

## TENSION OF THE SPOKES

Perform each of the following procedures always starting from the valve hole.

**1** Place the wheel in the truing stand and put a drop of spoke prep on each visible threaded zone of the spoke heads.

**2** Tighten each nipple in a progressive and uniform manner. (For example, tighten each nipple 1 turn, one after the other). For optimum mounting, you need to stress relieve the spokes so the elbows closely follow the shape of the hub flange. Repeat this procedure until you obtain tension in the spokes.

**3** Place the wheel in the truing stand and check that the wheel is globally centered (use the dishing tool if necessary).

3-1 If this is the case, continue to tighten the spokes in a uniform manner.

3-2 If this is not the case, tighten the spokes as consistently as possible on the left side, if the wheel is too far to the right, or vice-versa.

**4** The wheel should rotate almost totally round (no vertical or lateral movements).

4-1 However, if the wheel has vertical movement, tighten a spoke on each side in the problem area (bump). You must systematically work both sides so that the lateral movement is not affected.

4-2 If the wheel has lateral movement, tighten two spokes on the same side in the problem area (bump). You must work at least two spokes on the same side so that the vertical movement is not affected.

**5** Check the tension of the spokes with a tensionometer (see photo). At this stage, we recommend an approximate tension of:

- 40 - 60 daN on the front wheel.
- 40 - 60 daN on the free wheel side of the rear wheel.

An exact relationship between the two sides of the rear wheel is relatively difficult. The tension of the spokes on the free wheel side is approximately 70 % higher than the tension of the spokes on the opposite side.

**6** When there is no lateral or vertical movement, put the hub axle of the wheel on a wooden block and push on opposite sides of the rim with your hands. The spokes and nipples will now "seat" in position (stress relieving).

**7** Increase the tension of the spokes while checking the vertical and lateral movements of the wheel to reach a final tension of approximately:

- 90 - 110 daN on the front wheel.
- 90 - 110 daN on the free wheel side of the rear wheel.

**8** Repeat procedures 6 and 7 until the wheel is perfect and the spokes make no more cracking sounds.

