

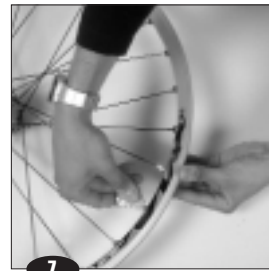
## 3.1. REPLACING THE SPOKES

### 3.1.1. REPLACING THE SPOKES ON THE SPEEDCITY™ AND DEEMAX® UST WHEELS

#### Tools needed:

- 1 spoke wrench
- 1 tensiometer + tension-reading conversion chart adapted to the tensiometer used.
- 1 hollow screw wrench M40630
- Oil
- Loctite® 243 type of thread lock or equivalent
- One hollow screw per spoke to be replaced (M40595, pack of 40)
- Wire cutters

- 1 Loosen the spoke nipple using the spoke wrench to eliminate the tension.
- 2 Loosen the hollow screw on the damaged spoke using the wrench M40630 (caution, left-hand thread) ;
- 3 Cut the spoke, if necessary, or remove it.
- 4 Install the hollow screw head-first on the spoke, then tighten the spoke nipple until it stops.
- 5 Put the new spoke properly in place. (flat surface of the spoke in the axis of the slot). Then, after gluing the hollow screw with the thread lock, tighten the hollow screw in the rim using the wrench M40630 (caution : left-hand thread, torque: 5.5 Nm).
- 6 Put a drop of oil around the spoke nipple so it doesn't jam on the hollow screw.
- 7 Tighten the spoke nipple to restore the spoke tension: 120 - 130 kg for the front wheel on the disc side and free wheel side on the rear wheel.
- 8 Check the lateral and radial truing of the wheel.



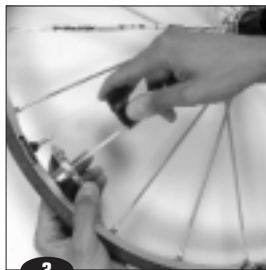
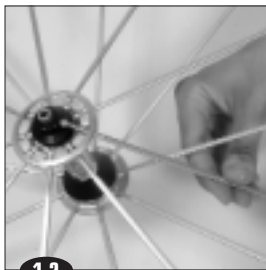
### 3.1.2. REPLACING THE SPOKES ON THE FRONT CROSSMAX™ SL WHEEL

#### Tools needed:

- 1 spoke wrench alu M40494 or M40652
- 1 aerodynamic spoke maintenance wrench M40567
- 1 tensiometer + tension-reading conversion chart adapted to the tensiometer used.

- 1 Start by removing the defective spoke:
  - 1.1 Loosen the spoke nipple using the alu spoke wrench M40494 or M40652 ;
  - 1.2 Take the spoke head out of the hub flange by orienting the spoke toward the inside of the wheel and slightly lifting it to be able to pass its head through the hole in the flange.
- 2 Follow the same procedure for removing the defective spoke to insert the new spoke, head first, from the inside of the hub wall, orienting the spoke so its head goes to the bottom of the groove of the wall ;
- 3 Tighten the spoke nipple using the alu spoke wrench M40494 or M40652 ;
- 4 Adjust the spoke tension ( 120 - 130 kg for the front wheel) ;
- 5 Check the lateral and radial truing of the wheel.

Since the brake ring locks the nipples in place, it is not necessary to use thread lock.



**CAUTION :** manipulating the integrated nipples greatly affects the spoke tension and consequently the wheel adjustment.  
In the final phase of adjusting the tension, 1/4 turn of the nipple corresponds to about 0.3 mm of lateral rim movement.