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Res. Agr. Eng.

čupera J., Šmerda T.:

The usage of CAN-Bus messages for engine

power determination

Res. Agr. Eng., 56 (2010): 138-146

Determination of the actual power of tractor's engine in the operation can be done by calculation which requires the use of a range of parameters such as coefficient of rolling resistance, mechanical efficiency, the moments of inertia, etc. Their values are usually tabulated and therefore the engine power cannot be determine without simplifying. Another solution is to use the actual engine torque message from the CAN-Bus, which brings a specific value of the actual torque. The aim is to use the current torque to calculate the engine power in the deployment of tractor's set in transport operation. The results show that at a uniform movement of the flat section the engine power reached 73 kW. When driving uphill, the value of the actual power reached from 130 to 150 kW depending on the selected gear. Using the actual parameters of torque makes possible to identify the known full speed characteristics of the current engine without the need for assembly demanding measurement techniques.

Keywords:

actual engine torque; engine; tractor; engine power; CAN-Bus

[fulltext]