

ThrustSense® Autothrottle



King Air B200 and B300
PL-21 • PL-Fusion • G1000



ThrustSense Autothrottle: A King Air Upgrade Like No Other

Overview

The Innovative Aerosystems ThrustSense autothrottle allows the pilot to automatically control the power setting of the engines from takeoff to landing phases of flight, including go-around. The autothrottle computes and controls appropriate power levels reducing pilot workload.

ThrustSense provides critical VMCA protection, as well as FADEC like engine protection, eliminating two of the greatest 'low-and-slow' challenges associated with twin engine operations. ThrustSense enables automatic control of engine power settings by computing and adjusting to the maximum safe power levels, with precision not practicably achievable by the flight crew.

The system's influence on safety is not limited to just VMCA protection, however, as ThrustSense manages engine power throughout all phases of flight, eliminating over speed/torque situations, further reducing pilot workload.

Optional Guard mode allows the pilot to fly manually while still incorporating all of the protection modes ThrustSense provides.

Innovative Aerosystems Standby Display Unit enables full autothrottle control interface as well as full standby capability.

There are no additional structural modifications needed (other than replacing the existing standby with IA's), thus aircraft downtime is minimized.

VMCA protection down to stall warning utilizing maximum safe power on operating engine



ThrustSense offers reduced pilot workload with the ultimate engine and airframe protection for King Air owners & operators



Mature and proven system



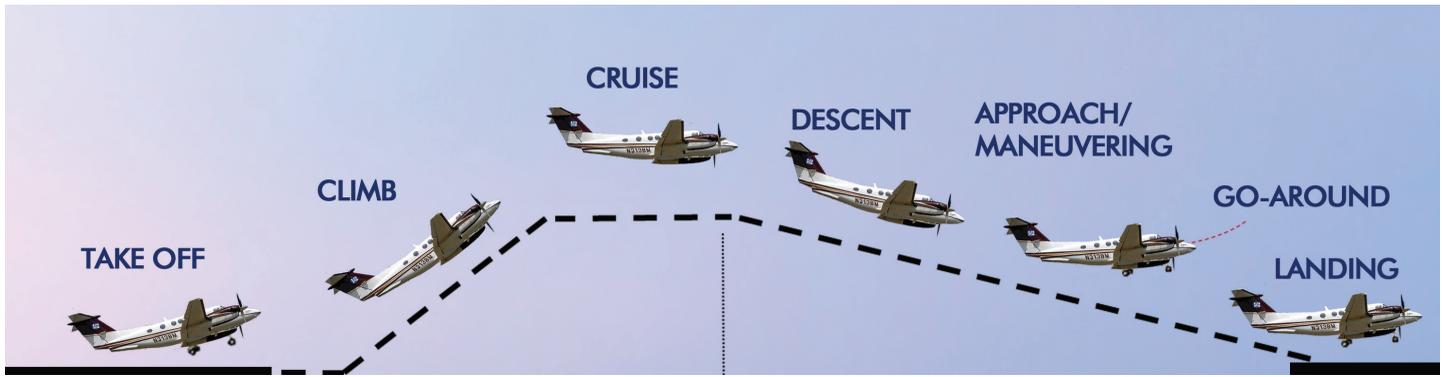
Benefits:

- ◆ Reduced pilot workload
- ◆ Increased situational awareness
- ◆ Stabilized approaches
- ◆ Reduced cabin noise, increased cabin comfort
- ◆ Symmetrical engine power management
- ◆ Precise capture of speed target
- ◆ Minimal additional force required to over-ride power lever
- ◆ Installation - minimum modifications to existing flight deck

Aircraft Protection:

- ◆ Flight envelope & engine protection in Automatic Mode and optional Guard Mode which allows pilot to fly manually
- ◆ VMCA protection
- ◆ Airspeed, mach and torque control
- ◆ Coupled FMS VNAV
- ◆ MEL relief/on condition maintenance
- ◆ Prevents power lever migration

ThrustSense Operation



TAKEOFF MODE: ThrustSense® is engaged for Takeoff. The System compensates for any engine surge. Take-off mode is active until the System transitions into climb mode.

GO-AROUND MODE: The System automatically sets maximum safe power while maintaining full engine protection.

CLIMB MODE: The throttles are automatically reduced to a maximum continuous climb or torque schedule as a function of altitude.

AIRSPEED MODE controls airspeed to a commanded value through a manually selected speed change. The Autothrottle maintains a constant mach speed, as commanded by FMS or pilot's control panel.

PROTECTION MODES are constantly monitoring the aircraft performance and engine performance. The engines are kept within safe torque and temperature limits, per the POH.

LOSS OF OPERATING ENGINE (VMC_a MITIGATION): ThrustSense Autothrottle will apply appropriate maximum safe power that precludes adverse yaw and catastrophic upset. The Autothrottle's One Engine Inoperative (OEI) mode is active during engine loss when ThrustSense is engaged for take-off, climb or go-around.

ThrustSense Full Regime Autothrottle: Standby Options



The ThrustSense® Autothrottle is commanded by the Standby Display Unit that serves as the pilot's interface mode for speed and torque selections, and also serves as a standby EFIS system. The Standby Display Unit houses the computer, which controls the Actuator Assembly which physically moves the throttle.

ThrustSense is certified and available for King Air 200 and 300 Pro Line 21, Pro Line Fusion and G1000 Flight Decks in over 40 countries and numbers of different King Air configurations are now compatible with the autothrottle. Categories of newly customized ThrustSense King Airs include special mission, extended range, heavy-weight and Blackhawk aircraft.

ThrustSense Autothrottle is standard equipment on the King Air 260 and 360.





Innovative Aerosystems is the world's leading supplier of RVSM solutions and a trusted integrator of Cockpit Information Systems (Cockpit/IP®) across the Commercial Air Transport, Military, and Business Aviation markets. We deliver advanced, cost-effective avionics by incorporating leading-edge technologies into proven, mission-ready systems for the global aerospace industry.

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