Compressor Vane Regulation Test Rig

CAPABILITY SHEET · SET THE VANE, NOT THE ACTUATOR. · A DRIVE, A GAUGE AT EVERY VANE AND A SCHEDULE

THE ONE IDEA

PRINCIPLE	Set the vane, not the actuator.
WHY IT MATTERS	The actuator reports its stroke, but the air meets the vane. The lever, the ring, the bushes and a casing that grows with heat make the same stroke mean a different angle, so the rig reads the angle at the vane and lays it on the schedule.

THE RIG

CART	A stiff cart on castors with brakes that carries the rig to the engine.
DRIVE	A servo drive that moves the vane ring or the actuator slowly, in both directions, on a clean supply.
GAUGES	An angle gauge on a reference vane of every stage, a position sensor on the actuator, and a reference vane that proves the gauges.
RING LOAD	A load on the ring, so that slack and wind-up show as they do on the engine.

THE METHOD

ORDER	Duty, drive, measure, compare, adjust and prove. The loop and the proof of the gauges are the two that a quick job skips.
LIMITS	The schedule, the band and the stops come from the engine's own manual, and are not printed here.

CONFIGURATIONS

SINGLE RING	A single-ring rig: one drive, one set of gauges and one schedule for the inlet guide vanes or the first stage that turns.
MULTI-STAGE	A multi-stage rig: a gauge on every stage, read at the same moment, so that the stages are seen to track each other.
TWO-SPOOL	A two-spool rig: two drives and two schedules, so that both compressors are set in one visit.

SCOPE

SCOPE BOUNDARY	It is the compressor vane regulation test rig: not a compressor test rig, not an engine compressor washing rig and not fuel pump test equipment.
STATUS	Neometrix engineers compressor vane regulation test rigs to order, and no delivered compressor vane regulation test rig is claimed.

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