FCS-7000 Flight Control System

Improving safety, stability, performance and decreasing crew workload for all missions.

The FCS-7000 Flight Control System provides a quantum leap in performance, capability, redundancy, and sustainability. Comprised of a state-of-the-art flight director system, combined with new, powerful servo technology, the FCS-7000 system greatly improves safety and stability during air refueling, airdrop and all-in-flight operations.

The FCS-7000's powerful navigational performance provides crews CAT II approach capability, vertical navigation and RNP down to 0.10 and is certified for RSVM.

KEY FEATURES

- Fail-passive (each APC has dual dissimilar processors, plus a third monitor processor)
- Independently selectable dual autopilot computers, each system fail-passive
- Replaces legacy AP servos with "smart," fail-passive servos
- Category II ILS, growth to category IIIA with addition of dual HUDs
- Capable of RNP RNAV 0.10, LPV (with GPS WAAS) and SAAAR precision approaches without restriction
- FMS coupled VNAV for coupled climb, cruise, descent and approach performance/fuel optimization
- NVIS NVG compliant lighting, gloved hand operation

- FAA certifiable
- Accomodates a wide range of digital sensors, including EGIs, INUs, AHRSs, ADCs, MMRs and display systems
- Built for a wide range of missions and aircraft
- Built-in growth capacity
- Ready for harsh environments, no cooling air required

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SYSTEM COMPONENTS AND DESIGN ARCHITECTURE

- Two APC-7000 autopilot computers, one APP-7000 autopilot panel, SVO-5000 servo for each axis plus mount
- Rockwell Collins Flight2 system architecture, Modular Open Systems Architecture (MOSA) compliance with dual independent flight director software hosted in either IPC-7000/8000 Integrated Processing Centers, MFD-268 Multifunction Displays or CDU-7000 Multifunction Control/ Display Units hosting PowerPC® processors
- Flexible FD human-machine interface (displays and mode selection controls), tailored to desired aircraft system configuration
- All ARINC 429 digital interfaces for the APS and either 429, Ethernet or MIL-STD-1553B for the dual FD functions
- Either dual or triple AHRS/INU/EGIs (any combination) for attitude and heading; dual air data systems for airspeed inputs to APS (all ARINC 429 interfaces)
- Commonality with Rockwell Collins Commercial Systems FCS-5000 software and REU hardware for long-term support

INSTALLATION, AIRWORTHINESS QUALIFICATION AND CERTIFICATION

- FAA approved (TSO-C9c) and FAR part 23 and 25 certifiable, with design assurance level A (flight critical safety)
- RTCA DO-254 hardware and DO-178C software, Level A design assurance level for flight critical safety

FLIGHT DIRECTOR/AUTOPILOT MODES

- Takeoff (selected from control yoke on ground)
- Go around (selected from control yoke in air)
- Pitch attitude hold
- Altitude hold (RVSM compliant)
- Altitude preselect (RVSM compliant)
- Flight level change (airspeed/mach/vertical speed selection)
- VNAV (coupled to FMS) — RVSM compliant/altitude modes
- Terrain Following/Terrain Avoidance-growth (coupling to TF/TA system)
- Approach (VOR, ILS, TACAN, FMS, MLS, GPS LPV)
- Pitch synch — more precise flightpaths

FCS-7000 ADVANTAGES OVER CURRENT SYSTEMS

- Nonobsolescent for 20 years - brings mobility fleet into the 21st century
- Dual autopilots for long-range missions and RNP <1.0 availability - redundancy, enhanced nav capabilities, VNAV RNP
- Continued FAA TSO/certification viability
- Less than half total system cost, including essential attitude/ heading and air data sensors
- Integrates with modern flight systems and displays without separate interface units
- Allows for future upgrades to aircraft systems
- Increased mission effectiveness

CANDIDATE AIRCRAFT APPLICATIONS

- USAF KC-135R, C-130, E-3, E-8 and CN-235
- Integral part of the Rockwell Collins Flight2 Open Architecture System

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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Rockwell Collins delivers smart communication and aviation electronic solutions to customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

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