



Soft Crash Target

Cushioned, driverless vehicle for dynamic interactions and low-speed impacts with other vehicles

Introduction

The AB Dynamics Soft Crash Target (SCT) has been designed to allow the testing of vehicle collision detection and pre-crash systems and a wide range of ADAS development work. It is designed to enable low-speed collisions to be carried out without causing significant damage to the test vehicle. It consists of a radar-reflective dummy-vehicle composed of inflatable cushions and simulated wheels (which do not touch the ground), mounted around a Central Drive Box, with its own small diameter wheels, which is designed to drive the SCT at typical speeds of 50 kph (30 mph).



SCT with vinyl skin



SCT showing the central drive box

Features

- Lightweight carbon fibre and aluminium chassis
- Rollover protection for control system
- Larger wheels mean that the SCT is tolerant of rougher track surfaces than the Guided Soft Target
- Typical cushion thickness 60 cm
- Electric drive system with belt drive transmission
- 4-wheel hydraulic braking system with failsafe spring-actuated braking
- Lithium Iron Phosphate battery pack
- Electrically-actuated steering system with override facility for manual manoeuvring
- ABD Driverless control hardware mounted in shock-resistant, splash proof casing
- Can be safely operated with other AB Dynamics ADAS targets (eg: GST and LaunchPad)
- Inertial Navigation System with GPS correction
- Uses patented Synchro control software to allow coordinated motion with other vehicles using an ABD driverless system

Performance

Maximum speed	70 kph
Maximum acceleration	0.2 g
Maximum deceleration	0.9 g
Maximum lateral acceleration	0.4 – 0.5 g
Impact resistance	Designed to withstand 50 g
Central drive box mass	165 kg
SCT mass (central drive box + cushions)	220 kg
Central drive box dimensions	1850 x 600 x 1000 mm (approximate)
Testing duration	Estimated 4 hours before battery recharge required
Path following accuracy	Dependent upon motion pack (2 cm 1SD RMS typical maximum)

