11. FRONT WHEEL/SUSPENSION/STEERING

Pulsar up 125

- 0.8~1.2 kg-m
- 6.0~9.0 kg-m
- 1.8~2.5 kg-m
SERVICE INFORMATION

GENERAL INSTRUCTIONS

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Standard (mm)</th>
<th>Service Limit (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front axle shaft runout</td>
<td>—</td>
<td>0.2</td>
</tr>
<tr>
<td>Front wheel rim runout</td>
<td>Axial</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Radial</td>
<td>0.5</td>
</tr>
<tr>
<td>Front fork spring free length</td>
<td>560</td>
<td>550</td>
</tr>
<tr>
<td>Front fork tube runout</td>
<td>—</td>
<td>0.2</td>
</tr>
<tr>
<td>Front fork oil capacity</td>
<td>120cc</td>
<td>—</td>
</tr>
</tbody>
</table>

TORQUE VALUES

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steering stem nut</td>
<td>6.0～9.0kg-m</td>
</tr>
<tr>
<td>Front axle nut</td>
<td>5.5kg-m</td>
</tr>
<tr>
<td>Upper fork bridge bolt</td>
<td>0.9～1.3kg-m</td>
</tr>
<tr>
<td>Upper fork bridge mount bolt</td>
<td>2.7kg-m</td>
</tr>
<tr>
<td>Master cylinder holder bolt</td>
<td>1.0kg-m</td>
</tr>
<tr>
<td>Lower fork bridge mount bolt</td>
<td>2.3kg-m</td>
</tr>
<tr>
<td>Front brake disk nut</td>
<td>1.5kg-m</td>
</tr>
</tbody>
</table>

SPECIAL TOOLS

<table>
<thead>
<tr>
<th>Tool</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steering stem wrench</td>
<td>F007</td>
</tr>
</tbody>
</table>
TROUBLESHOOTING

Hard steering
• Insufficient tire pressure
• Excessively tightened steering stem nut
• Damaged steering stem bearings
• Damaged steering bearing races

Steers to one side or does not track straight
• Uneven front shock absorbers
• Bent front fork
• Bent front axle or uneven tire

Front wheel wobbling
• Improperly tightened axle nut
• Bent rim
• Worn front wheel bearing
• Faulty tire

Soft suspension
• Weak fork springs
• Insufficient front fork oil

Hard suspension
• Incorrect front fork oil level
• Bent front fork tube
• Clogged front fork oil passages

Front suspension noise
• Slider bending
• Loose front fork fasteners
• Insufficient front fork oil
• Worn front fork bearing
• Insufficient speedometer gear grease
11. FRONT WHEEL/SUSPENSION/STEERING

HANDLEBAR

REMOVAL

Remove the two throttle cover screws and the throttle cover.

Disconnect the throttle cable from the throttle grip and then remove the throttle pipe from the handlebar.

Remove the two front brake master cylinder holder bolts and the master cylinder.

Remove the two left handlebar switch housing screws, then separate and remove the housing.
11. FRONT WHEEL/SUSPENSION/STEERING

Remove the two handlebar bolts to remove the handlebar.

BRIDGE FORK TOP

INSTALLATION
Place the handlebar on the bridge fork top. Install the handlebar. Tighten the handlebar bolts.

Torque: 0.9 ~ 1.3kg-m

Set the L/R handlebar switch housing on the L/R handlebar and align the mark on the housing handlebar holder.

Tighten the two switch housing bolts. Torque: 1.0 ~ 1.4kg-m
THROTTLE PIPE INSTALLATION
Clean the handlebar surface and install the throttle pipe. Check the throttle grip for proper operation.

Connect the throttle cable to the throttle grip. Apply grease to the throttle cable. Install the throttle cover by aligning the hole on the cover with the pin in the handlebar and then tighten the two screws.
11. FRONT WHEEL/SUSPENSION/ STEERING

FRONT WHEEL REMOVAL
Place a jack or other adjustable support under the engine to raise the front wheel off the ground.
Remove the speedometer cable set mut and disconnect the speedometer cable.
Remove the front axle nut and pull out the axle.
Remove the front wheel.

INSPECTION
Set the axle in V blocks and measure the runout using a dial gauge.
**Service Limit:** 0.2mm replace if over

WHEEL RIM INSPECTION
Place the front wheel in a turning stand.
Spin the wheel by hand and measure the rim runout using a dial gauge.
**Service Limits:**
- **Axial:** 2.0mm adjust if over
- **Radial:** 2.0mm adjust if over
Check the wheel spoke wires for looseness.
If the wheel rim is made of aluminum alloy, replace with a new one if necessary.

Check the wheel bearing play by placing the wheel in a turning stand and spinning the wheel by hand.
Replace the bearings with new ones if they are noisy or have excessive play.
11. FRONT WHEEL/SUSPENSION/STEERING

DISASSEMBLY
Remove the speedometer gearbox from the left side of the wheel.

Remove the axle collar from the right side of the wheel.

Remove the dust seal.
Remove the five nuts and the brake disk.

Drive out the wheel bearings and distance collar.
11. FRONT WHEEL/SUSPENSION/STEERING

ASSEMBLY
Pack all bearing cavities with grease. First drive in the right bearing and then install the distance collar. Finally, drive in the left bearing.

Install the brake disk and tighten the five nuts. Apply grease to the dust seal and install it.

Install the speedometer gearbox by aligning the grooves with the tabs.

Apply grease to the speedometer gearbox, then install them to the wheel left side.
Install the axle collar to the right side of the wheel.

**INSTALLATION**
Install the front wheel and speedometer gearbox onto the front fork, aligning the front wheel axle.

Insert the axle shaft and tighten the axle nut.

**Torque:** 5.5 〜 7.0kg-m

Connect the speedometer cable and secure it with the screw.

* Install the speedometer cable by aligning the groove with the tab.
11. FRONT WHEEL/SUSPENSION/STEERING

FRONT FORK

REMOVAL
Remove the front wheel. (Refer to 11-6.)
Remove the four front fender bolts and the front fender.
Loosen the upper and lower fork bridge mount bolts and then remove the right and left front forks.

DISASSEMBLY
Place shop towels under the front fork tube.
Use a vise to hold the front fork tube and remove the bolt.

* When removing the front fork bolt, be careful that the spring in the tube may spring out.

Remove the front fork spring from the front fork tube and compress the spring several times to squeeze out the engine oil.

Set the front fork bottom tube in a vise and place shop towels under it. Remove the socket head bolt using a socket spanner.

* When using the vise, do not tighten the front fork bottom tube excessively.
* If it is difficult to remove the socket head bolt, temporarily install the front fork spring and front fork bolt.

Remove the front fork piston and return spring. Remove the front fork bottom tube and the oil stopper.
Remove the dust seal and snap ring. Take out the oil seal and circlip.

* Do not damage the bottom tube when taking out the oil seal and circlip.
* Be sure to replace the removed oil seal and circlip with new ones during assembly.

**INSPECTION**

Measure the front fork spring free length.

**Service Limit:** 550mm replace if below

Replace the spring with a new one if it exceeds the service limit.

Set the front fork tube in V blocks and measure the tube runout.

**Service Limit:** 0.2mm replace if over

Check the front fork tube, bottom tube and piston for abnormal wear or damage and replace if necessary.

Check the front fork piston ring for wear.

Check the return spring for weakness or damage.
11. FRONT WHEEL/SUSPENSION/ STEERING

ASSEMBLY
Before assembly, clean the removed parts with high flash point or non-flammable solvent.

Install the return spring and piston into the front fork tube and then install oil stopper to the piston end. Install the front fork tube into the bottom tube.
Place shop towels under the bottom tube and set it in a vise. Apply locking agent to the socket head bolt and then install it into the piston. Tighten the socket head bolt using the socket spanner.

* When tightening the socket head bolt, temporarily install the front fork spring and front fork tube.

**Torque:** 1.5～2.5kg-m

Apply engine oil to a new oil seal and install the oil seal using the fork seal driver. Then, install the snap ring and dust seal.

Fully compress the front fork and fill SAE30# engine oil into the front fork tube.

* Do not fill too much engine oil.

**Specified Capacity:** 120cc

Install the front fork spring into the front fork tube with the closely wound coils facing down. Install and tighten the front fork bolt.

**Torque:** 1.5～3.0kg-m
INSTALLATION
Install the front fork tubes into the upper and lower fork bridges and tighten the upper and lower mount bolts.

Front Fender Installation
Install the front fender between the front fork tubes, then install and tighten the four bolts. Torque: 0.8 ～ 1.2kg-m

STEERING STEM
REMOVAL
Remove the headlight. (Refer to 18-1.)
Remove the handlebar. (Refer to 11-3.)
Remove the front wheel. (Refer to 11-6.)
Remove the steering stem nut using the lock nut wrench.
Remove the front fork tubes. (Refer to 11-10.)

Remove the bearing adjusting nut, top cone race, steering stem and steel balls.

* Place the steel balls in a parts tray so that they are not lost.
11. FRONT WHEEL/SUSPENSION/STEERING

Drive the top and bottom ball races out of the steering head.

BALL RACE INSTALLATION
Drive the top and bottom ball races into the steering head using a bearing driver.

BOTTOM CONE RACE REPLACEMENT
Drive out the bottom cone race. Install a new washer and dust seal onto the steering stem and then drive in a new bottom cone race onto the steering stem.

STEERING STEM INSTALLATION
11. **FRONT WHEEL/SUSPENSION/ STEERING**

Apply grease to the top and bottom ball races and steel balls. Install 21 steel balls each on the top and bottom ball races. Install the steering stem into the steering head pipe and then install the top cone race and the bearing adjusting nut.

Tighten the bearing adjusting nut until it seats against the top cone race, then turn it back 1/8 turn.

*Check that the steering stem rotates freely and that there is no vertical play.*

Install the front fork. (Refer to 11-14.) Install the upper fork bridge, washer and steering stem nut. Tighten the steering stem nut. **Torque: 6.0 ~ 9.0kg-m** Properly adjust the installed front fork. (Refer to 11-14.)