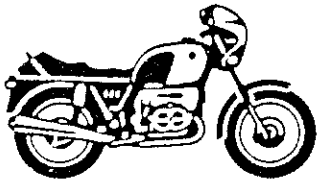

Service-Information

BMW Motorrad GmbH Service Ett/cb/fm	R 50/5 - R 90 S motorcycles Technical Group 32	Munich, Dec '75 1/75(201 M) e

Subject: Adjusting steering head bearings

Our current service instructions call for the two taper roller bearings to be adjusted

- free from play, but turning easily.

This not only implies great sensitivity on the part of the mechanic but also fails to provide values which can be measured objectively.

New comparative tests by BMW's motorcycle development department have confirmed what motorcycle experts have always maintained:

- the entire handling characteristics depend to a large extent on correct steering adjustment.

For this reason, we are now quoting friction values for steering fork rotation from a precisely determined position. These values can be used for comparison of taper roller bearing preload and thus for confirmation that the steering head bearings have been correctly adjusted.

With effect immediately, the friction values are:

Front fork with drum brake
2.9 ± 0.3 Nm (29 ± 3 cmkp) (2.1 ± 0.2 lb. ft)

Front fork with disc brake (single or twin disc)
4.0 ± 0.2 Nm (40 ± 2 cmkp) (2.9 ± +.14 lb. ft)

Since these values are useless to you without suitable tools, a test wrench has been specially developed. In conjunction with a normal commercially-available torsion gauge, this will enable you to check and adjust the motorcycle steering.

Since many workshops do not yet possess a friction gauge - already needed for correct adjustment of wheel bearings - we are offering a friction gauge in conjunction with the above test wrench.

Here are the numbers of these new BMW tools:

Test wrench	-	31 4 750
Friction gauge	-	00 2 570

A workshop equipment advisory service information bulletin will shortly be issued.

Measuring procedure:

1. Put motorcycle on center stand so that the front wheel is off ground.

2. Move hydraulic steering damper to '0' position. On /5 motorcycles, slacken friction damper or detach hydraulic steering damper if the machine is so equipped.

3. Insert a stop between the lower fork bridge and the front frame tube, so that the front fork is held at 20° left lock (see Fig. 1).

4. Place friction tester with test wrench on cap nut (see Fig.2) and turn fork from the position determined above to the right until the front wheel is again pointing straight ahead.

   The values quoted on the previous page for forks with either drum- or disc brakes must be obtained.

   Warning

   Do not test friction values unless the upper fork bridge and cap nut are tightened to the specific torque.

   Always make sure that wiring and control cables are routed correctly so that they cannot affect the friction readings.

5. If friction readings obtained are incorrect, adjust bearing preload.

Your own experience will undoubtedly have confirmed that the life of the taper roller bearings depends not only on correct adjustment but to a very large extent also on adequate lubrication. In order to provide better protection for the lower bearing against water and dirt, machines have for some time been leaving the assembly line equipped with a 'Nilos' sealing ring

Part number 31 42 1 234 509

between the inner bearing face and its contact face on the lower fork bridge.

This prevents splash water from diluting the grease packing even

When forks have to be stripped and re-assembled for any reason, we recommend you to take the opportunity of installing the new sealing ring.

Yours sincerely,
BMW MOTORRAD GMBH
München
i.V. i.A.

Ettlich Lohmann

Illustrations overleaf