

Iron Bird - Aircraft Systems Integration Rig

CAPABILITY SHEET - MECHANICAL STRUCTURE, STATIONS, LOADS AND SUPPLIES - ENGINEERED TO ORDER

THE SYSTEM

WHAT	Full-scale ground rigs holding an aircraft's hydraulic, flight-control, landing-gear and electrical systems in true geometry for integration testing.
OUR ROLE	Mechanical structure and mount stations, load fixtures and reaction anchors, supplies and true routing, survey and alignment, DAQ integration, AMC.
STATUS	Quoted against a fighter development programme's iron-bird mechanical structure requirement; no delivered iron bird is claimed.

THE GOVERNING IDEA

GEOMETRY IS THE FIDELITY	Move an actuator two metres and the pipe run, trapped volume, transient and lag are all wrong - true lengths, or it is only a bench.
THE STRUCTURE IS THE INSTRUMENT	to airframe datum, stiff under full actuator load - a frame that deflects reports rig compliance as system performance.
FAILURES ON PURPOSE	Hydraulic loss, jammed and runaway actuators, dropped buses, reversion laws - the tests that cannot be flown, run repeatedly on record.

THE MACHINE

STRUCTURE + STATIONS	Surveyed to the aircraft's coordinate scheme, analysed for deflection before a section is cut, designed to be re-stationed for years.
TRUE PIPE + CABLE RUNS	Aircraft lengths and routes on trays - the volumes and voltage drops that keep the dynamics honest, plus real bend radii and access.
SUPPLIES + LOADS	Aircraft pressures, flows and voltages with filtration and conditioning; hinge-moment jacks that impose load without adding their own dynamics.

DISTINCT & HONEST

THREE LEVELS, NO OVERLAP	Component benches prove one unit; assembly jigs hold structure for build; the iron bird holds systems in true geometry for test.
IT OUTLIVES FIRST FLIGHT	Endurance cycling, modification clearance, defect investigation and software rehearsal for the life of the fleet.
ENGAGEMENT	Send the systems list, coordinates and load cases to sales@neometrixgroup.com for a compliance matrix in two working days.

DEFENCE PROGRAMMES DESK

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