

# CROSS SPOKES

## CAUTION

1. When a spoke is bent or broken, the spokes that are intact are under excess tension. To avoid breaking more spokes and eliminate this excess tension, you must loosen all the spokes. After replacing the defective spokes, increase the tension to its original level. This operation is not necessary on the Crossmax® UST® and Ksyrium® SSC® wheels.
2. On the Cosmic® Carbone SSC® wheel, if the breakage seems to be the result of fatigue, it is recommended to replace all the spokes on the side where the breakage occurred.

## TOOLS NEEDED

- 1 spoke wrench for the Crossride® and Cosmos® wheels.
- 1 key for spoke tension M40001 and 1 key for spoke support M40567 for the Cosmic® Carbone SSC® wheel.
- 1 tensionometer Hozan type for the Crossride®, Cosmos® and Cosmic® Carbone SSC® wheels.
- 1 key for spoke tension and support M40494 for the Crossmax® UST® and Ksyrium® SSC® wheels.
- Mavic thread lock M40315.
- Grease.

- 1 Loosen the nipple on the broken or damaged spoke with a spoke wrench.
- 2 When a spoke is bent or broken on the inside for the Crossride® and Cosmos® wheels, use the following procedure or go directly to point 3.
  - 2.1 Reduce the tension of the spoke following the broken spoke to help remove it.
  - 2.2 Uncross the broken spoke to bring the spoke to the outside.
- 3 Remove the damaged spoke.
- 4 Only for the Crossmax® UST® and Ksyrium® SSC® wheels, grease the spoke head (contact zone between the the spoke and the socket).
- 5 Place the spoke.
- 6 Tighten the nipple or the socket to increase the tension of the spokes after putting one or two drops of thread lock on the socket thread (Crossmax® UST® and Ksyrium® SSC® only) :
  - 70 - 90 kg for the rear Crossride® wheel.
  - 100 - 120 kg for the rear Cosmos® wheel.
  - 130 - 150 kg for the rear Cosmic® Carbone SSC® wheel.
- 7 Check the lateral and radial truing of the wheel (see page 16).
- 8 For the Crossmax® UST® and Ksyrium® SSC® wheels, let the thread lock dry with the wheel flat for 2 hours before use.

