

Safety systems and gearbox for automotive industrie

Roll Bar Function Test Bench





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The bench has been built for 100% production test of double roll-over bars. For the design a manual loading and fully automatic test performance concept is used. During the test sequence the installation of attachment parts on the one hand and the following characteristic values of the roll-over bars on the other hand are measured: Electrical values of the pyrotechnical release elements – Various heights of roll-over bars – Push in force, release force, unlocking force – Release times and distinctive release curve. The measurement equipment includes contactless laser displacement measurement systems and various fully integrated force sensors. After a successful test run the roll-over bars are marked. An integrated label printer creates a unique label for each roll-over bar. The pyrotechnical release elements will be fixed by means of a monitored electrical screw driver system.



Highlights

Arbitrary power supplies for programmable voltage/current wave forms – Multi-I/O card with 16-bit A/D resolution – Comfortable Windows user interface for setup procedure and visualization of the results – Graphic presentation of distinctive signal curves



Technical data

Displacement measurement system: Range: 500 [mm] – Linearity: $\pm 0,08$ % (Full range) – Resolution: 30 μm – Rate: 2,5 kHz

Force measurements: Force sensors DMS sensors (Accuracy class 0.5) – Push in force 1kN – Unlocking force 0,2kN – Release force 1kN – Power supply 400V, 50Hz – Compressed air min 5,5 bar