

# GEDORE

TOOLS FOR LIFE

formerly TORQUELEADER

## DIAL INDICATING TORQUE WRENCH RECALIBRATION PROCEDURES

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### MODELS: ADS, BDS, CDS, DDS & EDS



### CALIBRATION PROCEDURE

It is presumed that the wrench has been assembled in accordance with the general assembly drawing for the model and that no locking or sealing of adjustment screws or pivots has been carried out.

#### G A REFERENCE LIST

ADS	A10270
BDS	A18260
CDS	A11930
DDS	A12050
EDS	A22320

### PREPARATION

1. Ensure that the wrench spindle rotates smoothly without excessive friction and that the ratchet operates. (Not EDS Model)
2. Ensure that the rack and pinion assembly operates smoothly and that the main pointer is free to rotate without coming into contact with dial or window.
3. Ensure that the torque needed to rotate the slave pointer in the window bush is 0.03 cN.m +/-10% and when rotated the pointer does not contact the dial face or window moulding.
4. Two dial faces of varying values (-,0) are available for each model of dial wrench.  
If a main spring has been changed it may be necessary to ensure that the replacement spring corresponds to the value of the dial face fitted!
5. If the wrench is a signal model check the functioning of the electric signalling system.

#### GEDORE TORQUE LTD

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## **CALIBRATION PROCEDURE FOR ADS & BDS WRENCHES**

1. Apply Loctite 290 after assembly to the flat faces of the eccentric pivots and set to their mid position indicated by the screwdriver slot lying along the length of the wrench with the small land towards the top (window side) of the body.
2. Apply a torque value to the wrench equivalent to the lowest major graduation on the dial. This should be done in conjunction with an appropriate calibration device (\*).
3. Using the M5 adjustment screw, set the main pointer to the torque value applied. Nip up the M3 locking set-screw.
4. Check the wrench at the maximum main graduation of the dial.
5. The eccentric pivots may have to be rotated to achieve the correct sweep of the main pointer such that the wrench calibrates at both the lowest and highest readings. To increase the sweep of the main pointer, the eccentric pivots smaller land should be rotated towards the tie bolt. To decrease the sweep of the pointer rotate away from the tie bolt.
6. Starting at the lowest main dial graduation ensure that the wrench calibrates at all the main graduation points. A tolerance of +/- 4% of reading is allowable.  
Repeat steps (2) and (6) until satisfactory results are obtained.
7. Set the overload stop to a position equivalent to 5% above the maximum value of the wrench capacity.
9. Thoroughly degrease and apply Loctite to the threads of the tie bolt and nut. Assemble and tighten such that the main pointer lies within the black zero area of the dial face.
10. Finally tighten the M3 lock screw and rubber bung seal the overload adjustment screw.

## **CALIBRATION PROCEDURE FOR CDS, DDS & EDS WRENCHES**

1. Locate the main spring in the top half of the body casting such that the exposed "tail end" of the coil spring is adjacent to the rack and pinion mechanism.
2. Apply a torque value to the wrench equivalent to the lowest major graduation on the dial face. This should be done in conjunction with an appropriate calibration device (\*).
3. Using the M5 adjustment screw, set the main pointer to the torque value applied. Nip up to the M3 locking set-screw.
4. Check the wrench at the maximum main graduation of the dial face.
5. The main spring may have to be rotated to achieve the correct sweep of the main pointer such that the wrench calibrates at both the lowest and highest readings.
6. Starting at the lowest main dial graduation ensure that the wrench calibrates at all the main graduation points.  
A tolerance of +/- 4% of reading is allowable.  
Repeat steps (2) and (6) until satisfactory results are obtained.
7. Set and lock the overload stop to a position equivalent to 5% above the maximum value of the wrench capacity.
8. Thoroughly degrease and apply Loctite to the threads of the tie shaft and screws. Assemble and tighten such that the main pointer lies within the black zero area of the dial face.
9. Finally tighten the M3 lock screw.

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10. Fit cover plate.

(\*) **CALIBRATION DEVICE**

Ideally a calibrated beam and weight system should be used to check the calibration of dial indicating torque wrenches. Alternatively an ISO 1000 with appropriately ranged transducer should be used.

*\*In all cases the torque wrench should be used to apply torque to the calibration device until the required test reading is obtained on the calibration device and the reading on the torque wrench noted at this point.*

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