Car Braking Test-bed Design and Experiments

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ABSTRACT

This is to investigate the thermostability of a braking system in high speed, or in continual braking. In the process, the temperature of the brake system elevates, this makes the vehicle friction factor drop and the friction resistance is decreased, there by causing the vehicle brake efficiency to be reduced. This phenomenon is called the hot decay phenomenon. The aims is to design a "Car Braking Test-bed" to test the brake force. Fiirst, from experiments on an actual vehicle, establish the torsion change pattern. Use this reference to confirm the vehicle torsion data information bank. This study uses a flywheel to simulate the load of the vehicle. By using the frequency converter of the motor controller, monitor the flywheel rotative speed. Then calculate the parameter of the vehicle torsion, and set up the brake fluid temperature sensor. The changing parameter of the brake fluid temperature is referenced with the data to link the test platform and correlate with the vehicle torsion analyzes.

Keywords : braking test-bed experiment, hot decay phenomenon, brake fluid temperature , vehicle torsion

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