

Retractable Refuelling Probe Test Rig

CAPABILITY SHEET - QUALIFICATION, ENGAGEMENT AND ENDURANCE RIGS FOR RETRACTABLE REFUELLING PROBES

THE SYSTEM

WHAT	Qualification, engagement, endurance and flow rigs for retractable air-to-air refuelling probes - telescopic and actuated types.
OUR ROLE	Reaction frame and interface, actuation and cycling, engagement carriage, multi-axis loading, fluid conditioning, cold-soak, DAQ, safety case, AMC.
STATUS	Quoted against successive retractable refuelling probe qualification programmes for a defence research organisation; no delivered rig of the class is claimed.

THE GOVERNING IDEA

FIND THE FAILURE ON THE GROUND	beyond the envelope and cycle beyond life. A rig that never breaks anything has proven a habit, not a limit.
THE ENGAGEMENT IS AN IMPACT	Contact arrives at closing speed with angular and lateral misalignment. A gentle, well-aligned push proves nothing the aircraft will ever ask.
REPRESENT THE AIRFRAME	Probe loads react into the aircraft attachment. A fixture stiffer than the aircraft moves the moments, the deflections and the fatigue life.

THE MACHINE

FRAME + INTERFACE	Reaction frame plus an attachment engineered to real stiffness - so the load path is the aircraft's and the rig contributes nothing of its own.
ENGAGEMENT CARRIAGE	Coupling fixture on hardened rails driven to closing speed, misalignment set on a graduated plate, an inline load cell behind the receptacle.
FLOW + COLD + DAQ	Fluid at pressure while the article is loaded, moving and cold-soaked, with continuous leak detection and one time base for every channel.

DISTINCT & HONEST

THE OTHER PROBE	The fuel contents gauging probe rig judges a sensor on accuracy. This judges a mechanism on its limits - same word, a different article entirely.
THE SAFETY CASE	Flammable fluid beside stored hydraulic energy and electrical power - bonding, containment, ventilation and interlocks designed in from the start.
ENGAGEMENT	Send the load envelope, cycle life, engagement conditions and fluid range to sales@neometrixgroup.com for a compliance matrix in two working days.

DEFENCE PROGRAMMES DESK

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