Telma Service

CC RETARDER BEARING REPLACEMENT

Note: The following details apply to Telma CC retarders fitted with a mainshaft nut. For units fitted with two setscrews at each end of the mainshaft, secured with lock-tabs, 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.

DISASSEMBLY

- Mark the rotors (7) for realignment purposes
- Slacken front mainshaft nut (1)
- Slacken rear mainshaft nut
- Remove front mainshaft nut, washer (3) and rotor
- Remove rear mainshaft nut, washer and rotor
- Remove circlip (10), back-up washer (13), lip seal (14) and runner (9) from front and rear of the hub
- Draw mainshaft from rear of hub
- Remove loose bearing from front of hub
- Clean out hub and remove outer races
- Check hub for wear or damage
- Using one of the old outer races replaced over the tight bearing 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 inital assembly is carried out "dry" - without grease - until the bearing shims are correctly set up, after which the bearings are packed with grease.

- Fit new outer races to front and rear of hub making sure they are fully home against the shoulder of the hub
- Heat the new bearing to 100 degrees centigrade in an oil bath for 15 minutes and place over the tight bearing end of shaft - the shorter bearing surface of the two ends of the shaft - making sure it is fully home against the shoulder of the shaft
- From the new bearing adjustment shim pack, fit the bearing adjustment spacer (19) over the loose bearing end of the shaft, with the chamfer against the raised section of the shaft.
- Fit the selected new bearing adjustment shims (17) as below:

CC65/80/100	5.0mm
CC125/135/160/170/200	4.0mm
CC220/250/270/300	4.0mm

- Insert the shaft, into the hub from the rear and fit the loose bearing to the front of the shaft
- Replace both seal runners and place over each end of the shaft a selection of air gap shims (8) as shown below:

CC65/80/100	4.0mm
CC125/135/160	3.0mm
CC200/250/300	2.5mm

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- Replace both rotors, washers and mainshaft nuts and torque as per the specification sheets
- 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 per the specifications. The bearing adjustment shims can be changed to obtain this setting.
- Once the mainshaft end float has been set, the bearings must be packed with grease by hand and the hub filled with Supertelmaco 3 grease
- Refit the shaft from the rear of the hub with the selected bearing adjustment pack and place the loose bearing over the front of the shaft
- Fit the new lip-seals, back-up washers and circlips to the front and rear of the hub
- Fit both lip-seal runners to each end of the shaft. If damaged, these must be replaced
- Fit the selected air-gap shim set to each end of the shaft and replace both rotors making sure of correct re-alignment 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 mainshaft washers and nuts, and torque to the correct setting
- Measure the air-gaps between the pole-shoes and rotors, and adjust the air-gap shims to obtain the correct setting. The thickest shims should be used to "sandwich" the thinnest shims on re-assembly
- On final tightening of the mainshaft nuts, loctite 648 must be used unless new mainshaft washers are installed
- Finally, the unit must be greased while turning the rotors, until all air is expelled from the air-escape tube.