

## PROCEDURE 1

- 1 Remove the axle using the following procedures 5, 6 and 7 for removing axles, see pages 36 and 37.

### MAVIC RECOMMENDATION

Loosen the free play adjustment nut one turn so as not to damage the bearings when installing the axle.  
Do not manipulate the free play adjustment nut (there is a risk of damaging the bearings).

Do not manipulate the body of the free wheel (there is a risk of losing the pawl assembly) and hold the body of the free wheel in place on the hub to avoid losing any oil.

- 2 Remove the axle.
- 3 Remove the plastic rings M40070 or M40071, if necessary.
- 4 Reduce the tension of the entire side with a spoke wrench and loosen the nipple on the broken or damaged spoke.
- 5 Remove the head of the spoke from the body of the hub if the spoke is broken and the spoke body from the hub if it is damaged.
- 6 Place the head of the new spoke directly on the hub for the **CROSSLAND**®, **CROSSMAX**, **CROSSMAX DISC** wheels (Wheel with specific groove to accommodate the oval spoke head) and **HELIUM** wheels and on the grooved washers M40058, M40059 or M40060 for the **COSMIC**® **EXPERT**, **COSMIC**® **EQUIPE**, **COSMIC**® **PRO** and **COSMIC**® **CARBONE** wheels.
 

- 90 - 110 daN for a front wheel.	} for <b>CROSSLAND</b> ®, <b>CROSSMAX</b> , <b>CROSSMAX DISC</b> , <b>DEEMAX</b> , <b>CLASSICS PRO</b> and <b>HELIUM</b> wheels.
- 90 à 110 daN for a rear wheel on the free wheel side.	
- 100 - 150 daN for a front wheel.	} for <b>COSMIC</b> ® <b>EXPERT</b> , <b>COSMIC</b> ® <b>EQUIPE</b> , <b>COSMIC</b> ® <b>PRO</b> and <b>COSMIC</b> ® <b>CARBONE</b> wheels.
- 100 - 150 daN for a rear wheel on the free wheel side.	
- 7 Put a drop of **PERMABOND A 113** glue on the spoke thread, tighten the nipple to increase the tension of the spokes :
 

- 90 - 110 daN for a front wheel.	} for <b>CROSSLAND</b> ®, <b>CROSSMAX</b> , <b>CROSSMAX DISC</b> , <b>DEEMAX</b> , <b>CLASSICS PRO</b> and <b>HELIUM</b> wheels.
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- 100 - 150 daN for a rear wheel on the free wheel side.	
- 8 Mount the plastic rings M40070 or M40071, if necessary.
- 9 Mount the axle (see procedures 5, 6 and 7 pages 36 and 37).
- 10 Free play bearing adjustment (to be made on the fork of the bike) : the brake nut should contact the external bearing ring when using the hub wrench M40123. Repeat the operation if the adjustment does not seem to be optimum.



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## PROCEDURE 2

- 1 Loosen the nipple on the broken or damaged spoke with a spoke wrench.
- 2 Only if a spoke on the inside row is broken (if not go directly to step 3).
  - 2.1 Uncross the broken spoke to bring the spoke head to the outside
  - 2.2 Reduce the tension of the following spoke to help remove the broken spoke head.



Spoke to be replaced.

Spoke to loosen in order to facilitate the change.

2.2

- 3 Remove the damaged spoke.
- 4 Insert the new spoke.
- 5 Put a drop of **PERMABOND A 113** glue on the spoke thread, tighten the nipple to increase the tension of the spokes :
 

- 90 - 110 daN for a front wheel.	} for <b>CROSSLAND</b> ®, <b>CROSSMAX</b> , <b>CROSSMAX DISC</b> , <b>DEEMAX</b> , <b>CLASSICS PRO</b> and <b>HELIUM</b> wheels.
- 90 - 110 daN for a rear wheel on the free wheel side.	
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- 100 - 150 daN for a rear wheel on the free wheel side.	