

Longitudinal vibrations analysis of vehicular clutch

ABSTRACT

This paper investigates the dynamic nature of clutch pedal in-cycle vibration as a powertrain NVH concern. The concern, referred to as "whoop" in industry, occurs during the clutch engagement and disengagement processes. The MATLAB and ADAMS as powerful programs for simulating dynamic systems to model clutch actuation system as a series of multi-bodies between the flywheel and the clutch pedal are used. Finally, the results are compared to experimental evidence and other models which were provided before.

Keyword: Clutch; Vibration; Multi-body dynamics; Whoop