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Res. Agr. Eng.

I. Petranský, M. Bolla

Testing stand for life tests of hydrostatic

fluid

Res. Agr. Eng., 49 (2003): 151-156

Testing of the lifetime of hydrostatic transmissions can be done on special testing stands. Some testing stands use a pressure valve connected at the outlet of a pump. When using this design of stands, it is important to keep clean the operating fluid by filters and it is not possible to observe the influence of fluid pollution on the lifetime. The article presents a design of an electro-hydraulic testing stand with computer control system for accelerated lifetime tests of hydrostatic pumps under laboratory conditions when using a polluted operating fluid. A pump, which is mechanically connected with a hydrostatic motor, through a clutch, is an interface between the hydrostatic circuit of the tested pump and the hydrostatic circuit of the loading simulator. At lifetime testing, this interface makes possible to use the polluted fluid in the hydraulic circuit of the tested pump, and thereby observe its influence. Instead of a polluted fluid, it is possible to use biodegradable oil and observe its influence on the lifetime of a pump. When using the same hydraulic fluid in both systems of the stand, it is possible to test two pumps at the same time.