Fuel Pump Optimization – Rotary Torque

Industry: Automotive

Summary

Customer Need/Challenge

- A nationally renowned race team was using a flow bench to measure fuel pump performance.
- They wanted to determine if they could reduce the power consumption of the pump through special tuning.

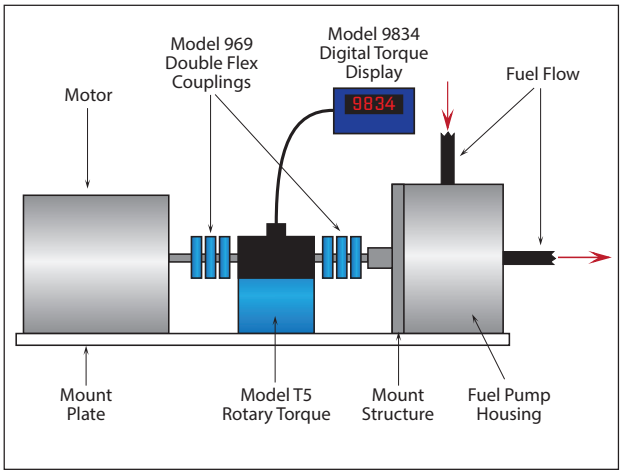
Interface Solution

- Integrate a rotary torque transducer into the pump drive to directly measure power consumption at the pump in order to optimize performance.

Results

- Customer was able to characterize fuel pump performance vs. drive line torque.

Sketch



Materials

Interface Products

- Model T5-15-A1A 15 Nm Capacity Rotary TorqueTransducer
- Model 969 double-flex disk couplings x2
- Model 9834 digital torque display

Additional Materials

- Mount plate and structure
- Alignment provisions

Other Possible Configurations

- Floating mount torque transducer using Model 966 single-flex couplings

How It Works

1) **Electric motor spins fuel pump**
2) **Model T5 Rotary Torque Transducer measures torque required to spin the pump**
3) **Data feeds to the Model 9834 Digital Torque Display for analysis**
4) **Flow bench measures pressure and volume of fuel flow**
5) **Fuel pump is tuned to minimize required drive torque while maintaining the required pressure and flow for proper fuel delivery**

interface
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