



RIDE SIMULATOR

Description

CSA Leyland's largest single test facility, the ride simulator is used for accelerated durability testing a range of 2 to 3 axle vehicles, with axle loads of up to 12 tonnes and gross vehicle weights of 36 tonnes. The 18m x 11m x 8m test hall is ideal for full sized commercial vehicles but is equally capable of running simulations right down to small passenger cars and off-road vehicles.

This test facility enables the validation of structural durability on early prototypes or non-running mule vehicles. While track or road based testing can provide accurate data / analysis, they also are costly and require significant time and resource to execute. The ride simulator can conduct repeatable durability testing with the relevant Road Load Data by applying an acceleration factor and in turn significantly shortening the test time; also allowing the test engineers and customers to view any damage that may be caused during the testing.

Typical Applications

- Passenger cars
- Trailers & caravans
- Commercial vehicle tractor units
- Commercial vehicle rigids (4x2, 6x2, 6x4)
- Commercial vehicle cabs
- Commercial vehicle trailers
- Commercial & tracked vehicles - directly chassis coupled
- Wheeled military vehicles
- Wheeled off-highway machines
- Ride comfort benchmarking and development
- Modal analysis of complete vehicles to identify resonant responses
- Rigid body modes
- Flexible body modes



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Specification:

Overall dimensions:	18 m x 11 m x 8 m
Maximum wheelbase:	15m
Actuators:	4 x 160 kN (250 mm stroke, 3 stage valve) 2 x 100 kN (250 mm stroke, 3 stage valve)
Pump capacity:	1980 l/min
Seismic block:	9 m x 16 m, weighing 1100 tonnes
Services:	High pressure air supply for vehicle air suspensions Cooling water and/or forced air to cool suspension units
Drive signal iteration:	MTS RPC with 32 response channels LMS TWR system with 16 response channels
Data collection:	LMS Test.Lab National Instruments LabView
Data analysis:	nCode Glyphworks LMS Test.Lab National Instruments LabView