

Seat Belt Test Rig

CAPABILITY SHEET · ANCHORAGE · BELT ASSEMBLY · RECORD · ENGINEERED TO ORDER

THE ONE IDEA

PRINCIPLE	A seat belt is only as strong as its anchorage. The rig pulls the way the belt would, through a body block.
WHY IT MATTERS	The anchorage is proved by the load it will actually see, and the trace shows whether the load was carried.

THE RIG

FRAME AND PULL	A reaction frame and servo-hydraulic actuators, with a load cell in line with every pull.
BODY BLOCKS	Blocks and fixtures that reproduce the belt path, so the load reaches the anchorage where the belt would put it.
BELT ASSEMBLY	A frame with grips that holds webbing, buckle and fittings in tension and records where the weakest part lets go.
RECORD	Closed-loop control and data acquisition on one clock for force, time and movement, one record for each test.

THE METHOD

ORDER	Fit, pull, hold, check, compare and record. The rise and the hold are what a peak-only check never shows.
LIMITS	The load, the rate of rise and the hold time are set by the standard and by the customer, and are not printed here.

CONFIGURATIONS

ANCHORAGE FRAME	A reaction frame, actuators and body blocks that load the anchorages of one seat position after another.
BELT ASSEMBLY RIG	A frame with grips that holds the belt in tension and records where it lets go.
COMBINED FACILITY	Both on one control and record system, so the anchorage and the belt are proved in one place.

STANDARDS & SCOPE

STANDARDS	Public references: UN Regulation No. 14, FMVSS 210, AIS-015 for anchorages; UN Regulation No. 16, FMVSS 209, IS 15140 for the belt assembly.
SCOPE BOUNDARY	A static rig for anchorages and belt assemblies. It is not a roll-over rig, not a headrest impact rig, and not a dynamic sled test.
STATUS	Neometrix engineers seat belt test rigs to order, and no delivered seat belt test rig is claimed.

DEFENCE PROGRAMMES DESK

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