

PRO-LOG AND ROTARY TRANSDUCER USED TO TEST DYNAMIC ROTATIONAL TORQUE ON PINION SHAFTS



Spicer Axle are manufacturers of gearboxes and differentials for the Automotive industry. At their plant in Fairfield, Sydney they manufacture differentials for both GMH and Ford in Australia.

During the manufacturing process, the main nut on the pinion shaft of the differential, is tightened to over 200 N.m, while the shaft is rotated at a constant 100 rpm. During the tightening process, the dynamic rotational torque on the pinion shaft is measured, to ensure that the pre-load on the bearing does not create a rotational torque outside their specifications of 1.5 – 2.1 N.m.

To test the rotational torque after assembly, Norbar designed and manufactured a portable testing device using our Pro-Log and Rotary Transducer. The unit is compact with changeable mounting frames to suit different housings. When started, the Pro-Log displays the rotational torque, while a small electric motor rotates the pinion shaft at a constant 100 rpm. The torque value can then be stored into the Pro-Log's memory for downloading or Statistical processing.

This simple yet effective design, allows for quality control testing by their QA Manager to ensure the final product meets design specifications.