

Axle Test Rig with Acoustic Enclosure

CAPABILITY SHEET - NVH, ORDER ANALYSIS AND ENDURANCE CELLS FOR DRIVE AXLES - ENGINEERED TO ORDER

THE SYSTEM

WHAT	Noise, order-analysis and endurance cells for drive axles and final-drive assemblies, inside acoustic enclosures built for listening.
OUR ROLE	Bedplate and fixtures, drive and absorber integration, torque metrology, enclosure and isolation, lubrication, DAQ with order analysis, AMC.
STATUS	Quoted against successive axle test rig requirements for a defence heavy-vehicle manufacturer; no delivered axle test rig is claimed.

THE GOVERNING IDEA

NOISE IS THE DEFECT	Whine is made by the same hypoid mesh that carries the torque - it is designed and assembled out, never muffled out afterwards.
HEAR THE AXLE, NOT THE WORKSHOP	Drive lining, sealed door, isolation under the feet, drive machinery kept out - and the background floor proven.
ORDERS, NOT DECIBELS	Mesh order is tooth count times shaft speed; sidebands expose runout and eccentric mounting; bearing tones sit on their own lines.

THE MACHINE

MOUNT + ALIGN	Clamped at the vehicle's true mounting points on a stiff bedplate, shaft line shimmed - a pulled housing makes its own noise.
DRIVE + ABSORB	Input driven, both hubs absorbed, inline torque measured - swept in drive AND on the overrun, because coast differs from pull.
SET-UP RECORDED	Backlash, pinion preload, contact pattern, oil grade and temperature all set and logged - viscosity changes what a mesh sounds like.

DISTINCT & HONEST

THE ROTATING FAMILY	The e-motor bench measures electric drive efficiency; the transmission rig exercises ratios; balancing removes unbalance at its root.
REFERENCE AXLE	Run on schedule so drift in the cell is never mistaken for drift in the product - a batch judged, not remembered.
ENGAGEMENT	Send the axle range, torque and speed envelope and noise limits to sales@neometrixgroup.com for a compliance matrix in two working days.

DEFENCE PROGRAMMES DESK

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