



Assembly Information **RD2 Bellows Change**

Please use guide in conjunction with manual

- 1) If fitted remove extended bearing support, or collar (8) if not fitted.
- 2) Look for joint in rotating shaft, (See notes on drawing)
- 3) **IMPORTANT SAFETY NOTE:**
The inner push rod is under load by a spring, so when parting the shaft by unscrewing, it is very important that you have a good hold on the shaft, to stop it launching off the thread! So take care at the next stage.
- 4) Cut through the tack weld NEAREST the flange, with a triangular needle file and unscrew shaft.
- 5) Remove the inner shaft while holding the shaft vertical.
- 6) Within shaft removed, tip upside down into a pot and three slugs and 4 balls will fall out.
NOTE: For refitting, it is: ball, slug, ball, slug ball, slug, ball.
- 7) Remove azimuthal index knob
- 8) Remove cover plate from top of main rotation knob.
- 9) Loosen screw in lower index ring (18).
- 10) Looking down on main knob and remove the 2 cap head screws that holds the retainer wobble bearing housing (10).
- 11) Now remove clip by index scale (31).
- 12) Remove the Grub Screws holding on the main bearing housing (2)
- 13) Remove main bearing housing, noting that it has to be angled slightly owing to the bent shaft.
- 14) Remove the azimuthal thimble (11) with azimuthal screw (13), by removing the screws at the base of the thimble.
NOTE: You will need a cut down allen key to get into the tight recess.
- 15) NOTE: The next stage requires great care, so not to damage the bellows internally.
- 16) While hold the rotating shaft, careful pull and work the shaft out with the bearing attached to the shaft. The shaft will need to come out at a slight angle
- 17) NOTE: The shaft is bent so hold the bellows so it does not drag down the inside of the bellows.
- 18) There is an azimuthal shaft inside the main rotating shaft that sits inside the short section passed the bend in the shaft (14).

Refit in reverse but noting:

- 1) Make sure the azimuthal shaft inside the main rotating shaft (14) if fitted. This needs to be fitted with the cupped end inserted first, so it locates against the ball.
- 2) When refitting the shaft into the bellows, make sure the set of 4 ball bearing races on the drive shaft are correctly inserted inside the housing on top of the main bellows (21). These should move freely in the bore.
- 3) Once the drive is fully assembled, fit the slugs and balls in the following orientation: ball, slug, ball, slug ball, slug, ball
- 4) Do not do the cap headed screws up tight on the retainer wobble bearing housing (10) until the last stage, (i.e. The rest of the drive is fully assembled). Centralise the azimuthal housing clamp and then do up tight.
- 5) The shaft will need re-tack welding, with a 1mm to 2mm stitch weld.

