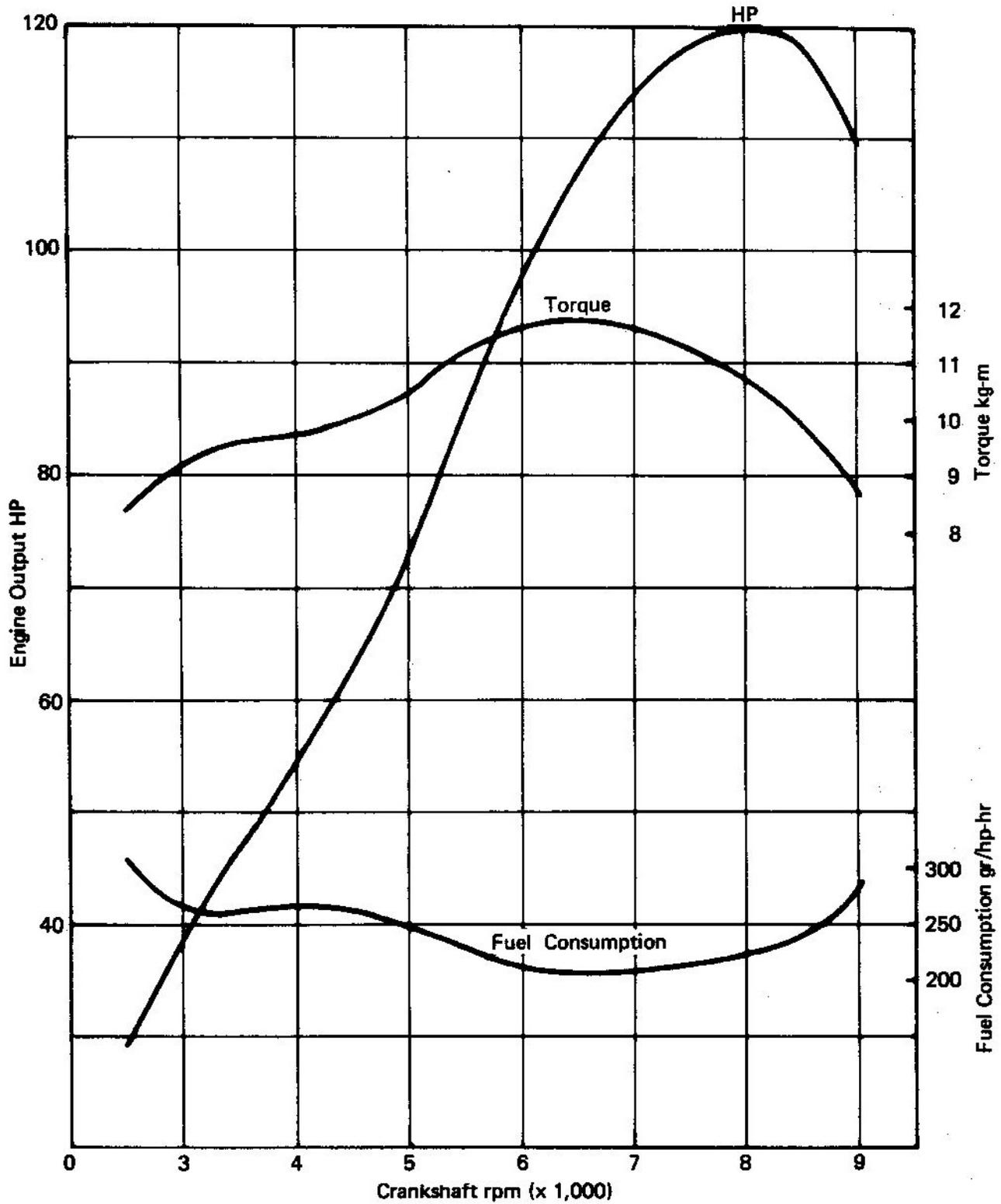
Ⓐ : Australian model    Ⓢ : Canadian model    Ⓔ : European model    Ⓢ : US model

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

# 8 SPECIFICATIONS

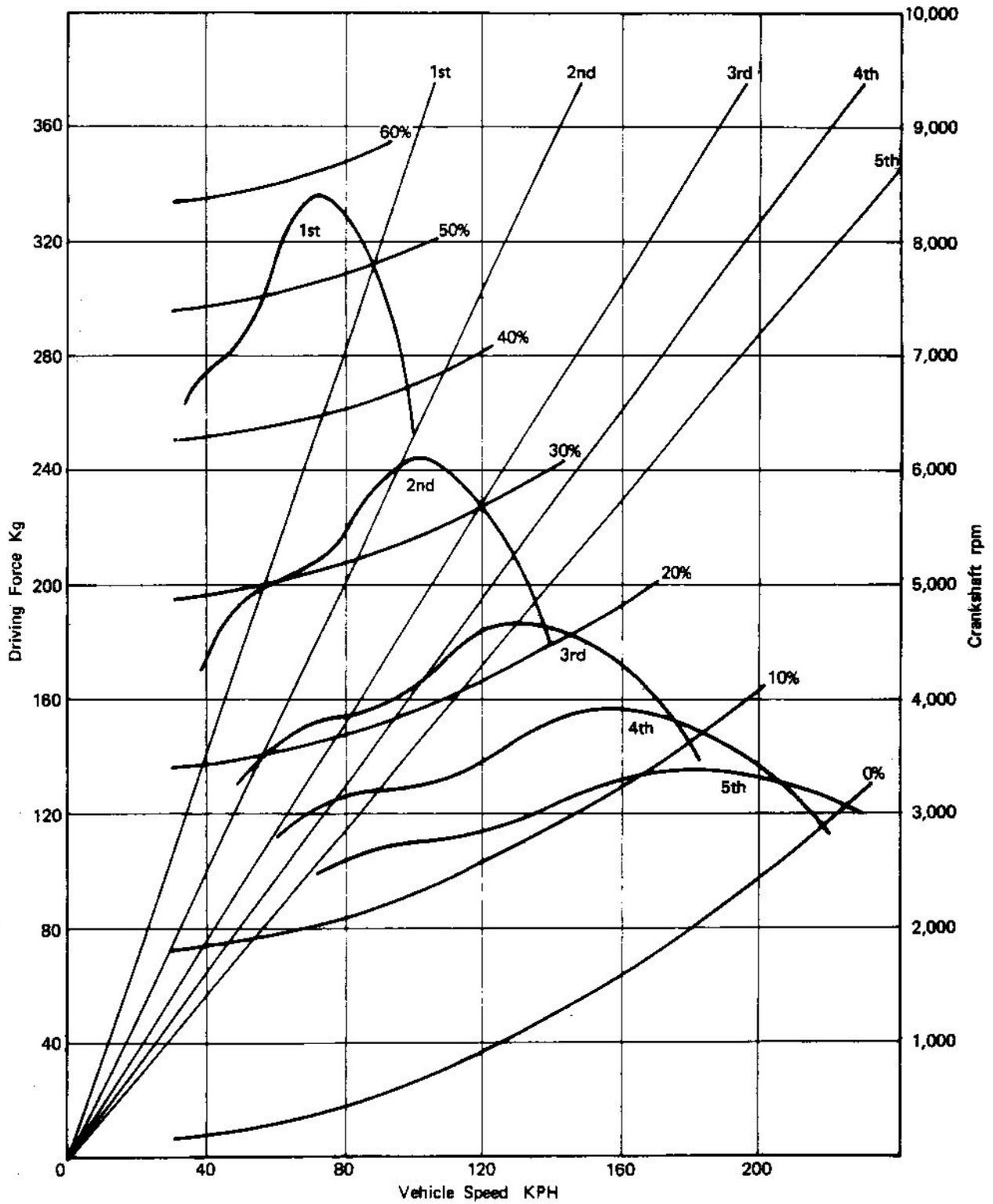
## ENGINE PERFORMANCE CURVES

KZ1300-A1  
KZ1300-B2



RUNNING PERFORMANCE CURVES

KZ1300-A1



## 10 SPECIFICATIONS

### PERIODIC MAINTENANCE CHART (KZ1300-A1)

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   | ODOMETER READING* |          |           |           |           |           |           | See Page |
|--|-------------|-------------------|----------|-----------|-----------|-----------|-----------|-----------|----------|
|  |             | 800 km            | 5,000 km | 10,000 km | 15,000 km | 20,000 km | 25,000 km | 30,000 km |          |
| Battery electrolyte level – check †            | Every month | •                 | •        | •         | •         | •         | •         | •         | 230      |
| Brake, brake light switch adjustment – check † |             | •                 | •        | •         | •         | •         | •         | •         | 27       |
| Brake wear – check †                           |             |                   | •        | •         | •         | •         | •         | •         | 222      |
| Brake fluid level – check †                    | month       | •                 | •        | •         | •         | •         | •         | •         | 221      |
| Brake fluid – change                           | year        |                   |          | •         |           | •         |           | •         | 220      |
| Clutch – adjust                                |             | •                 | •        | •         | •         | •         | •         | •         | 20       |
| Carburetors – adjust                           |             | •                 | •        | •         | •         | •         | •         | •         | 18       |
| Throttle cables – adjust                       |             | •                 | •        | •         | •         | •         | •         | •         | 14       |
| Steering play – check †                        |             | •                 | •        | •         | •         | •         | •         | •         | 28       |
| Front fork – inspect/clean                     |             |                   | •        | •         | •         | •         | •         | •         | 227      |
| Rear shock absorbers – inspect                 |             | •                 | •        | •         | •         | •         | •         | •         | 228      |
| Nuts, Bolts, Fasteners – check and torque      |             | •                 |          | •         |           | •         |           | •         | 37~42    |
| Spark plugs – clean and gap †                  |             | •                 | •        | •         | •         | •         | •         | •         | 12       |
| Valve clearance – check †                      |             | •                 | •        | •         | •         | •         | •         | •         | 12       |
| Air suction valve – check †                    |             |                   | •        | •         | •         | •         | •         | •         | 180      |
| Air cleaner element – clean                    |             |                   | •        | •         |           | •         |           |           | 164      |
| Air cleaner element – replace                  | 5 cleanings |                   |          | •         |           | •         |           | •         | 47,164   |
| Fuel system – clean                            |             | •                 | •        | •         | •         | •         | •         | •         | 22,165   |
| Tire tread wear – check †                      |             |                   | •        | •         | •         | •         | •         | •         | 213      |
| Engine oil – change                            | year        | •                 | •        | •         | •         | •         | •         | •         | 21       |
| Oil filter – replace                           |             | •                 |          | •         |           | •         |           | •         | 21       |
| General lubrication – perform                  |             |                   | •        | •         | •         | •         | •         | •         | 32       |
| Front fork oil – change                        |             |                   |          | •         |           | •         |           | •         | 226      |
| Timing advancer – lubricate                    |             |                   |          | •         |           | •         |           | •         | 240      |
| Swing arm – lubricate                          |             |                   |          | •         |           | •         |           | •         | 228      |
| Wheel bearings – grease                        | 2 years     |                   |          |           |           | •         |           |           | 216      |
| Steering stem bearings – grease                | 2 years     |                   |          |           |           | •         |           |           | 224      |
| Final gear case oil level – check †            |             |                   |          | •         |           | •         |           | •         | 32       |
| Final gear case oil – change                   |             | •                 |          |           |           |           |           | •         | 32       |
| Propeller shaft sliding joint – lubricate      |             |                   |          | •         |           |           |           | •         | 218      |
| Coolant – change                               | 2 years     |                   |          |           |           |           |           | •         | 23,203   |
| Radiator hoses, connections – check †          | year        | •                 | •        |           |           | •         |           | •         | 37~42    |

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

†Replace, add or adjust if necessary.

# Adjustment—Engine

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**B**

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| VALVE CLEARANCE ..... | 12 |
| THROTTLE CABLES ..... | 14 |
| CARBURETORS .....     | 18 |
| CLUTCH .....          | 20 |
| ENGINE OIL .....      | 21 |
| FUEL SYSTEM .....     | 22 |
| COOLANT .....         | 22 |

## 12 ADJUSTMENT—ENGINE

### 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 inside. See the Periodic Maintenance Chart (Pg. 10), for spark plug inspection, cleaning and resetting of the electrode 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.

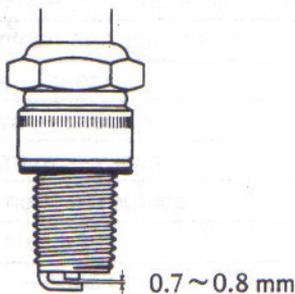
Table B1 Spark Plug

|                   |  |
|-------------------|--|
| Plug              | NGK BP6ES or ND W20EP-U<br>© ② NGK BPR6ES or ND W20EPR-U |
| Gap               | 0.7~0.8 mm   |
| Tightening Torque | 2.8 kg-m (20 ft-lbs)                                     |

© : Canadian Model ② : European Model

#### Spark Plug Gap

B1



- Tighten the spark plugs in the cylinder head to 2.8 kg-m (20 ft-lbs) of torque.

### VALVE CLEARANCE

Valve and valve seat wear decreases valve clearance, upsetting valve timing. If valve clearance is not adjusted, the wear will eventually cause the valves to remain partly open, which lowers performance, burns the valves and valve seats, and may cause serious engine damage.

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

Be careful to adjust within the specified clearance. Adjusting to a larger value will disturb valve timing and cause engine noise.

**NOTE:** Valve clearance must be checked when the engine is cold (room or atmospheric temperature).

#### To check the valve clearance:

- Remove the fuel tank (Pg. 46).
- Disconnect the battery ground (-) lead.
- Remove the spark plugs.
- Remove the vacuum switch valve (US model) (Pg. 48).
- Remove the two lower ignition coils (Pg. 49).
- Remove the cylinder head cover (Pg. 65).
- Remove the alternator cover (Pg. 85). The cover need not be removed completely from the crankcase, so the alternator leads may be left connected.
- Using a 14 mm wrench on the alternator rotor bolt, turn the crankshaft clockwise so that the "T" mark on the rotor is aligned with the crankcase mating surface on the front side of the crankshaft.

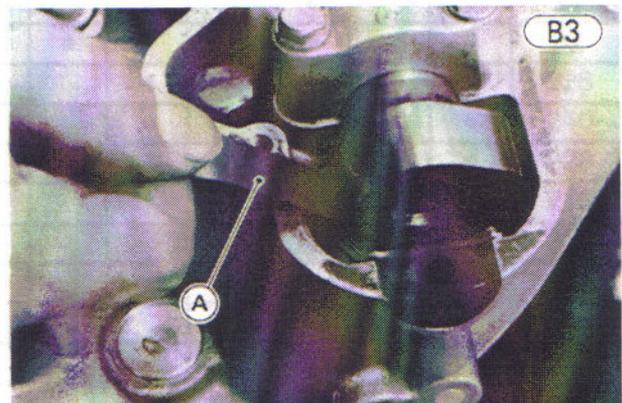


#### A. "T" Mark

- Check that the timing mark on the exhaust camshaft sprocket is aligned with the cylinder head cover mating surface on the front side of the exhaust camshaft. If it is not, turn the crankshaft another turn until the "T" mark is aligned with the crankcase mating surface again.

**NOTE:** At this position, the #1 (extreme left) piston is at top dead center (TDC) at the end of its compression stroke.

- At this crankshaft (0°) position, measure the clearance between the cam and the shim of the #1 inlet and exhaust valves. See Table B2.



#### A. Thickness Gauge

- Next turn the crankshaft 1/3 turn (120°) clockwise and align the "1" mark on the rotor with the crankcase mating surface.



**A. "1" Mark**

- At this crankshaft (120°) position, measure the valve clearance of the #4 and #5 inlet and #6 exhaust valves.
- Repeat the preceding step, and measure the remaining valve clearances. Turn the crankshaft 1/3 turn (120°) at a time, and match the "2", "T", or "1" mark on the rotor with the mating surface. Measure the valve clearances specified in the table at each crankshaft position.



**A. "2" Mark**

**To adjust the valve clearance:**

If the valve clearance is incorrect, replace the present shim with a new shim to obtain the proper clearance. Use the valve lifter holder (special tool).

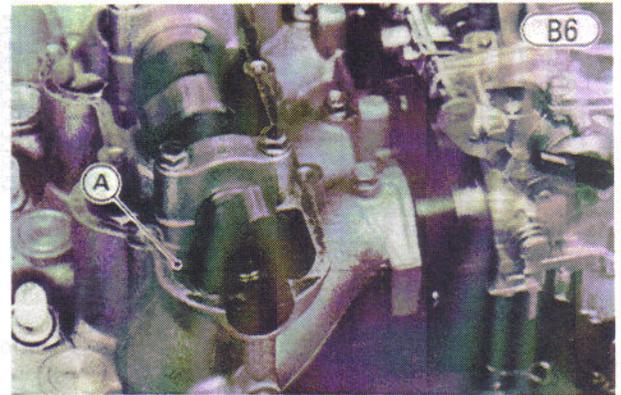
**NOTE:** If there is no clearance between the shim and cam, select a shim which is several sizes smaller and then remeasure the gap once it is installed.

- Cut out a cover from a rubber plate using the pattern on Pg. 281, and stuff it in the camshaft chain tunnel so that no parts will fall into the crankcase.
- Turn the crankshaft so that the cam points away from the lifter. Position the notch in the lifter so it points

**Table B2 Valve Clearance Measurement Procedure**

| Crankshaft position degree (turns) | Rotor mark aligned with the mating surface | Appropriate Valves |           | Valve Clearance mm |           |
|------------------------------------|--|--------------------|-----------|--------------------|-----------|
|                                    |  | Inlet              | Exhaust   | Inlet              | Exhaust   |
| 0° (0)                             | "T"  | #1                 | #1        | 0.05~0.15          | 0.15~0.25 |
| 120° (1/3)                         | "1"  | #4 and #5          | #6        |                    |           |
| 240° (2/3)                         | "2"  |                    | #2 and #3 |                    |           |
| 360° (3/3)                         | "T"  | #6                 |           |                    |           |
| 480° (4/3)                         | "1"  | #2 and #3          |           |                    |           |
| 600° (5/3)                         | "2"  |                    | #4 and #5 |                    |           |

toward the opposite camshaft. This will allow the shim to be lifted and removed later.



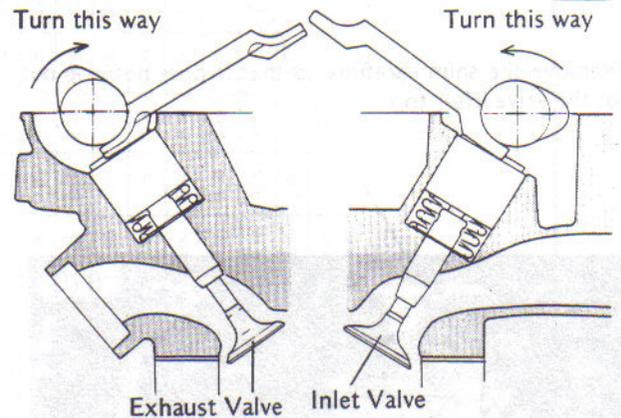
**A. Notch**

- Turn the crankshaft so that the cam is pushing the lifter down, and place the valve lifter holder (special tool) between the camshaft and the valve lifter rim. **NOTE:** For #1, #3, #4, and #6 shim replacement, face the notched side of the tool toward the shim, and for #2, and #5 shim replacement, face the flat side of the tool toward the shim.

- While holding the tool in place, turn the crankshaft in the direction that will help the tool slide into place between the camshaft and the lifter rim. Finish with the cam pointing away from the lifter.

**NOTE:** The camshaft rotates in the same direction as the crankshaft.

**Turning Camshafts**

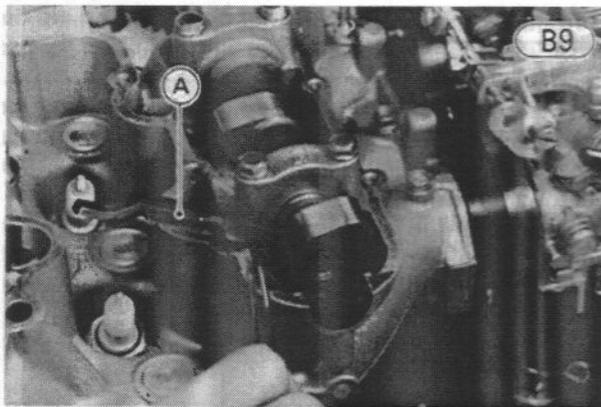
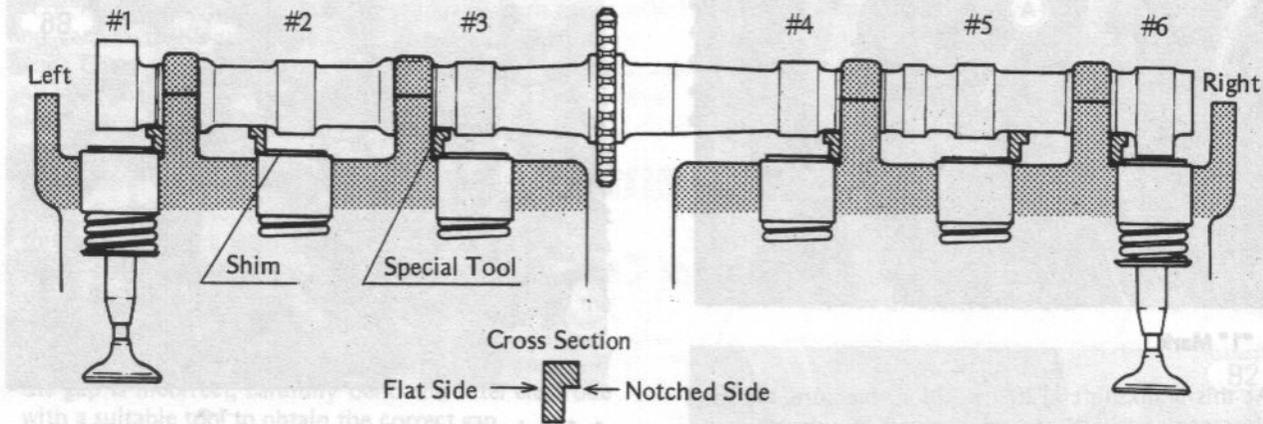


**B7**

## 14 ADJUSTMENT—ENGINE

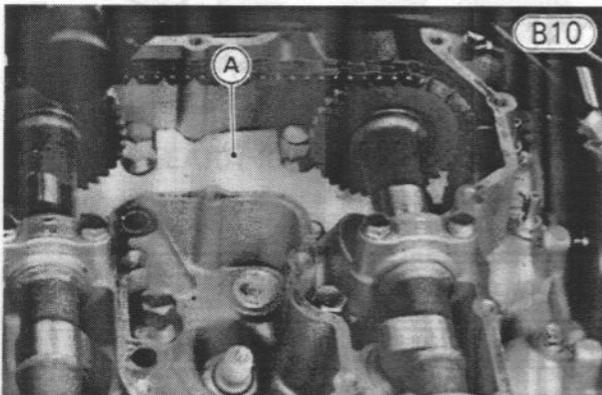
### Valve Lifter Holder Installation

B8



#### A. Valve Lifter Holder (57001-1035)

- Remove the shim carefully so that it does not pop out of the valve lifter top.



#### A. Stuff a damper plate.

- Check the present shim thickness (shim size) which is printed on the shim surface. Refer to the Valve Adjustment Charts (Pgs. 15, 16), and select the shim which

will bring the valve clearance within the specified limits. Shims are available in sizes from 2.00 to 3.20 mm, in increments of 0.05 mm.

- Insert the new shim on the valve lifter with the numbered side facing downwards so the number won't be polished off by the action of the cam.

#### 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.

**NOTE:** If the smallest shim does not sufficiently increase clearance, the valve seat is probably worn. In this case, (a) repair the valve seat (Pg. 176), (b) grind down the valve stem slightly (Pg. 175), (c) then recheck the clearance.

- Remove the rubber plate.
- While holding the tool, turn the crankshaft so that the cam is again pushing down the lifter, and remove the special tool.
- Make sure that the valve clearance is correct. If it is not, readjust.
- Install the alternator cover (Pg. 85).
- Install the cylinder head cover and air suction valve cover (Pg. 65).
- Install the spark plugs. Tighten them to 2.8 kg-m (20 ft-lbs) of torque.
- Install the ignition coils (Pg. 49).
- Install the vacuum switch valve (US model) (Pg. 48).
- Connect the battery ground (-) lead.
- Install the fuel tank (Pg. 46).

## THROTTLE CABLES

There are two throttle cables: an accelerator cable for opening the throttle valves, and a decelerator cable for closing them. If the cables are too loose due to

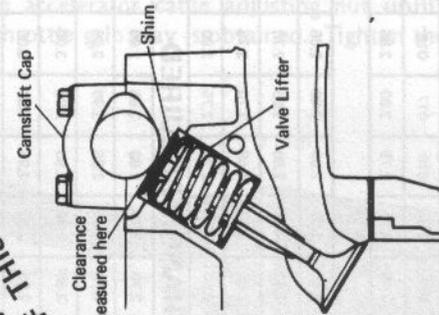
Table B3 Valve Adjustment Chart (Inlet)

| PART NUMBER (12037- )<br>THICKNESS (mm) | PRESENT SHIM |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|   | 001          | 002  | 003  | 004  | 005  | 006  | 007  | 008  | 009  | 010  | 011  | 012  | 013  | 014  | 015  | 016  | 017  | 018  | 019  | 020  | 021  | 022  | 023  | 024  | 025  |
| 0.00~0.02                               | 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 |
| 0.03~0.04                               | 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 |
| 0.05~0.15                               | 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 |
| 0.16~0.17                               | 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 |      |
| 0.18~0.22                               | 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                               | 2.15         | 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                               | 2.20         | 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                               | 2.25         | 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                               | 2.30         | 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                               | 2.35         | 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                               | 2.40         | 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                               | 2.45         | 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                               | 2.50         | 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                               | 2.55         | 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                               | 2.60         | 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                               | 2.65         | 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                               | 2.70         | 2.75 | 2.80 | 2.85 | 2.90 | 2.95 | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.83~0.87                               | 2.75         | 2.80 | 2.85 | 2.90 | 2.95 | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.88~0.92                               | 2.80         | 2.85 | 2.90 | 2.95 | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.93~0.97                               | 2.85         | 2.90 | 2.95 | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.98~1.02                               | 2.90         | 2.95 | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.03~1.07                               | 2.95         | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.08~1.21                               | 3.00         | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.13~1.17                               | 3.05         | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.18~1.22                               | 3.10         | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.23~1.27                               | 3.15         | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.28~1.35                               | 3.20         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

| VALVE CLEARANCE (mm) | SPECIFIED CLEARANCE / NO CHANGE REQUIRED |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                      | 001                                      | 002  | 003  | 004  | 005  | 006  | 007  | 008  | 009  | 010  | 011  | 012  | 013  | 014  | 015  | 016  | 017  | 018  | 019  | 020  | 021  | 022  | 023  | 024  | 025  |
| 0.00~0.02            | 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 |
| 0.03~0.04            | 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 |
| 0.05~0.15            | 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 |
| 0.16~0.17            | 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 |      |
| 0.18~0.22            | 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            | 2.15                                     | 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            | 2.20                                     | 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            | 2.25                                     | 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            | 2.30                                     | 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            | 2.35                                     | 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            | 2.40                                     | 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            | 2.45                                     | 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            | 2.50                                     | 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            | 2.55                                     | 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            | 2.60                                     | 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            | 2.65                                     | 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            | 2.70                                     | 2.75 | 2.80 | 2.85 | 2.90 | 2.95 | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.83~0.87            | 2.75                                     | 2.80 | 2.85 | 2.90 | 2.95 | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.88~0.92            | 2.80                                     | 2.85 | 2.90 | 2.95 | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.93~0.97            | 2.85                                     | 2.90 | 2.95 | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.98~1.02            | 2.90                                     | 2.95 | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.03~1.07            | 2.95                                     | 3.00 | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.08~1.21            | 3.00                                     | 3.05 | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.13~1.17            | 3.05                                     | 3.10 | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.18~1.22            | 3.10                                     | 3.15 | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.23~1.27            | 3.15                                     | 3.20 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.28~1.35            | 3.20                                     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

1. Align the mark on the alternator rotor with the crankcase mating surface, and measure the clearance (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 between the shim and the cam, select a shim which is several sizes smaller and then remeasure 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.



INSTALL THE SHIM OF THIS THICKNESS (mm)

Table B4 Valve Adjustment Chart (Exhaust)

| VALVE CLEARANCE (mm) | PRESENT SHIM |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                      | 001          | 002  | 003  | 004  | 005  | 006  | 007  | 008  | 009  | 010  | 011  | 012  | 013  | 014  | 015  | 016  | 017  | 018  | 019  | 020  | 021  | 022  | 023  | 024  | 025  |
| 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 |
| 0.00~0.02            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.03~0.07            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.08~0.12            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.13~0.14            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.15~0.25            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.26~0.27            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.28~0.32            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.33~0.37            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.38~0.42            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.43~0.47            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.48~0.52            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.53~0.57            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.58~0.62            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.63~0.67            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.68~0.72            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.73~0.77            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.78~0.82            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.83~0.87            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.88~0.92            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.93~0.97            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0.98~1.02            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.03~1.07            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.08~1.12            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.13~1.17            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.18~1.22            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.23~1.27            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.28~1.32            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.33~1.37            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1.38~1.45            |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

INSTALL THE SHIM OF THIS THICKNESS (mm)

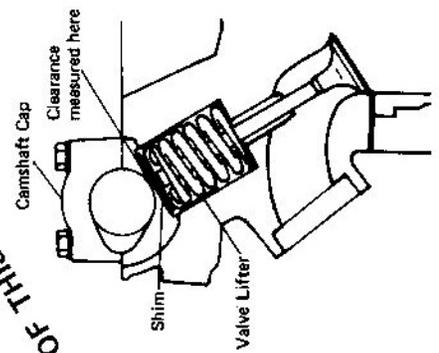
**SPECIFIED CLEARANCE / NO CHANGE REQUIRED**

1. Align the mark on the alternator rotor with the crankcase mating surface, and measure the clearance (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 between the shim and the cam, select a shim which is several sizes smaller and then remeasure the clearance.

**CAUTION**

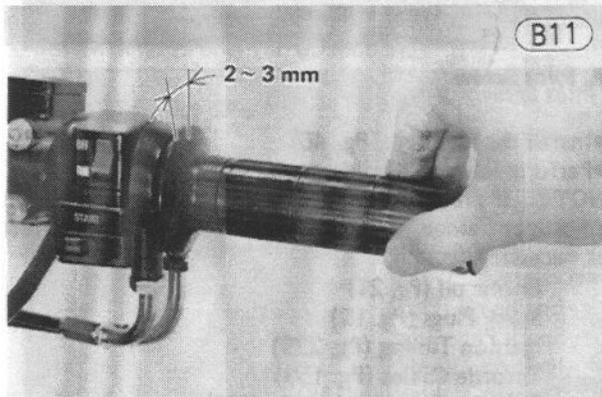
1. Do not put shim stock under the shim. This may cause the shim to pop out at high rpm, causing extensive engine damage.
2. Do not grind the shim. This may cause it to fracture, causing extensive engine damage.
3. Check the valve clearance with the proper method in the text. Checking the clearance at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



cable stretch or maladjustment, the excessive play in the throttle grip will cause a delay in throttle response, which will be especially noticeable at low rpm. Also, the butterfly valves may not open fully at full throttle. On the other hand, if the cables are too tight, the throttle will be hard to control, and the idle speed will be erratic.

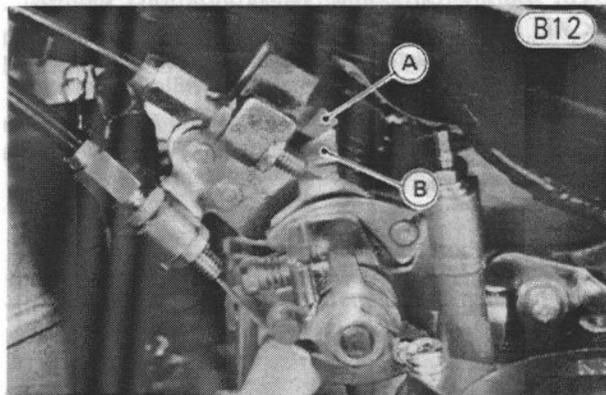
**To check the throttle cable adjustment:**

- Check that there is 2 ~ 3 mm throttle grip play.



- Push the throttle grip completely closed. At this time there should be no clearance between the cable bracket and the stop.

**NOTE:** This assures that the stress of throttle grip return will be taken by the pulley, protecting the carburetor linkage mechanism.

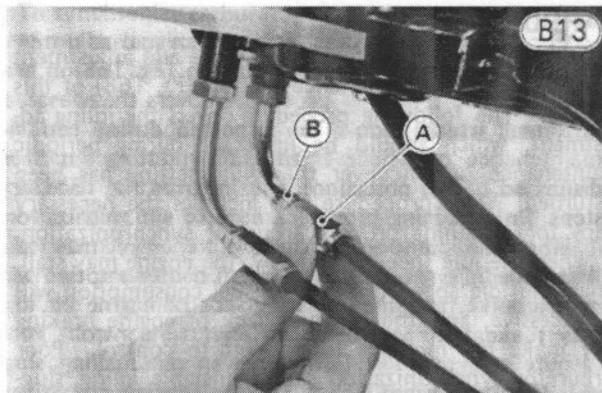


**A. Cable Bracket      B. Stop**

**To adjust the throttle cables:**

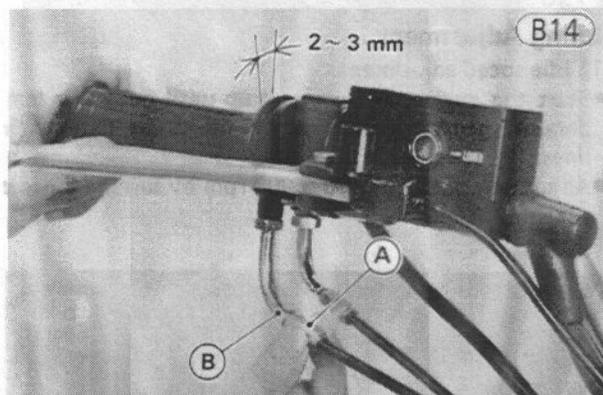
If any one of the above checks shows improper adjustment, adjust the throttle cables as follows:

- Loosen the locknuts, and screw both throttle cable adjusting nuts in fully at the upper end of the throttle cables so as to give the throttle grip plenty of play.
- Turn out the decelerator cable adjusting nut until there is no clearance between the cable bracket and the stop when the throttle grip is completely closed. Tighten the locknut.



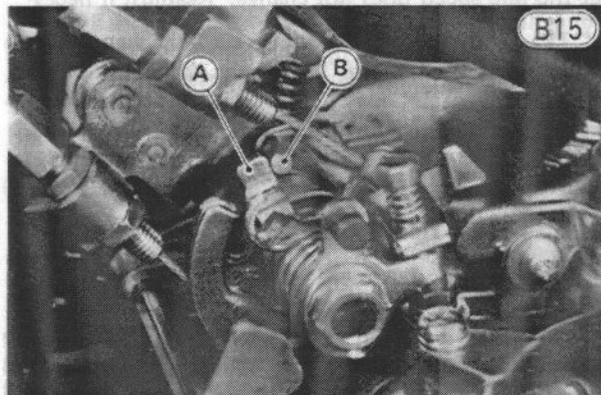
**A. Decelerator Cable Adjusting Nut      B. Locknut**

- Turn the accelerator cable adjusting nut until 2 ~ 3 mm of throttle grip play is obtained. Tighten the locknut.



**A. Accelerator Cable Adjusting Nut      B. Locknut**

- NOTES:**
1. If the throttle cables cannot be adjusted by using the cable adjusting nuts at the upper end of the throttle cables, use the cable adjusters at the lower ends of the throttle cables. Do not forget to securely tighten the adjuster mounting nuts.
  2. If grip play is adjusted too large, the butterfly valves may not open fully at full throttle. To check this, check to see that the pulley stops against the stop pin on the carburetor body when the throttle grip is fully turned.



**A. Pulley      B. Stop Pin**

## 18 ADJUSTMENT—ENGINE

### CARBURETOR

For internal carburetor maintenance and adjustment of parts, see the maintenance section (Pg. 168) of this manual. The following procedure covers the idling adjustment, which should be inspected during periodic maintenance or whenever the idling setting has been disturbed. This procedure also includes the necessary steps for obtaining proper carburetor synchronization.

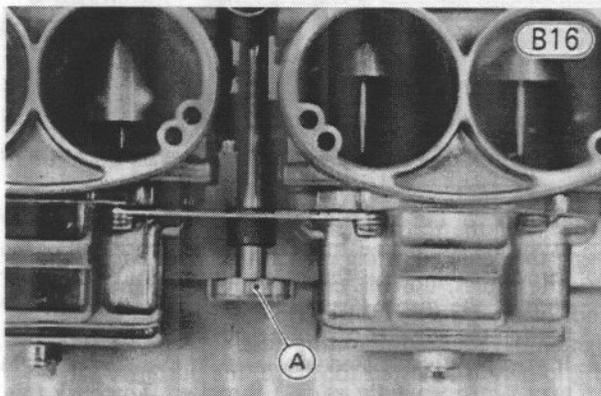
When the idle speed is too low, the engine may stall. When the idle speed is too high, fuel consumption will be excessive, and the resulting lack of engine braking may make the motorcycle difficult to control. Poor carburetor synchronization causes unstable idling, sluggish throttle response, and reduced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

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

#### Idling Adjustment

##### 1) Idle speed adjustment

- Start the engine, and warm it up until the water temperature gauge needle comes between the two center lines.
- Adjust idle speed to 800~900 rpm by turning the idle adjusting screw.



##### A. Idle Adjusting Screw

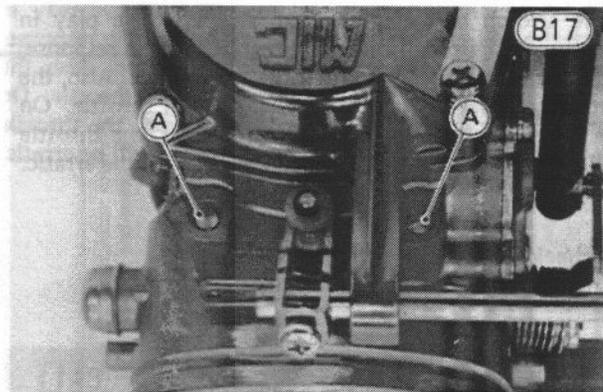
- Open and close the throttle a few times to make sure that the idle speed does not change. Readjust if necessary.

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

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

##### 2) Idle mixture adjustment

- Remove the fuel tank (Pg. 46).
- Check that the paint is on each pilot screw. If the paint has come off and the correct screw position is doubtful, turn in the screw until it seats lightly, and then back it out 1 3/4 turns.



##### A. Pilot Screw

- Install the fuel tank (Pg. 46).
- Perform idle speed adjustment.

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

- Engine oil (Pg. 21)
- Spark Plugs (Pg. 12)
- Ignition Timing (Pg. 239)
- Throttle Cables (Pg. 138)
- Cylinder Compression (Pg. 182)
- Air Cleaner Element (Pg. 164)
- Air Cleaner Duct and Carburetor Holder Leakage
- Valve Clearance (Pg. 12)

#### Carburetor Synchronization

To accurately synchronize each carburetor, the use of vacuum gauges is essential.

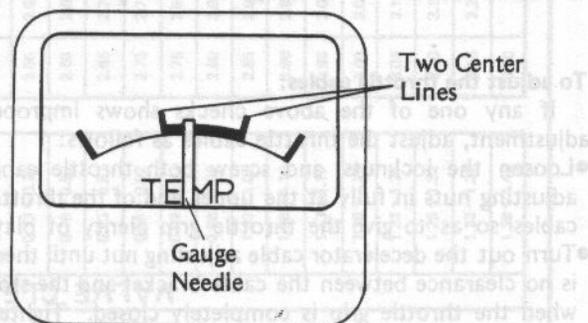
**NOTE:** During carburetor synchronization, the fuel tank will be removed. In most cases, it will be necessary to temporarily replace the standard fuel line with line long enough to reach the fuel tank while it is located on your workbench.

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

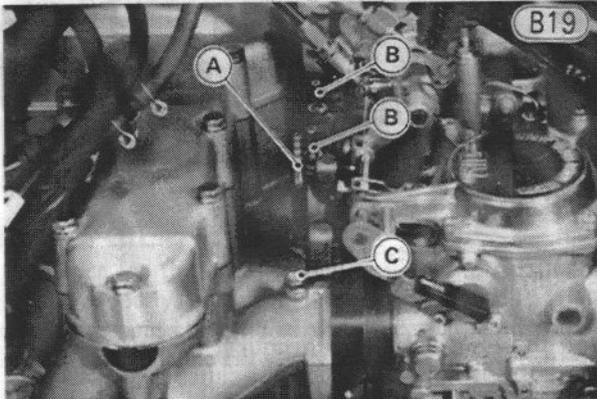
#### To check carburetor synchronization:

- Start the engine, and warm it up until the water temperature gauge needle comes between the two center lines.

#### Water Temperature Gauge



- Perform idling adjustment (Pg. 18).
- Stop the engine.
- Remove the fuel tank (Pg. 46), and supply fuel for the carburetors by some means during adjustment.
- For US model, unscrew the vacuum plugs (4) from the #1, #2, #5, and #6 manifolds, and pull off the vacuum hoses (2) from the #3 and #4 manifolds sliding the hose clamps out of position.
- Except for US model, unscrew the vacuum plugs (6) from each manifolds.
- Screw the vacuum gauge adapter (special tool) into each vacuum plug hole, and connect the vacuum gauge hoses to the adapters (6, 4 for US model) and vacuum hose fittings (2 only for US model).

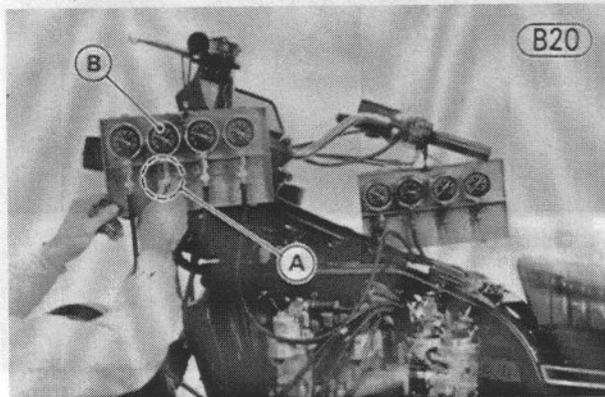


**A. Vacuum Gauge Adapter (57001-401)**  
**B. Fitting**      **C. Vacuum Plug**

- Completely close the vacuum gauge damper valves, and then start the engine.
- With the engine running at idle speed, slowly open each damper valve until gauge needle flutter is less than 3 cmHg, and note the gauge readings.
- Calculate three averages of each two combined carburetors, i.e., #1 and #2, #3 and #4, and #5 and #6. If there is a difference of more than the specified value between any two averages, synchronize the carburetors according to the following procedure.

**Table B5 Vacuum Difference**

|                                 |
|---------------------------------|
| Difference between Two Averages |
| under 2 cmHg                    |



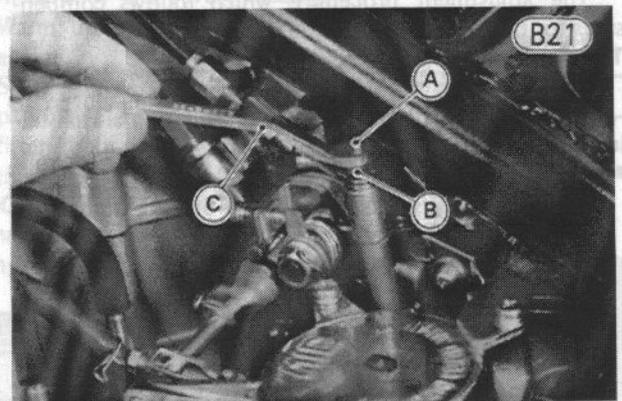
**A. Damper Valve**      **B. Vacuum Gauge (57001-226)**

#### To synchronize carburetors:

- Stop the engine.
- Loosen the locknuts (3) of the balance adjusting screws.
- Turn each adjusting screw in until it seats lightly, and then back it out 1½ turns.

**NOTE:** Carburetor synchronization should be adjusted by turning the balance adjusting screws within the range between ½ ~ 2½ turned back position. If the adjusting screws are turned in exceeding the range, the operation of the link mechanism may become stiff. If the adjusting screws are turned out exceeding the range, the link mechanism may have play.

- Start the engine and adjust idle speed, use the balance adjuster (special tool) to alter the balance adjusting screw position. Adjust to a difference in readings which is less than the specified value.



**A. Balance Adjusting Screw**  
**B. Locknut**  
**C. Balance Adjuster (57001-1034)**

**NOTE:** There is only one adjusting screw to control both butterfly valves of each 2-throat carburetor. Normally there will be little or no difference between the vacuum of each throat passage.

- Perform idle speed adjustment again.
- Check that the mechanism moves smoothly without binding. 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, the adjusting screws may be out of the adjusting range (½ ~ 2½ turned back position).
- If any gauge reading is below 14 cmHg after synchronizing the carburetors, recheck the points listed in the end of the Idling Adjustment (Pg. 18).
- After the carburetors are properly synchronized, tighten the locknuts without changing the positions of the screws.
- Detach the vacuum gauges, install the vacuum plugs and their washers (4 ea). Connect the vacuum hoses (2) to the fittings. Slide the hose clamps back into place.
- Check the operation of the fast idle speed, and adjust if necessary (Pg. 50).
- Install the fuel tank (Pg. 46).

## 20 ADJUSTMENT—ENGINE

### CLUTCH

Stretching of the clutch cable causes the clutch lever to develop excessive play. Too much play prevents 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.

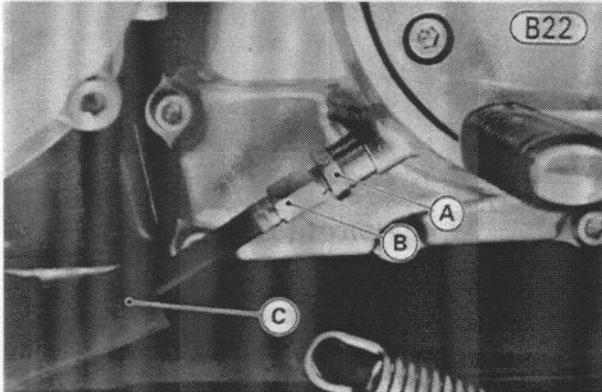
**NOTE:** Even though the proper amount of play exists at the clutch lever, clutch lever play alone cannot be used to determine whether or not the clutch requires adjustment.

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

**To adjust the clutch:**

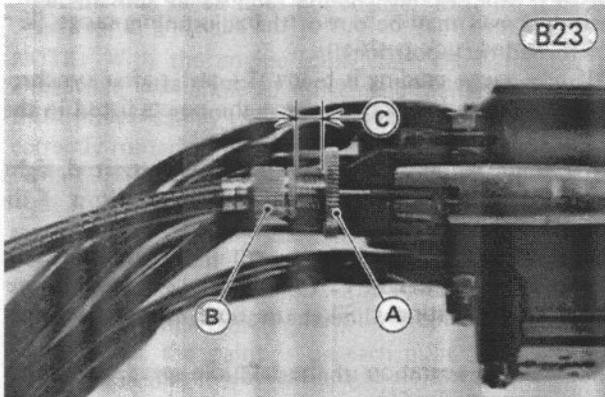
**WARNING** To avoid a serious burn, never touch the engine or exhaust pipe during clutch adjustment.

●Pull the dust cover out of the way, loosen the locknut, and turn the adjuster at the bottom of the clutch cable to give the cable plenty of play.



A. Locknut B. Adjuster C. Dust Cover

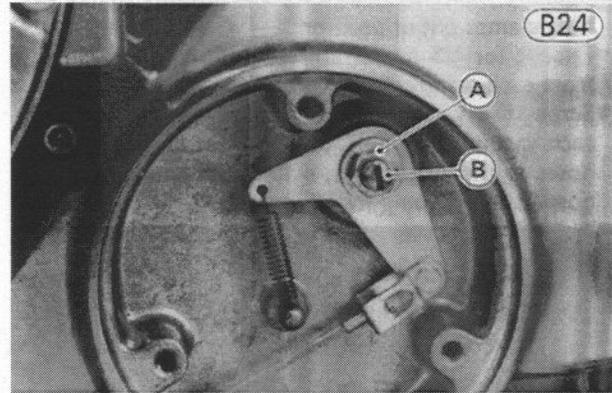
●Loosen the knurled locknut at the clutch lever just enough so that the adjuster will turn freely, and then turn the adjuster to make a 5~6 mm gap between the adjuster and knurled locknut.



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

●Remove the clutch release cover.

●Loosen the locknut, and back out the clutch adjusting screw 3 or 4 turns until the screw turns without drag.



A. Locknut B. Adjusting Screw

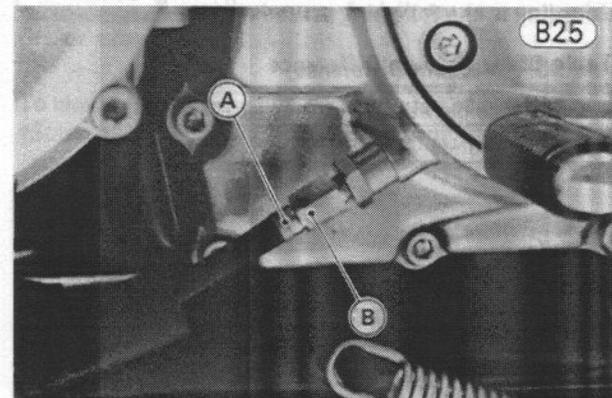
●Turn the adjusting screw in until it becomes hard to turn. This is the point where the clutch is just starting to release.

●Back out the adjusting screw ¼ turn from that point, and tighten the locknut.

●Take up all the cable play with the adjuster at the bottom of the cable, and then tighten the locknut.

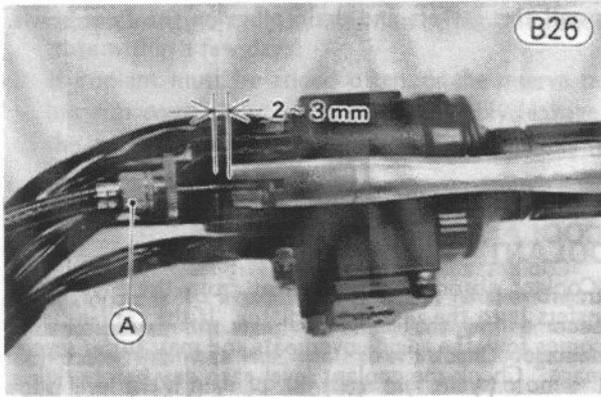
●Make sure the lower end of the clutch outer cable is properly fitted into the hole in the external shift mechanism cover. Slide the dust cover onto the adjuster.

**WARNING** If the outer cable is not fully seated in the adjuster, it could slip into place later and the clutch would not disengage.



A. Clutch Outer Cable B. Adjuster

●Turn the adjuster at the clutch lever so that the clutch lever will have 2~3 mm of play and tighten the knurled locknut.



#### A. Adjuster

- Install the clutch release cover.
- 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 and change the oil in accordance with the Periodic Maintenance Chart (Pg. 10).

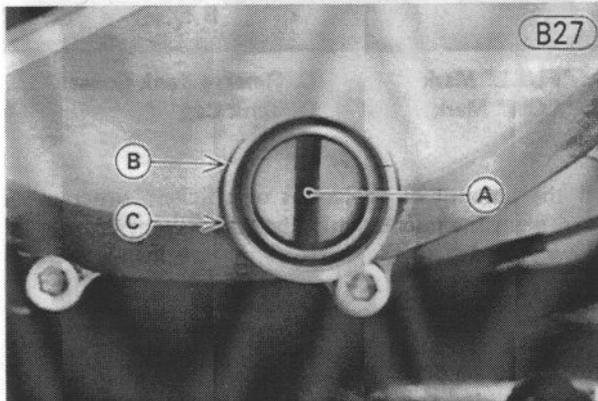
**WARNING** Motorcycle operation with insufficient, deteriorated, or contaminated engine oil will cause accelerated wear and may result in engine or transmission seizure and accident and injury.

### Oil Level Inspection

- 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. Oil Level Gauge      C. Lower Level  
B. Upper Level

- 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.

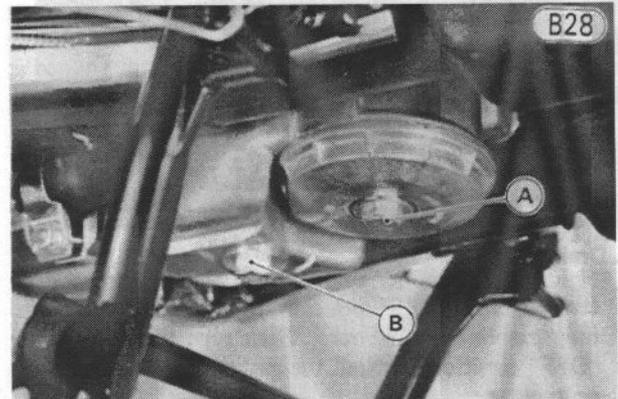
**CAUTION** If the engine oil level gets extremely low or if the oil pump or oil passages clog up or otherwise do not function properly, the red oil pressure warning light in the switch panel will light. If this light stays on when the engine speed is above 1,200 rpm, stop the engine immediately and 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/or 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 and oil filter drain plugs. Clean them off before reinstalling them.

**NOTE:** If water pollution is found in the engine oil, check the cooling system (Pg. 202). Then flush the engine using a special flushing agent.



A. Oil Filter Mounting Bolt

B. Engine Drain Plug

- If the oil filter is to be changed, replace the oil filter as explained on Pg. 89.
- After the oil has completely drained out, install the engine drain plug. Proper torque for the drain plug is 2.3 kg-m (16.5 ft-lbs).

Table B6 Engine Oil

| Grade    | Viscosity | Filling Engine Oil Capacity |                        |
|----------|-----------|-----------------------------|------------------------|
|          |           | When filter is not changed  | When filter is changed |
| SE Class | SAE 10W40 | 4.0 liters                  | 4.6 liters             |
|          | 10W50     |                             |                        |
|          | 20W40     |                             |                        |
|          | 20W50     |                             |                        |

## 22 ADJUSTMENT—ENGINE

Product: 1979-1983 Kawasaki KZ1300 Motorcycle Service Repair Workshop Manual

Full Download: <https://www.arepairmanual.com/downloads/1979-1983-kawasaki-kz1300-motorcycle-service-repair-workshop-manual/>

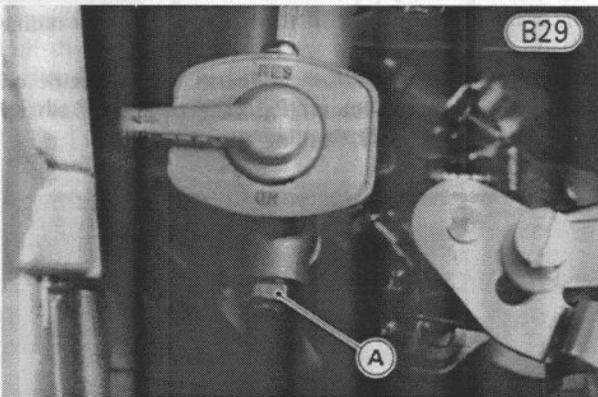
NOTE: After the engine has been run and then stopped

for a few minutes, the oil level should come to between the upper and lower marks.

### FUEL SYSTEM

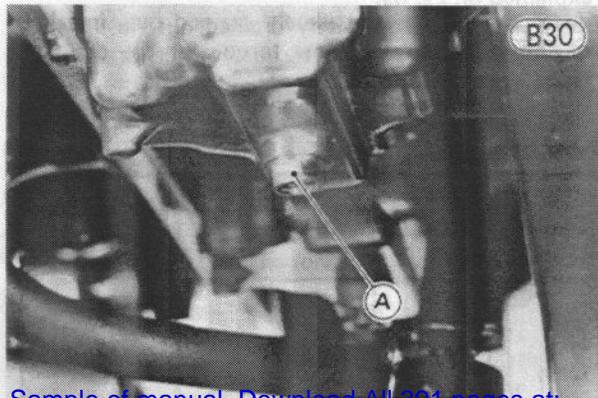
Accumulation of water in the fuel tank will restrict the flow of fuel and cause the carburetor to malfunction. The fuel system should be cleaned out periodically in the following manner.

- 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 working area.
2. Never clean out the fuel system when the engine is still warm.
3. Wipe any fuel off the engine before starting it.
- Turn the fuel tap lever to the "OFF" position.
  - Remove the drain plug at the bottom of the fuel tap.



#### A. Drain Plug

- Holding a container under the fuel tap, turn the tap lever to the "RES" position to drain the tank until only gasoline comes out. Then turn the lever to the "OFF" position. Install the gasket and the drain plug on the tap.
- If water has accumulated in the fuel tank, water may also have accumulated in the float bowl.
- Remove the drain plug from the bottom of each carburetor float bowl to drain the bowls.



#### A. Drain Plug

- Install the gaskets and drain plugs on the float bowls.

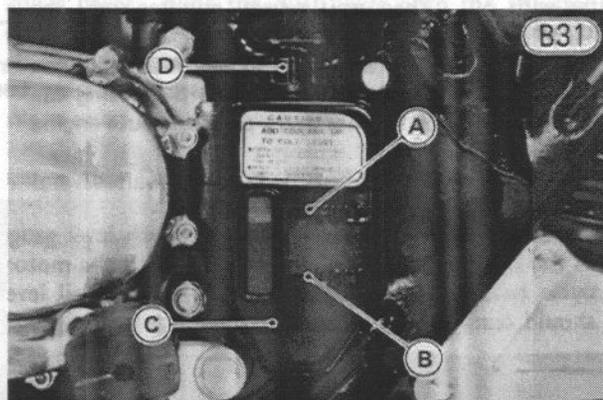
### COOLANT

Coolant absorbs excessive heat from the engine and transfers it to the air at the radiator. If the coolant level becomes low, the engine overheats and may suffer severe damage. Check the coolant level each day before riding the motorcycle, and replenish coolant if the level is low. Change the coolant in accordance with the Periodic Maintenance Chart (Pg. 10).

NOTE: Refer to the maintenance section for detailed information on coolant (Pg. 203).

#### Coolant Level Inspection

- Situate the motorcycle so that it is perpendicular to the ground (on its center stand).
  - Inspect the coolant (Pg. 203), and check the level through the coolant level gauge in the reserve tank cover. The coolant level should be between the "FULL" and the "LOW" marks.
- NOTES: 1. Check the level when the engine is cold (room or atmospheric temperature).  
2. Do not check the level through the coolant filler of radiator by removing the cap. If it is done, the air may come into the coolant path of engine and radiator and lowers the cooling efficiency.



A. "FULL" Mark  
B. "LOW" Mark

C. Reserve Tank Cover  
D. Tank Cap

- If the amount of coolant is insufficient, unscrew the cap from the reserve tank, and add coolant through the filler opening to the "FULL" mark. Install the tank cap.

NOTES: 1. For refilling, add the specified mixture of coolant and soft water. Adding water alone dilutes the coolant and degrades its anti-corrosion properties. The diluted coolant can attack the aluminum engine parts. In an emergency, soft water can be added.

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