Telma Service

CC RETARDER BEARING REPLACEMENT

Note: The following details apply to Telma CC retarders fitted with two setscrews at each end of the main shaft, secured with lock-tabs. For units fitted with mainshaft nuts, please refer to the appropriate Technical Document.

Note: For details of air-gaps, torque settings of retarder fasteners, etc., please refer to the appropriate specification sheets.

Note: Both bearings on these retarders are an interference fit. Special tools may be required; contact Technical Services at Telma Retarder Limited for details.

DISASSEMBLY

- Clearly mark the rotors (50 and 51) for alignment purposes on re-assembly
- Remove the following items, first from the 'drive-axle side' and then from the 'gearbox' side of the retarder
- The tab washers (31b), shaft-end screws (31c), and plates (31d). Discard the tab washers and keep the screws for trial assembly
- The rotor and coupling flange assemblies (50, 51 and 56)
- The air-gap shims (31e)
- The circlips (35)
- The seal runner (38), backup washer (36) and lipseal (37)
- Using a suitable puller or hydraulic press draw the shaft (31a) from the rear of the hub
- Remove both bearing outer races from the hub, taking care not to damage the hub
- Using one of the old outer races replaced over the bearing on the mainshaft, place the shaft assembly on a hydraulic press and press the shaft out of the bearing

RE-ASSEMBLY

Note: It is important that the new inner and outer bearing races are assembled as removed from the packaging and not mixed up. The initial assembly is carried out "dry", without grease.

Note: Degrease all parts except the new bearings prior to assembly.

- Clean the hub, air-escape tube and grease tube thoroughly
- Inspect the hub for signs of wear or damage and replace if necessary
- Check the hub fasteners are tightened to the correct torque
- Fit new outer races to the front and rear of the hub making sure they are fully home against the shoulders of the hub
- Heat a new bearing for the drive-axle side to 100 degrees centigrade in an oil bath for 15 minutes and place over the drive-axle end of the shaft - the shorter bearing surface of the two ends of the shaft - making sure it is fully home against the shoulder of the shaft and allow to cool
- Fit the following items to the drive-axle side of the shaft: the seal runner (38) with the inner chamfer towards the bearing, a selection of air-gap shims (31e) as shown below, the counter clockwise rotor (51) and flange (56), the plate (31d) and both shaft end screws (31c) tightened to the correct torque.

CC50/65/80/100	4.0mm
CC125/135/160	3.0mm
CC200/250/300/8770	2.5mm

- From the new bearing adjustment shim pack, fit the bearing adjustment spacer (41) over the gearbox

CC RETARDER BEARING REPLACEMENT

end of the shaft, with the chamfer against the raised section of the shaft

- Insert the shaft assembly into the hub from the drive-axle side
- Fit the selected new bearing adjustment shims (40), as below:

CC50/65/80/100	5.70mm
CC125/135/160/200	4.80mm
CC220/250/270/300/8770	4.70mm

- Fit the following parts on the gearbox side of the shaft; the bearing (39), ensuring it is seated against the bearing shims, the seal runner (38), the selection of air gap shims (31e), the rotor (50) and flange (56) assembly, the plate (31d), both shaft-end screws (31c) and tighten to the correct torque
- Using a magnetic base dial gauge anchored to the stator of the retarder with the gauge arm resting on the end of the mainshaft, measure the shaft end-float

  This must be set to the correct end-float as detailed on the specification sheet. The bearing adjustment shims can be changed to obtain this setting
- Once the mainshaft end float has been set, remove the rotor and flange assemblies (50, 51 and 56). The hub must then be pumped full of grease until the grease begins to emit from the bearings
- Fit the new lip-seals (37), back-up washers (36) and circlips (35) to the front and rear of the hub
- Fit the selected air-gap shim set (31e) to each end of the shaft and replace both rotor and flange assemblies making sure of correct realignment to maintain dynamic balance

Note: Shim packs for CC retarders contain black Teflon coated shims; these should be placed against the face of each lip-seal runner

- Replace both plates (31d) and shaft-end screws (31c), and torque to the correct setting
- Measure the air-gaps between the pole-shoes and rotors, and, if necessary, adjust the air-gap shims to obtain the correct setting. A combination of the thickest shims should be used.
- On final tightening, new shaft-end screws, loctite and new locktab washers must be used
- Finally, the unit must be greased while turning the rotors, until all air is expelled from the air-escape tube.