

GEDORE

TOOLS FOR LIFE

formerly TORQUELEADER

TSN CAM/SPINDLE REPLACEMENT PROCEDURE

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MODELS COVERED: TSN25D, TSN25A, TSN55, TSN125



OVERVIEW:

This procedure has been prepared in response to requests from authorised Torqueleader Distributors who wish to Service and Replace components in the head assembly of **Torqueleader TSN** wrenches.

TOOLS & MATERIALS:

- Rear bearing removal tool - to suit model of TSN being serviced
- Rear bearing insertion mandrel - to suit model of TSN being serviced
- Normal Workshop tools
- Replacement parts as necessary
- Anti-scuffing paste - ROCOL ASP recommended
- Light machine oil

PROCEDURE:

1. The external parts of the TSN should be cleaned. The *dust cap* at grip end of handle removed and the torque adjustment mechanism slackened off just to the point where the square drive of the TSN can freely rotate in both directions.
This indicates that the roller is no longer in engagement with the cam. Do not slacken the adjustment screw further than this point as the roller will become disengaged from the roller guide and may be difficult to relocate.
2. Remove the *Spirolox* retaining ring from the underside of the head assembly.

3. Gentle tapping of the head assembly against a wooden block (as per **fig1** below) will eject the *cam/spindle* assembly complete with *cover plate* and *front bearing* from the TSN head. This may also cause the spindle and pawls to be ejected from the cam (as per **fig2** below). If this occurs take care not to lose the pawls or pawl springs.

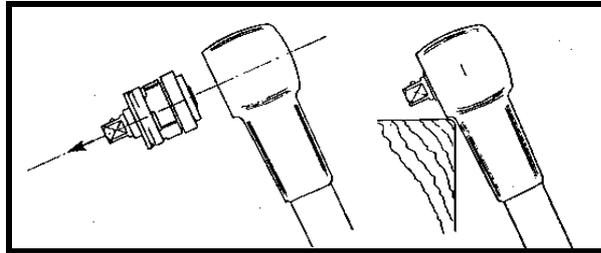


Fig 1

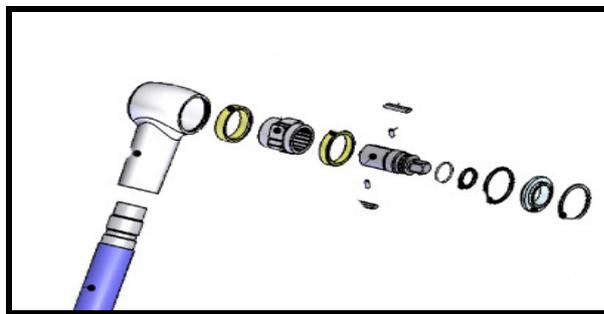


Fig 2

4. Ensure the roller is below the surface of the main bearing housing and remove the *rear main bearing* using special removal tool.
NB - It may not be necessary to replace the main bearings in every TSN unless there are signs of extreme wear, or the cam will not rotate smoothly within the bearings.
5. With the cam/spindle assembly removed, check the condition of the *roller guide* and *roller*. It may be necessary to remove the rear main bearing to carry out this check.
6. Degrease, clean and inspect all parts, replacing those which are worn or broken.
7. Replace *rear main bearing* in the head using special insertion mandrel ensuring that the roller is fully retracted so as not to interfere with the bearing as it is inserted. Ensure that the rear main bearing sits squarely on the rear face of the housing.
8. Re-lubricate the rear main bearing with anti-scuffing paste.
9. Re-assemble *spindle* and *pawls* into the *cam* ensuring that the pawl springs are correctly positioned. Also ensure that the pawls are located with their half rounded long edge resting in the spindle journals and that the pawls and spindle "ratchet" when turned within the cam. The pawls and spindle should be lubricated with light machine oil.

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10. Lubricate the cam faces and main bearing journals with anti-scuffing paste and insert the *cam spindle assembly* into the head ensuring that the *nylon thrust bearing* is located on the spindle end and within the rear main bearing.
11. Insert the *front main bearing* into the head with the large chamfer outwards.
12. For TSN 55 and 125 Wrenches. Locate one or two 'O' rings on the front bearing chamfer and replace the *cover plate* and *Spirolox Ring*.

For TSN 25 Wrenches Only. Replace the *lip seal* with the lip uppermost ensuring the seal is located squarely in the bore. Tap fully home onto *abutment washer* using suitable tubular drift and replace the *Spirolox Ring*.

13. Progressively tighten the torque setting adjustment screw, operating the tool several times as torque increases.

The wrench is now ready for use. It is advisable to operate the wrench approximately 100 times at the upper end of its designed capacity to ensure that new parts "settle in" properly before final calibration is carried out.

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