Design and Dynamic Simulation of a Track System Testing Platform

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ABSTRACT

To test the tracked system of a tracked vehicle, it requires the tracked vehicle to run eight hundred kilometers. However, in this way, it may damage the vehicle. In this study, we build an experimental road test machine of tracked vehicle by computer modeling, and add cylinder on experimental machine to simulate jolt-road surface. The research uses CAD software to build 3D model of the experimental platform. The platform uses track T142 for tracked vehicle to do the experiment with different road surfaces and loads. We do the experiments for different road surface to get friction coefficients. Then we replace with the friction coefficient that is derived from the experiment of ADAMS to simulate the motion of tracked chassis system. The motion of simulation could supply the data including the force of sprocket and cylinder of track road test machine.

Keywords : tracked vehicle, chassis system, cylinder, friction coefficient

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