<table>
<thead>
<tr>
<th>Year</th>
<th>Model</th>
<th>Beginning Frame No.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>KZ400-B1</td>
<td>K4-077801~</td>
<td>Front disc and rear drum brake system, 2-into-2 exhaust system, electric starter and kickstarter, six gear</td>
</tr>
<tr>
<td></td>
<td>KZ400-C1</td>
<td>K4S-24701~</td>
<td>Front drum and rear drum brake system, 2-into-1 exhaust system, kickstarter only, five gears</td>
</tr>
<tr>
<td>1979</td>
<td>KZ400-B2</td>
<td>K4-099501~</td>
<td>Color and graphic changed</td>
</tr>
<tr>
<td></td>
<td>KZ400-G1</td>
<td>K4-099501~</td>
<td>Cast-wheeled KZ400-B except front caliper, color and graphic</td>
</tr>
<tr>
<td>1980</td>
<td>KZ400-B3</td>
<td>K4-115001~</td>
<td>Kickstarter system discontinued, color and graphic changed, front caliper changed, automatic cam chain tensioner</td>
</tr>
<tr>
<td></td>
<td>KZ400-G2</td>
<td>K4-115001~</td>
<td>Kickstarter system discontinued, automatic cam chain tensioner</td>
</tr>
<tr>
<td>1981</td>
<td>KZ400-B4</td>
<td>K4-116801~</td>
<td>...</td>
</tr>
<tr>
<td></td>
<td>KZ400-G3</td>
<td>K4-116801~</td>
<td>Transistorized ignition system, color and graphic changed</td>
</tr>
<tr>
<td></td>
<td>KZ400-H3</td>
<td>KZ400H-017201~</td>
<td>Stepped seat, pullback handlebar, cast wheels, and transistorized ignition system</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Specifications</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Adjustment</td>
<td>B</td>
</tr>
<tr>
<td>Chassis</td>
<td>C</td>
</tr>
<tr>
<td>Disassembly</td>
<td>D</td>
</tr>
<tr>
<td>Engine (Installed)</td>
<td>E</td>
</tr>
<tr>
<td>Engine (Removed)</td>
<td>F</td>
</tr>
<tr>
<td>Chassis</td>
<td>G</td>
</tr>
<tr>
<td>Maintenance &amp; Theory</td>
<td>H</td>
</tr>
<tr>
<td>Engine</td>
<td>J</td>
</tr>
<tr>
<td>Chassis</td>
<td>K</td>
</tr>
<tr>
<td>Electrical</td>
<td>L</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>M</td>
</tr>
<tr>
<td>Appendix</td>
<td>N</td>
</tr>
<tr>
<td>Supplement</td>
<td>P</td>
</tr>
<tr>
<td>Index</td>
<td></td>
</tr>
</tbody>
</table>
# 6 SPECIFICATIONS

## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>KZ400-B1</th>
<th>KZ400-C1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall length</td>
<td>2,045 mm</td>
<td>*</td>
</tr>
<tr>
<td>Overall width</td>
<td>810 mm</td>
<td>790 mm</td>
</tr>
<tr>
<td>Overall height</td>
<td>1,130 mm</td>
<td>1,100 mm</td>
</tr>
<tr>
<td>Wheelbase</td>
<td>1,365 mm</td>
<td>*</td>
</tr>
<tr>
<td>Road clearance</td>
<td>135 mm</td>
<td>160 mm</td>
</tr>
<tr>
<td>Dry weight</td>
<td>168 kg</td>
<td>155 kg</td>
</tr>
<tr>
<td>Fuel tank capacity</td>
<td>14 l</td>
<td>*</td>
</tr>
</tbody>
</table>

## Performance

| Climbing ability            | 24°                           | *                             |
| Braking distance            | 13.5 m @50 kph                | *                             |
| Minimum turning radius      | 2.3 m                         | *                             |

## Engine

| Type                        | SOHC 2 cylinder, 4 stroke,    | *                             |
|                            | air-cooled                    |                               |
| Bore and stroke             | 64 x 62 mm                    | *                             |
| Displacement                | 398 cc                        | *                             |
| Compression ratio           | 9.5                            |                               |
| Maximum horsepower          | 36 HP @8,500 rpm              | 34.5 HP 8,500 rpm             |
| Maximum torque              | 3.28 kg-m @7,000 rpm          | 3.21 kg-m @6,500 rpm          |

## Valve timing

<table>
<thead>
<tr>
<th>Inlet</th>
<th>Close</th>
<th>Duration</th>
<th>Exhaust</th>
<th>Close</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>27°</td>
<td>BTDC</td>
<td>Open</td>
<td>70°</td>
<td>BBDC</td>
</tr>
<tr>
<td></td>
<td>73°</td>
<td>ABDC</td>
<td></td>
<td>30°</td>
<td>ATDC</td>
</tr>
<tr>
<td></td>
<td>280°</td>
<td></td>
<td></td>
<td>280°</td>
<td></td>
</tr>
</tbody>
</table>

## Carburators

Keihin VB32 x 2

## Lubrication system

Forced lubrication (wet sump)

## Engine oil

SE class SAE 10W40, 10W50, 20W40, 20W50

## Engine oil capacity

2.9 l

## Starting system

Electric and kick

Kick

## Ignition system

Battery and coil

## Ignition timing

From 10° BTDC @1,100 rpm to 35° BTDC @3,200 rpm

## Spark plugs

NGK B7ES or ND W22ES-U

## Transmission

| Type                        | 6-speed, constant mesh,      | 5-speed, constant mesh,       |
|                            | return shift                 | return shift                  |

## Clutch

Wet, multi disc

## Gear ratio:

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>Primary reduction ratio</th>
<th>Final reduction ratio</th>
<th>Overall drive ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.54 (33/13)</td>
<td>1.75 (28/16)</td>
<td>1.32 (25/19)</td>
<td>1.10 (23/21)</td>
<td>0.96 (22/23)</td>
<td>0.88 (21/24)</td>
<td>2.43 (56/23)</td>
<td>3.00 (45/15)</td>
<td>6.39 (Top gear)</td>
</tr>
<tr>
<td>2.57 (36/14)</td>
<td>1.68 (32/19)</td>
<td>1.27 (28/22)</td>
<td>1.04 (26/25)</td>
<td>0.89 (24/27)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>
### Electrical Equipment

<table>
<thead>
<tr>
<th>KZ400-B1</th>
<th>KZ400-C1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator (Dynamo)</td>
<td>Nippon Denso 5-037000-373 *</td>
</tr>
<tr>
<td>Regulator/Rectifier</td>
<td>Shindengen SH221-12 *</td>
</tr>
<tr>
<td>Ignition coil</td>
<td>Nippon Denso 029700-3881 *</td>
</tr>
<tr>
<td>Battery</td>
<td>Yuasa 12N 12A-4A-1 (12V 12AH)</td>
</tr>
<tr>
<td>Other than US</td>
<td>Furukawa FB12A-A (12V 12AH)</td>
</tr>
<tr>
<td>Starter</td>
<td>Mitsuba SM-223</td>
</tr>
<tr>
<td>Headlight type</td>
<td>US: Sealed beam *</td>
</tr>
<tr>
<td>European</td>
<td>Semi-sealed</td>
</tr>
<tr>
<td>Headlight</td>
<td>US: 12V 50/35W *</td>
</tr>
<tr>
<td>European</td>
<td>12V 35/35W 36/36W 50/40W</td>
</tr>
<tr>
<td>Tail/Brake light</td>
<td>US: 12V 8/27W *</td>
</tr>
<tr>
<td>European</td>
<td>12V 5/21W</td>
</tr>
<tr>
<td>Speedometer light</td>
<td>12V 3.4W</td>
</tr>
<tr>
<td>Tachometer light</td>
<td>12V 3.4W</td>
</tr>
<tr>
<td>Neutral indicator light</td>
<td>12V 3.4W *</td>
</tr>
<tr>
<td>High beam indicator light</td>
<td>12V 3.4W *</td>
</tr>
<tr>
<td>Turn signal/Running position lights</td>
<td>US: 12V 23/8W</td>
</tr>
<tr>
<td>Turn signal lights</td>
<td>US: 12V 23W *</td>
</tr>
<tr>
<td>European</td>
<td>12V 21W</td>
</tr>
<tr>
<td>Turn signal indicator light</td>
<td>12V 3.4W</td>
</tr>
<tr>
<td>Oil pressure indicator light</td>
<td>12V 3.4W</td>
</tr>
<tr>
<td>Brake light failure indicator light</td>
<td>12V 3.4W</td>
</tr>
<tr>
<td>Horn</td>
<td>12V 2.5A *</td>
</tr>
<tr>
<td>City light</td>
<td>European: 12V 4W</td>
</tr>
</tbody>
</table>

### Frame

| | Tubular, double-cradle |
| Type | * |
| Steering angle | 41° to either side * |
| Castor | 27° |
| Trail | 100 mm |
| Tire size | Front: 3.00S-18 4PR |
| Rear | 3.50S-18 4PR * |
| Suspension | Front: Telescopic fork |
| Rear | Swing arm |
| Suspension stroke | Front: 150 mm |
| Rear | 95 mm |
| Front fork oil capacity (each fork) | 145 ~ 155 cc *
| Front fork oil type | SAE 5W20 *

### Brakes

| Type | Front: Disc brake | Internal expansion, two-leading |
| Rear | Internal expansion, leading-trailing |
| Effective disc diameter | 231 mm |
| Brake drum inside diameter and width | Front: 180 x 30 mm |
| Rear | |

* : Identical to KZ400-B  ☞ : France  ☞ : General

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

ENGINE PERFORMANCE CURVES (KZ400-B1)

ENGINE PERFORMANCE CURVES (KZ400-C1)
RUNNING PERFORMANCE CURVES (KZ400-B1)

RUNNING PERFORMANCE CURVES (KZ400-C1)
## PERIODIC MAINTENANCE CHART

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

<table>
<thead>
<tr>
<th>OPERATION</th>
<th>FREQUENCY</th>
<th>Whichever comes first</th>
<th>ODOMETER READING* - km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery electrolyte level – check ‡</td>
<td>month</td>
<td>218</td>
<td>5,000 to 25,000</td>
</tr>
<tr>
<td>Brake adjustment – check ‡</td>
<td></td>
<td>25</td>
<td>10,000 to 25,000</td>
</tr>
<tr>
<td>Brake wear – check ‡</td>
<td></td>
<td>205, 206</td>
<td>15,000 to 25,000</td>
</tr>
<tr>
<td>Brake fluid level – check ‡</td>
<td>month</td>
<td>203</td>
<td>20,000 to 25,000</td>
</tr>
<tr>
<td>Brake fluid – change</td>
<td>year</td>
<td>202</td>
<td>25,000 to 25,000</td>
</tr>
<tr>
<td>Clutch – adjust</td>
<td></td>
<td>19</td>
<td>30,000 to 25,000</td>
</tr>
<tr>
<td>Carburetors – adjust</td>
<td></td>
<td>16</td>
<td>See Page</td>
</tr>
<tr>
<td>Throttle cables – adjust</td>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Steering play – check ‡</td>
<td></td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Spoke tightness and rim runout – check ‡</td>
<td></td>
<td>196</td>
<td></td>
</tr>
<tr>
<td>Drive chain wear – check ‡</td>
<td></td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Front fork – inspect/clean</td>
<td></td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>Rear shock absorbers – inspect</td>
<td></td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Nuts, Bolts, Fasteners – check and torque</td>
<td></td>
<td>37 ~ 40</td>
<td></td>
</tr>
<tr>
<td>Spark plugs – clean and gap ‡</td>
<td></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Camshaft chain – adjust</td>
<td></td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Points, timing – check ‡</td>
<td></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Valve clearance – check ‡</td>
<td></td>
<td>15,162</td>
<td></td>
</tr>
<tr>
<td>Air cleaner element – clean</td>
<td></td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Air cleaner element – replace</td>
<td>5 cleanings</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Fuel system – clean</td>
<td></td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Tire tread wear – check ‡</td>
<td></td>
<td>195</td>
<td></td>
</tr>
<tr>
<td>Engine oil – change</td>
<td>year</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Oil filter – replace</td>
<td></td>
<td>20,189</td>
<td></td>
</tr>
<tr>
<td>General lubrication – perform</td>
<td></td>
<td>31 ~ 33</td>
<td></td>
</tr>
<tr>
<td>Front fork oil – change</td>
<td></td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>Timing advancer – lubricate</td>
<td></td>
<td>226</td>
<td></td>
</tr>
<tr>
<td>Swing arm – lubricate</td>
<td></td>
<td>214</td>
<td></td>
</tr>
<tr>
<td>Wheel bearings – grease</td>
<td>2 years</td>
<td>196</td>
<td></td>
</tr>
<tr>
<td>Speedometer gear housing – grease</td>
<td>2 years</td>
<td>197</td>
<td></td>
</tr>
<tr>
<td>Brake camshaft – grease</td>
<td>2 years</td>
<td>207</td>
<td></td>
</tr>
<tr>
<td>Steering stem bearings – grease</td>
<td>2 years</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>Drive chain – lubricate</td>
<td>Every 300 ± 50 km</td>
<td>198</td>
<td></td>
</tr>
<tr>
<td>Drive chain – adjust</td>
<td>Every 800 ± 100 km</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

*For higher odometer readings, repeat at the frequency interval established here.
‡ Replace, add or adjust if necessary.
Adjustment — Engine

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FUEL SYSTEM ........................................ 21
SPARK PLUGS
Neglecting the spark plugs eventually leads to difficult starting and poor performance. During normal operation, the electrodes gradually burn away and carbon builds up along the insulator. In accordance with the Periodic Maintenance Chart (Pg. 10), the plugs should be removed for inspection, cleaning, and to reset the gaps. If the center electrodes are fairly worn down, install new ones with the proper gap.
- Remove the spark plugs using a spark plug wrench.
- Clean the spark plugs, 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 side electrode with a suitable tool, to obtain the correct gap.

![Spark Plug Gap](image)

Table B1 Spark Plugs

<table>
<thead>
<tr>
<th>Type</th>
<th>NGK B7ES or ND W22ES-U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gap</td>
<td>0.7 ~ 0.8 mm</td>
</tr>
<tr>
<td>Tightening Torque</td>
<td>2.8 kg-m (20 ft-lbs)</td>
</tr>
</tbody>
</table>

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

NOTE: Refer to electrical maintenance section, Pg. 226, for detailed spark plug information.

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

Correct ignition timing is achieved by first obtaining the correct contact breaker point gap (this can also be achieved by adjusting the dwell angle to the specified amount) and then changing the position of the contact breaker mounting plate. Often the first step returns the timing very close to the correct original setting. Once the timing has been adjusted, it may be checked for accuracy by the use of a strobe light.

NOTE: The dwell angle is the angular range for which the contact breaker points are closed. This allows the current to flow in the ignition coil primary winding.

Point Gap/Dwell Angle Adjustment
To check the point gap:
- Remove the screws (2), and remove the contact breaker cover.
- Clean the points with clean paper or cloth using an oil-free solvent. A business card soaked in trichloroethylene can be used to remove traces of oil. To repair light damage, use emery cloth or an oilstone. If the points are badly worn down or damaged, or if the spring is weak, replace the contact breaker.
- Lubricate the point cam felt sparingly with suitable point cam lubricant. Do not overlubricate. Replace the felt if it is worn.
- Check to see that the ignition switch is turned off.
- Using a 17 mm wrench on the crankshaft, turn the engine counterclockwise until the contact breaker points are at their widest opening.
- Determine the size of the point gap with a thickness gauge, or measure the dwell angle using a dwell angle tester.

![A. Contact Breaker Points](image) ![B. Thickness Gauge](image)

Table B2 Contact Breaker

<table>
<thead>
<tr>
<th>Point Gap</th>
<th>0.3 ~ 0.4 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwell Angle</td>
<td>185 ~ 200° (51.5 ~ 55.5%)</td>
</tr>
</tbody>
</table>

NOTE: The point gap is set more precisely using a dwell angle tester instead of a thickness gauge. Connect a dwell angle tester in the manner prescribed by the manufacturer in order to check the dwell angle.

WARNING: When measuring the dwell angle, make sure that no tools, clothes, or meter leads touch the spinning crankshaft. Touching the crankshaft of a running engine could cause an injury.

To adjust the point gap:
- If the gap or dwell angle is not the same as the specification, loosen the contact breaker base screws (2) just enough so that a slot screwdriver can be used at the
contact breaker pry point to change the gap or dwell angle. Adjust the contact breaker until the correct point gap or dwell angle specification is obtained.

Timing Test

To inspect the ignition timing there are two marks on the automatic timing advance. One ("F" mark) is for checking the timing before advancing, and the other (a pair of lines) for checking the timing after it has advanced.

To check and adjust the timing (static):

- Check the point gap, and adjust if necessary.
- With the ignition switch turned off, turn the engine stop switch to one of the "OFF" positions to make the ohmmeter flicker easier to read.
- Set an ohmmeter to the x 1 Ω range and connect it across the points, one lead to the wire coming from the points (or to the spring leaf), and the other ohmmeter lead to chassis ground (engine, frame, contact breaker mounting etc.). Make sure that both leads are securely connected.

Turning the crankshaft counterclockwise, check to see if the "F" mark is aligned with the timing mark when the needle jumps.

To check the timing (dynamic):

Timing advance begins at 1,400 ~ 1,600 rpm, and reaches the maximum advance at 3,000 ~ 3,400 rpm. So timing must be checked at idle below 1,400 rpm, and then above 3,400 rpm when it is fully advanced.

- Check the point gap, and adjust if necessary.
- Connect a stroboscope in the manner prescribed by the manufacturer in order to check the ignition timing under operating conditions.
14 ADJUSTMENT—ENGINE

• Start the engine, and direct the light at the timing mark through the inspection window. Below 1,400 rpm, the timing mark and the "F" mark on the timing advancer must be aligned for correct low rpm ignition timing (Fig. B5). Above 3,400 rpm, the timing mark and the pair of lines on the timing advancer must be aligned for correct high rpm ignition timing as shown in Fig. B7. If both low and high rpm ignition timing are incorrect, adjust the timing as just explained. If either low or high rpm ignition timing is correct but the other is not, examine the timing advancer mechanism (Pg. 225).

A. Advanced Mark  B. Timing Mark

Table B3  Timing Advancing

<table>
<thead>
<tr>
<th>Advance Begins</th>
<th>1,400 ~ 1,600 rpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Advance</td>
<td>3,000 ~ 3,400 rpm</td>
</tr>
</tbody>
</table>

• Check the point gap again, and adjust if it was disturbed.
• Install the contact breaker cover and its gasket.

CAMSHAFT CHAIN

Camshaft chain and chain guide wear cause the chain to develop slack, which will cause noise and may result in engine damage. To keep the chain from making noise, periodic adjustment is necessary in accordance with the Periodic Maintenance Chart (Pg. 10).

However, if the adjustment fails to keep the chain from making noise, the camshaft chain or chain guides have probably worn past their service limits and will need to be replaced.

WARNING: To avoid a serious burn, never touch a hot engine or exhaust pipes during camshaft chain adjustment.

To adjust the camshaft chain:
• Remove the chain tensioner cap and O ring.
• Remove the contact breaker cover.
• Check to see that the ignition switch is turned off.
• Turn the crankshaft counterclockwise while watching the push rod (in the center of the push rod guide) move in and out. Continue turning the crankshaft counterclockwise until the push rod again reaches the innermost position, and then stop.

NOTE: Do not turn the crankshaft backwards (clockwise). Turning the crankshaft backwards may cause improper adjustment.

A. Camshaft Chain Tensioner

• Loosen the locknut, and turn in the push rod guide carefully until the ends of the push rod guide and push rod are flush.

CAUTION: Be sure that the ends are flush. Never overtighten the push rod guide after the ends are just flush, or the tensioner and chain may become damaged.

Camshaft Chain Tensioner

1. Camshaft Chain  6. Push Rod
2. Chain Guide  7. Locknut
3. Spring  8. Washer
5. Push Rod Guide  10. Steel Washer

• Tighten the locknut to 1.5 kg-m (11.0 ft-lbs) of torque, and install the chain tensioner cap and O ring to 1.5 kg-m (11.0 ft-lbs) of torque.
• Install the contact breaker cover and its gasket.

VALVE CLEARANCE

Valve and valve seat wear decreases valve clearance, upsetting valve timing. If valve clearance is left unadjusted, the wear will eventually cause the valves to remain partly open; which lowers performance, burns the valves and valve seats, and may cause serious engine damage.
Valve clearance for each valve should be checked and adjusted if incorrect, in accordance with the Periodic Maintenance Chart (Pg. 10) and any time clearance may have been affected by disassembly.

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

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

To check and adjust the valve clearance:
- Remove the fuel tank (Pg. 43).
- Remove the valve adjusting caps.

### Table B4 Valve Adjustment (When cold)

| Valve Clearance (for both inlet and exhaust) | 0.17~0.22 mm |
| Locknut Tightening | 1.5 kg·m |
| Torque | 11.0 ft·lbf |

- If a valve clearance is incorrect, loosen its adjusting screw locknut, and turn the adjusting screw until correct clearance is obtained.

---

### A. Valve Adjusting Caps

- Remove the screws (2), and remove the contact breaker cover.
- Using a 17 mm wrench, turn the crankshaft counterclockwise while watching the movement of the inlet valve (the valve to the rear) on the right side. When the valve has just finished opening and closing (moving downward and returning upward), turn the crankshaft in the same direction (counterclockwise) for about another ½ turn until the "T" mark (the line adjoining the "T") on the timing advancer aligns with the timing mark.

### A. "T" Mark

- At this crankshaft position, the piston in the right cylinder is at the end of its compression stroke such that the inlet and exhaust valve for the right cylinder can be checked.

### A. Adjusting Screw

- Tighten the locknut to the specified torque.
- After finishing with the right cylinder valves, turn the crankshaft counterclockwise one full turn so that the "T" mark again aligns with the timing mark. Check the left cylinder valves, and adjust if necessary.
- Install the valve adjusting caps together with O rings.
- Install the contact breaker cover and its gasket.
- Install the fuel tank (Pg. 43).

### C. Locknut

### B. Thickness Gauge (57001-1013)

- There are two throttle cables: an accelerator cable for opening the butterfly valves, and a deaccelerator cable for closing them. If the cables are too loose due either to 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 idling speed will be erratic.

### THROTTLE CABLES

To check the throttle cable adjustment:
- Check that there is 2 ~ 3 mm throttle grip play (Fig. B13).
ADJUSTMENT—ENGINE

Push the throttle grip completely closed. At this time the decelerator throttle cable bracket should be pushed down 1 ~ 2 mm. When the throttle grip is released, the cable bracket should be returned to its rest position by the spring tension.

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

A. Accelerator Cable Adjusting Nut
B. Locknut

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 the cable bracket is pushed down 1 ~ 2 mm when the throttle grip is completely closed. Tighten the locknut.

A. Decelerator Throttle Cable Bracket
B. Locknut

A. Accelerator Cable Adjusting Nut
B. Locknut

NOTE: If the throttle cables can not 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 locknuts.

CARBURETORS

Although some internal carburetor parts can be adjusted by replacement, repositioning, etc., these adjustments are covered in the maintenance section of this manual. The following procedure covers the idling adjustment, which is the adjustment necessary in periodic maintenance and whenever the idling setting has been disturbed. This procedure also includes the necessary steps for obtaining proper carburetor synchronization.

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

The following procedure consists of four parts: preliminary checks, preliminary adjustment (sometimes necessary), idling adjustment, and carburetor synchronization.

Preliminary Checks

In order to obtain correct carburetor adjustment, first check the following and adjust if necessary:

- Engine Oil (Pg. 20)
- Spark Plugs (Pg. 12)
- Ignition Timing (Pg. 12)
- Throttle Cables (Pg. 15)
- Cylinder Compression (Pg. 167)
- Air Cleaner Element (Pg. 149)
- Air Cleaner Duct and Carburetor Holder Leakage
- Camshaft Chain (Pg. 14)
- Valve Clearance (Pg. 14)
Preliminary Adjustment

If the engine idling is especially rough or the carburetors have been disassembled, it is necessary to pre-adjust the butterfly valves, pilot screws, and choke mechanism before making the idling adjustment and the fine synchronization. First remove the carburetors from the engine (Pg. 45) leaving the throttle cables connected, and adjust the following.

- Tighten the locknut.

Choke linkage
- Check to see that the choke valve in each carburetor closes completely when the choke lever is pulled up. If they do not, adjust them by bending the link plate carefully.

Pilot screws
- If the carburetors were disassembled, turn in the pilot screw until it seats lightly, and then back it out 1¼ turns. Remount the pilot screw limiter to the pilot screw so that the ridge of its points towards the front.

Butterfly valves
- Check to see that both butterfly valves open and close smoothly without no binding when turning the throttle grip.
- If the butterfly valves do not close at the same time by visual inspection, synchronize them using the following procedure.
- Loosen the locknut and turn the balance adjusting screw to obtain the same gap between the butterfly valve and the bore in each carburetor.

- Check to see that the relief valve in each carburetor opens easily and closes under spring tension. If it does not, replace the damaged parts.
- Turn out the idle adjusting screw until both butterfly valves close fully.
- Check whether or not there is a slight clearance (about 2 mm) between the idling link and the idling cam when the idling link is pushed up with the choke valve fully opened (choke lever pushed down).

Idling Adjustment
- If there is not proper clearance, adjust the clearance by bending the idling link carefully.
- Install the carburetors (Pg. 46), and check the play in the throttle cables (Pg. 15).
18 ADJUSTMENT—ENGINE

Carburetor Synchronization

Fine adjustment of carburetor synchronization, necessary for smooth engine operation, requires the use of vacuum gauges. Differences between the left and right cylinders might be found from exhaust noise and exhaust pressure; but 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 one long enough to reach the fuel tank while it is located on your workbench. Plug the open end of the vacuum hose during carburetor synchronization so that no extra air can be drawn into the carburetor.

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

- Start the engine, and warm it up for 5 minutes.
- Perform idling adjustment (Pg. 17).
- Stop the engine.
- Remove the vacuum plugs from each carburetor, and attach the vacuum gauge and adapter (special tools).

### A. Vacuum Gauge Adapter (57001-401)

- Completely close the vacuum gauge damper valves, and then start the engine.
- With the engine running at idle speed, slowly open the vacuum gauge damper valves until gauge needle flutter is less than 3 cm Hg and note the gauge readings.

<table>
<thead>
<tr>
<th>Table B5</th>
<th>Engine Vacuum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Vacuum</td>
<td>21 ~ 27 cm Hg</td>
</tr>
<tr>
<td>Difference between two cylinders</td>
<td>less than 3 cm Hg</td>
</tr>
</tbody>
</table>

A. Damper Valve  B. Vacuum Gauge (57001-226)
If there is a difference of more than the specified value between the two gauges, stop the engine, and synchronize the carburetors according to the following procedure.

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

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

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

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

**To adjust the clutch:**
- Slide up the adjuster dust cover out of place.
- Loosen the locknut, and turn in fully the adjusting nut at the center of the clutch cable to give the cable plenty of play.

**CLUTCH**

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

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

**To adjust the clutch:**
- 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.
20 ADJUSTMENT—ENGINE

- Loosen the locknut, and turn in the adjusting screw until the screw turns without drag.
- Turn out the adjusting screw until it becomes hard to turn. This is the point where the clutch is just starting the release.
- Turn in the adjusting screw ¼ turn from that point, and tighten the locknut.
- Install the clutch release adjusting cover.

ENGINE OIL

In order for the engine, transmission, and clutch to function properly; maintain the engine oil at the proper level, and change the oil in accordance with the Periodic Maintenance Chart (Pg. 10). Motorcycle operation with insufficient, deteriorated, or contaminated engine oil will cause accelerated wear and may result in engine or transmission seizure.

Oil Level Inspection

- Situate the motorcycle so that it is perpendicular to the ground.
- If the oil has just been changed, start the engine and run it for several minutes at idle speed. This fills the oil filter with oil. Stop the engine, then wait several minutes until the oil settles.

WARNING

CAUTION: Run the engine at idle speed for several minutes. Racing the engine before the oil reaches every part can cause engine 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.

Oil Level Inspection

- 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 the correct amount of oil through the oil filler opening. Use the same type and make of oil that is already in the engine.

CAUTION

If the engine oil 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 1,500 rpm, stop the engine immediately, and find the cause.

WARNING

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

Oil and Oil Filter Change
• Warm up the engine thoroughly, and then stop the engine.
• Situate the motorcycle so that it is perpendicular to the ground, place an oil pan beneath the engine, and remove the engine drain plug.

A. Engine Drain Plug
• If the oil filter is to be changed, replace the oil filter as explained on Pgs. 77~78.
• After the oil has completely drained out, install the drain plug and gasket. Replace the damaged gasket with a new one. Proper torque for the engine drain plug is 3.0 kg-m (22 lts-lbs).
• Fill the engine up to the upper level with SE class SAE 10W40, 10W50, 20W40, or 20W50 motor oil. It will take about 2.9 liters when the filter is changed. When the filter is not changed, a refill takes about 2.5 liters.

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

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

WARNING 1. Clean the fuel system in a well-ventilated area, and take ample care that there are no sparks or flame anywhere near the 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.
• Remove the drain plug at the bottom of the fuel tap.
• Holding a container under the fuel tap, turn the tap to the “PRI” position to drain the tank until only gasoline comes out, and then turn the tap to the “ON” position.
Adjustment — Chassis

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REAR SHOCK ABSORBERS
The rear shock absorbers can be adjusted to one of five positions to suit riding conditions. They can be left soft for average riding but should be adjusted harder for high speed riding, riding on bad roads, or riding with a passenger. Shock absorbers adjusted either too soft or too hard adversely affect riding comfort and stability.

To adjust the rear shock absorbers:
• Turn the adjusting sleeve on each shock absorber to the desired position with a hook spanner. The higher the adjusting sleeve is positioned, the stronger the spring tension, and the harder the ride.

• Check to see that both adjusting sleeves are turned to the same relative position.

WARNING If they are not adjusted to the same position, an unsafe riding condition may result.

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

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

WARNING A chain worn past the service limit must be replaced. Such wear cannot be adequately compensated for by adjustment.

• Set the motorcycle up on its center stand. In the case of KZ400-C, stand the motorcycle on its side stand.

• Rotate the rear wheel to find the position where the chain is tightest, and measure the vertical movement midway between the sprockets.

Chain Slack

If the drive chain is too tight or too loose, adjust it so that the vertical movement will be within the standard value.

Table C1 Drive Chain Slack

<table>
<thead>
<tr>
<th>Model</th>
<th>Vertical Movement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard (no adjustment required)</td>
</tr>
<tr>
<td>KZ400-B</td>
<td>25 ~ 30 mm</td>
</tr>
<tr>
<td>(on center stand)</td>
<td></td>
</tr>
<tr>
<td>KZ400-C</td>
<td>20 ~ 25 mm</td>
</tr>
<tr>
<td>(on side stand)</td>
<td></td>
</tr>
</tbody>
</table>

To adjust the drive chain:
• Remove the safety clip, and loosen the nut at the rear end of the torque link.

CAUTION If you don’t loosen the torque link nut, it may lead to brake panel fracture when the chain adjusters are set.

A. Torque Link Nut B. Clip

• Loosen the left and right chain adjusting bolt locknuts.
• Remove the axle cotter pin and loosen the axle nut.
A. Adjusting Bolt  B. Locknut  C. Cotter Pin  D. Axle Nut  E. Notch  F. Alignment Marks

If the chain is too tight, back out the left and right chain adjusting bolts evenly, and kick the wheel forward until the chain is too loose.

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

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

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

- Tighten both chain adjuster locknuts (Make sure the axle stays aligned).
- Center the brake panel assembly in the brake drum. This is done by tightening the axle lightly, spinning the wheel, and depressing the brake pedal forcefully. The partially tightened axle allows the brake panel assembly to center itself within the brake drum.

**NOTE:** This procedure can prevent a soft, or “spongy feeling” brake.

- Tighten the axle nut to 12.0 kg-m (87 ft-lbs) of torque.
- Rotate the wheel, measure the vertical movement again at the tightest position, and readjust if necessary.
- Insert a new cotter pin through the axle nut and axle, and spread its ends.
- Tighten the torque link rear nut to 3.0 kg-m (22 ft-lbs) of torque, and then insert the safety clip.
- Check the rear brake (Pg. 27).

**BRAKES**

**Front Brake (on KZ400-B)**

Disc and disc pad wear is automatically compensated for and has no effect on the brake lever action. So there are no parts that require adjustment on the front brake. However if the brake lever has a soft, or “spongy feeling”, check the brake fluid level in the master cylinder and bleed the air from the brake line (Pg. 203).

**Front Brake (on KZ400-C)**

Brake lining and drum wear, and cable stretch cause the brakes to go out of adjustment, increasing lever play and decreasing braking effectiveness. Brake adjustment to compensate for this actually consists of following three adjustments: cam lever angle, brake shoe synchronization, and brake lever.

If brake drag is detected during brake adjustment, disassemble the brake (Pg. 111), and inspect for wear or damage (Pg. 206). Also, if the brake lever does not return to its rest position quickly upon release, inspect the brake for wear or damage. If the brake has a soft, or “spongy feeling”, make sure the brake panel is properly synchronized.

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

**Cam Lever Angle**

- When the brake is fully applied, the primary brake cam lever should come to an 80°-90° angle with the threaded extension of the brake cable, at the same time as which the secondary brake cam lever should be parallel with the primary brake cam lever.

**WARNING** Since a cam lever angle greater than 90° reduces braking effectiveness, this adjustment should not be neglected. When remounting the
cam, be sure that the position of the indicator on the serrated shaft is not altered. See Pg. 112 for detailed information on the position of the wear indicator when the cam lever is not on the shaft. A change in cam lever angle is caused by wear of internal brake parts. Whenever the cam lever angle is adjusted, also check for drag and proper lever operation, taking particular note of the brake lining wear indicator position. In case of doubt as to braking effectiveness, disassemble and inspect all internal brake parts. Worn parts could cause the brake to lock or fail.

- Rotate the wheel to check for brake drag.
- Operate the brake lever a few times to see that it returns to its rest position immediately upon release.
- Adjust the front brake lever.

Brake Shoe Synchronization

After the front wheel is removed, or after the brake was disassembled, synchronize the brake shoes.

- Raise the front wheel off the ground by some means.
- Loosen the locknut and turn the connecting rod one turn clockwise. This procedure backs off the secondary brake shoe so that it will not operate when the primary shoe contacts the inside surface of the drum.

- While spinning the wheel lightly, turn in the adjusting nut and/or turn out the adjuster at the front brake lever until the primary shoe just starts touching the drum. When the shoe starts touching the drum, light dragging can be felt or heard.

- Spinning the wheel lightly, turn the connecting rod counterclockwise until the secondary brake shoe just starts dragging on the drum, and then tighten the locknut.

A. Locknut

- Adjust the front brake lever.

Front Brake Lever

- Loosen the knurled locknut at the front brake lever, turn the adjuster fully in, and tighten the locknut.

- Turn the adjusting nut on the lower end of the front brake cable so that the brake lever will have 4~5 mm of play as shown in the figure.
If sufficient adjustment cannot be made with the adjusting nut at the lower end of the brake cable, complete the adjustment with the adjuster at the brake lever, and then tighten the locknut.

- Check for brake drag.
- Operate the lever a few times to see that it returns to its rest position immediately upon release.
- For minor corrections, use the adjuster at the front brake lever.

**Rear Brake**

Brake lining and drum wear causes the rear brake to go out of adjustment, increasing pedal play and decreasing braking effectiveness. Rear brake adjustment to compensate for this actually consists of three successive adjustments: brake pedal position, cam lever angle, and brake pedal travel.

If brake drag is detected during brake adjustment, disassemble the brake ( Pg. 120), and inspect for wear or damage ( Pg. 206). Also, if the brake pedal does not return to its rest position quickly upon release, inspect the brake for wear or damage. If the brake has a soft, or "spongy feeling", make sure the brake panel is properly centered. See the second "NOTE" in drive chain adjustment procedure ( Pg. 25).

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

**Brake Pedal Position**

- When the brake pedal is in its rest position, it should be 20 ~ 30 mm lower than the top of the footpeg. If it is too high, turn out the adjusting nut at the end of the brake rod to give the brake pedal plenty of play. If it is too low, go to the next step.

[Diagram C12]

A. Adjusting Bolt  B. Locknut  C. Footpeg

Loosen the brake pedal adjusting bolt locknut, turn the adjusting bolt to obtain the correct pedal position, and tighten the locknut.

- Check the brake pedal travel.
- Check the rear brake light switch operation.

**Cam Lever Angle**

- When the brake is fully applied, the brake cam lever should come to an 80 ~ 90° angle with the brake rod.

[Diagram C13]

- If it does not, remove the cam lever, and then remount it at a new position on the shaft for the proper angle.

**WARNING** Since a cam lever angle greater than 90° reduces braking effectiveness, this adjustment should not be neglected. When remounting the cam, be sure that the position of the indicator on the serrated shaft is not altered. See Pg. 120 for detailed information on the position of the wear indicator when the cam lever is not on the shaft. A change in cam lever angle is caused by wear of internal brake parts. Whenever the cam lever angle is adjusted, also check for drag and proper pedal operation, taking particular note of the brake lining wear indicator position. In case of doubt as to braking effectiveness, disassemble and inspect all internal brake parts. Worn parts could cause the brake to lock or fail.

- Rotate the rear wheel to check for brake drag.
- Operate the pedal a few times to see that it returns to its rest position immediately upon release.
- Adjust the brake pedal travel.

**Brake Pedal Travel**

- Check to see that the brake pedal has 20 ~ 30 mm of travel from the rest position to the fully applied position when the brake pedal is pushed down lightly by hand.

[Diagram C14]

- A. Adjusting Nut

If it does not, turn the adjusting nut on the end of the brake rod so that the brake pedal has the proper travel.
BRAKE LIGHT SWITCH
The front brake light switch of KZ400-B, mounted on the steering stem base, operates hydraulically and is non-adjustable. The front brake light switch of KZ400-C, mounted on the front brake lever holder, is operated by simple electrical contact and should not need adjustment. However, the rear brake light switch, activated by a spring attached to the brake pedal, requires periodic adjustment to compensate for any change in spring tension or brake adjustment.

To check the brake light switch:
• With the ignition switch on, depress the brake pedal and note the brake pedal travel until the brake light goes on. The brake light should go on after 15 mm of pedal travel.

To adjust the brake light switch:
• Turn the adjusting nut on the brake light switch body so that the brake light will go on after the proper amount of brake pedal travel. Raising the switch will make the light go on after less travel; lowering it will require more travel.

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

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

To check the steering adjustment:
• Raise the front wheel off the ground.
• Push the handlebar lightly to either side; if it continues moving under its own momentum, the steering is not too tight.
• Squatting in front of the motorcycle, grasp the lower ends of the front fork at the axle, and push and pull the fork end back and forth; if play is felt, the steering is too loose.

To adjust the steering:
• Remove the fuel tank (Pg. 43) to avoid damaging the painted surface.
• Loosen the front fork lower clamp bolts (2) to free the fork tubes from the steering stem base during adjustment.
Loosen the steering stem head bolt and head clamp bolt, and back out the steering stem locknut using the stem nut wrench (special tool) 1 or 2 turns until it turns without drag.

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

Tighten the stem locknut to 3.0 kg-m (22 ft-lbs) of torque.

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

A. **1/16 Turn (20°)**

Tighten the steering stem head bolt to 4.5 kg-m (33 ft-lbs) of torque.

Tighten the steering stem head clamp bolt to 1.8 kg-m (13.0 ft-lbs) of torque.

Tighten the front fork lower clamp bolts (2) to 3.0 kg-m (22 ft-lbs) of torque.

Check the steering again. If the steering is too tight or too loose in spite of correct adjustment, inspect the steering stem parts according to the maintenance section (Pg. 208).

Remount the fuel tank (Pg. 43).

---

**WHEEL BALANCE**

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

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

- Remove the wheel (Pg. 107, 110, or 119).
- Check the all the spokes are tightened evenly and the rim runout is within the service limit (Pg. 196).
- Suspend the wheel so that it can be spun freely.
- Spin the wheel lightly, and mark the spoke at the top when the wheel stops.
- Repeat this procedure several times. If the wheel stops of its own accord in various positions, it is well balanced.

However, if the wheel always stops in one position, attach a balance weight loosely to the marked spoke.

---

A. **Balance Weight**

- Rotate the wheel 1/4 turn, and see whether or not the wheel stays in this position. If it does, the correct balance weight is being used.

---

A. **Use heavier size**  B. **Use lighter size**

- If the wheel rotates and the weight goes up, replace the weight with the next heavier size. If the wheel rotates and the weight goes down, replace the weight with the next lighter size. Repeat these steps until the wheel remains at rest after being rotated ¼ turn.
- Rotate the wheel another ½ turn and then another ¼ turn to see if the wheel is correctly balanced.
- Repeat the entire procedure as many times as necessary to achieve correct wheel balance, and then clamp on the balance weights firmly using pliers.
- Mount the wheel back onto the motorcycle (Pg. 107, 110, or 120).
NOTES: 1. Balance weights are available from Kawasaki Dealers in 5, 10, 20, and 30 gram sizes. An imbalance of less than 10 grams will not usually affect running stability.
2. When removing a tire from a rim, mark the valve stem location on the tire so that it can be installed in the same position.
3. When installing a new tire, be sure to go through the balancing procedure.
4. If a new tire is installed, the yellow paint mark on the tire should be aligned with the valve stem for best balancing results.

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

Horizontal Adjustment
- Turn the small screw on the headlight rim in or out until the beam points straight ahead. Turning the adjusting screw clockwise makes the headlight beam point to the left.

Vertical Adjustment
- Loosen the headlight housing mounting bolts.

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

WARNING To avoid a serious burn, never touch the engine or exhaust pipes during horn adjustment.

CAUTION Do not turn the adjusting screw in too far, since doing so will increase horn current with the possibility of burning out the horn coil.
- Disconnect the black horn lead, and connect an ammeter in series to the horn circuit. The + ammeter lead goes to the horn terminal and the – ammeter lead to the black lead.
Horn Current Measurement

- Fully loosen the adjusting screw locknut.
- Turn on the ignition key, and keep the horn button pressed while turning the horn adjusting screw. Adjust for the best horn sound while keeping the current between 2.0 ~ 3.0 amperes.
- Tighten the adjusting screw locknut.

NOTE: The horn will not sound properly if it is mounted incorrectly or if any cable or other part is touching it.

AUTOMATIC SIDE STAND RETURN MECHANISM

Adjust the automatic side stand return mechanism whenever it does not work satisfactorily. If any damage to the mechanism is suspected or if it cannot be adjusted properly as explained below, consult the Maintenance Section (Pg. 214).

To check the mechanism:
- Swing down the side stand, and turn the rear wheel or walk the motorcycle. The side stand should return to its rest position when the rear wheel turns.
- Return the side stand to its rest position, and check that the pin on the engine sprocket does not hit the mechanism lever when the rear wheel rotates. The engine sprocket cover needs not be removed to check this tapping noise.

To adjust the mechanism:
- Remove the rubber cap from the end of the rod.
- Turn the adjusting nut so that the proper adjustment is obtained. If the side stand does not return automatically, screw in the adjusting nut. If the pin hits the lever, screw out the adjusting nut.

A. Adjusting Nut
- Install the rubber cap on the end of the rod.
- Check the mechanism operation, and readjust if necessary.

LUBRICATION

Lubricate exposed parts which are subject to rust, with either motor oil or regular grease whenever the vehicle has been operated under wet or rainy conditions, and especially after using a high-pressure spray washer. Before lubricating each part, clean off any rusty spots with rust remover and wipe off any grease, oil, dirt, or grime.

Clutch, Brake, and Throttle Cables

Lubricate the cables as shown in the figure. Refer to Pgs. 125 and 126 for cable removal.

Cable Lubrication
Clutch and Brake Levers

A. Grease

Throttle Grip

Apply grease to the handlebar where the throttle grip turns.

Apply a light coat of grease to the exposed portion of the throttle grip inner cables and their catches in the throttle grip.

Fit the throttle cables into the throttle grip. Refer to throttle cable installation (Pg. 127).

Kickstarter Pedal, Right Footpeg, Brake Pedal, and Brake Rod

A. Grease
Speedometer and Tachometer Cables
Apply grease sparingly to the inner cables.

Brake Rod Joint

Brake Cam Lever Connecting Rod, Cable Joint

Carburetor Link Mechanism

Others
Lubricate the drive chain, wheel bearings, speedometer gear housing, swing arm pivot, and steering stem bearings as explained in the Maintenance Section.

NOTE: A few drops of oil are effective to keep bolts and nuts from rusting and sticking. This makes removal easier. Badly rusted nuts, bolt, etc. should be replaced with new ones.