ThrustSense®
Full Regime Autothrottle

King Air Autothrottle

Innovative Solutions & Support
**ThrustSense: Full Regime Autothrottle for the King Air**

**Overview**

The IS&S patented ThrustSense Integrated Autothrottle is the first ever and only full regime autothrottle system to be certified for the King Air. The takeoff to landing phases of flight, including go-around, allows the pilot to automatically control the power setting of the engine. The autothrottle computes and controls appropriate power levels reducing pilot workload.

ThrustSense computes thrust, holds selected speed/torque, and implements appropriate limit protection. When engaged by the pilot, the autothrottle system adjusts the throttles automatically to achieve and hold the selected airspeed guarded by a torque/temperature limit mode. Protection modes will automatically activate, regardless of autopilot engagement state in an attempt to keep airspeed, torque and temperature from exceeding pre-defined targets.

ThrustSense will automatically adjust the power of the remaining engine, when engine out, below Vmc mitigating adverse yaw allowing the aircraft to safely accelerate under full control. The use of the autothrottle ensures stabilized approaches by controlling speeds in the descent. During high pilot workload the autothrottle prevents the airplane from getting dangerously slow or fast and protects against overtorque and overtemp.

Control of the revolutionary autothrottle is housed in an easy to install Flight Instrument Standby providing standby functionality. The thrust computer in the Standby computes and controls torque during all flight phases including climb. If the pilot manually adjusts the power lever and approaches torque or temperature limits the autothrottle will warn the pilot. The Standby features a high resolution LCD display with full LED backlighting improving reliability and full sunlight readability to the pilot.

ThrustSense is installed with minimum modifications to the existing flight deck and no structural modifications to existing throttle quadrants and can be installed in four days.

**ThrustSense Features & Benefits:**

- FADEC Like Engine Protection
- Hot Start Protection
- Under/Overspeed Protection
- Vmca Protection
- Auto Turbulence Speed
- RNP Speed Management
- Standby Functionality
- High Value System
- Reduced Pilot Workload
- Increased Situational Awareness
- Stabilized Approaches
- Symmetrical Engine Power Management
- Asymptotic Approach Into Speed Targets
- Minimal Additional Force Required to Over-ride Power Lever
- Installation - minimum modifications to existing flight deck
ThrustSense Operation

CLIMB
- A/T TRQ Climb in AP Vertical Speed Mode
- A/T SPD Climb in AP Vertical Speed Mode
- A/T TRQ Climb in AP Flight Level Change Mode

CRUISE
- High Altitude A/T Speed Operation
- High Altitude A/T Torque Operation

DESGENT
- High Altitude Level Flight Descending - MMO Protection
- Mid Altitude Level Flight Descending - Overspeed Protection
- Descent A/T Operation
- A/T Warning - Underspeed Protection

APPROACH/MANEUVERING
- Below VMC in A/T Torque Mode with Rudder Boost ON
- Precision Approach

GO-AROUND
- Approach Go-Around

LANDING
- Landing Phase

TORQUE MODE
- A/T TORQUE
- 2.505 lb

SPEED MODE
- A/T SPEED
- 200 knots

ThrustSense Installed on King Air B200
IS&S is the world's leading supplier of RVSM systems and integrator of Cockpit Information Systems (Cockpit/IP®) for the Commercial Air Transport, Military, and Business Aviation Markets. IS&S incorporates leading edge technologies into sophisticated, cost-effective solutions for the aerospace industry.

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