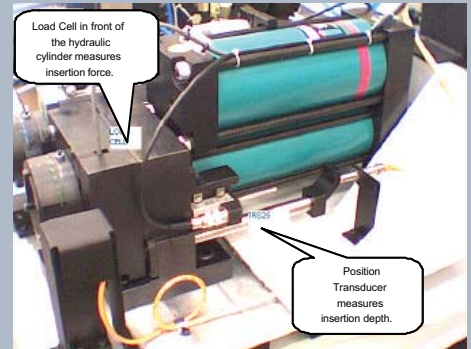




Part of the manufacture of adriveshaft involves injecting a precisely measured amount of grease into the two CV joints at each end of the driveshaft. When the grease has been injected a end-cap is then pressed into place to seal the grease inside.

A DECADE 260 Series unit is used in this application to check the grease dispensing unit has dispensed the correct quantity of grease and then monitor and check the press-fit insertion of the two end caps and presence of an oil seal.



Driveshaft and Endcap.

Grease Injection

The driveshaft is loaded to the machine and first a measured amount of grease is injected to each end of the driveshaft to lubricate the CV joints, the greasing unit outputs a DC voltage that is proportional to the amount of grease that has actually been injected. This signal is measured by the 260 unit. The 260 unit checks the amount of grease is between set minimum and maximum dosage limits, thus detecting nogrease and insufficient grease situations. The 260 also logs the test result with time and date stamps and also generates SPC and Cpk information on the dosage.

End Cap Insertion

After the grease has been successfully injected to each end the machine then starts to insert the end caps. There is a 30KN compressive load cell and 25 mm stroke position transducer to measure the force taken and the position as each cap is pushed into its bore. Each cap only requires around 2KN to insert due to its interference fit in the bore. The 260 unit monitors the force taken as the cap is pressed into the bore, pre-set minimum and maximum force limits check the cap is a good tight fit, loose fitting caps would generate a low insertion force and a high insertion force could indicate problems in the cap or bore diameters. When the cap reached the end of the bore the force rises quickly up to around 10KN, this force is also checked by the 260 unit against pre-set min and max limits to ensure the cap has been pressed fully home. There is also an important oil seal that is inserted prior to the end cap, the 260 uses the position transducer to check each cap has been inserted to the correct depth, too far in indicates that the oil seal is missing and this to is picked up by the 260 as a fault.



260 unit and Machine

The 260 unit is fully integrated with the machine PLC and operation, interlocking the part should a failure be detected.