GENESYS AVIONICS FLIGHT TRAINING SOLUTIONS

Avionics Solutions Tailored For Fixed-Wing & Helicopter Flight Trainer Aircraft

Precise Performance.
Proven Experience.
Personalized Attention.

GENESYS
AEROSYSTEMS
a Moog Company

ADVANCED AVIONICS SOLUTIONS FOR TRAINER AIRCRAFT

The Genesys Avionics Suite™ provides operational improvements to flight training aircraft through a complete and comprehensive flight deck system for fixed-wing and helicopter aircraft.

Features of the Genesys Avionics Suite include:
- PFD and MFD EFIS smart display suite
- Incremental symbology progression from "Basic T" to HUD symbology
- Synthetic Vision and Highway-In-The-Sky flight navigation symbology
- Terrain Awareness & Warning System (TAWS or HTAWS)
- Full EICAS display capability
- Integrated Genesys GDR™ UHF & VFH Nav/Comm radio package
- Fixed-wing S-TEC® Autopilot or helicopter GRC™ Autopilot
- Integrated voice warning master caution system (any language supported)
- MIL-STD qualified
- Civil & MIL-STD NVG compatible
- Open Architecture System Integration Symbology (OASIS™)
- Electronic Training Tool (ETT) for flight planning, training, and debriefing
- Embedded flight recording capability for post flight analysis and training
- MIL-STD 1787B standard symbology for HUD familiarization
- Full aircraft simulator support for all levels of simulators
- Live Virtual Constructive Training (LVCT) support

ADDRESSING THE NEEDS OF THE NEXT GENERATION OF PILOTS

System Components - the following are the system components as part of the trainer aircraft solution:
• EFIS Displays with GPS & ADAHRS
• Autopilot
• UHF & VHF Nav/Comm Radios
• Transponders with ADS-B In/Out
• Sensors & Antennas
• Audio Management
• Control Panels
• Switches & Indicators

Training Specific Capabilities - the Genesys avionics solution includes embedded capabilites that provide for training and briefing sessions. These include an Electronic Training Tool (ETT) for desktop EFIS operation simulation for learning of EFIS functionality. In addition, data recording of flight sessions for post-flight debriefing and analysis.

Open Architecture System Integration Symbology (OASIS™) - Genesys' patented, embedded OASIS software allows EFIS display symbology customization including emulation of different display layouts that student pilots will be transitioning into in follow-on aircraft.

MIL-STD 1787B Symbology - Genesys' EFIS includes MIL-STD 1787B and SAE ARP 4102-7 standard aircraft display symbology to facilitate student pilot training on HUD symbology look and feel (tapes, waterline, velocity vector, etc.) for easy transitioning into HUD equipped aircraft.

Live Virtual Constructive Training (LVCT) - The Genesys solution suite supports Live Virtual Constructive Training to develop realistic virtual threat environment, simulated intercepts, and simulated weapons delivery/management. This facilitates development of instructional plans for future pilot classes to fly existing and future aircraft, equipping new pilots with the necessary skills for successful operational deployment.

AERO VODOCHODY L-39 ALBATROS JET TRAINING AIRCRAFT

Most Successful Subsonic Jet Trainer In The World - The Aero L-39 Albatros is a high-performance jet trainer designed and produced in Czechoslovakia by Aero Vodochody. It is the most widely used jet trainer in the world; in addition to performing basic and advanced pilot training, it has also flown combat missions in a light-attack role. The Genesys Avionics Suite modernizes this jet trainer stalwart for today and tomorrow's operational needs (L-39NG comes standard with Genesys avionics; L-39CW includes factory upgrade of legacy L-39 with Genesys avionics)

Features of the Genesys L-39 avionics suite include:
• PFD and MFD EFIS digital cockpit display suite
• Synthetic Vision and Highway-In-The-Sky flight navigation symbology
• Terrain Awareness & Warning System (TAWS)
• Full EICAS display capability
• Integrated Genesys GDR UHF & VHF Nav/Comm radio package
• Optional fixed-wing S-TEC Autopilot
• MIL-STD qualified
• NVG compatible

GROB G 120TP TRAINING AIRCRAFT

Basic Trainer Aircraft Optimized For The Demanding Military Training Environment - the Grob G 120TP is a basic trainer aircraft optimized for the demanding military training environment. The Genesys Avionics Suite provides the latest state-of-the-art avionics allowing seamless transition to modern training platforms. The primary flight display features tapes display or round dial display unique for this class of trainer aircraft. The aircraft provides for VFR and IFR day and night operations. Available safety features include Traffic Advisory System (TAS), digital Flight Data and Cockpit Voice Recorder (FDR & CVR) and Mission Debriefing System (MDS).

Features of the Genesys G 120TP avionics suite include:
- PFD and MFD EFIS digital cockpit display suite
- Synthetic Vision and Highway-In-The-Sky flight navigation symbology
- Terrain Awareness & Warning System (TAWS)
- Full EICAS display capability
- Integrated Genesys GDR UHF & VHF Nav/Comm radio package
- Optional fixed-wing S-TEC Autopilot
- MIL-STD qualified
- NVG compatible

LEONARDO TH-73A (THRASHER)/TH-119 TRAINER HELICOPTER

ADVANCED TRAINING HELICOPTER - The TH-73A Thrasher is equipped with the Genesys Avionics Suite and is a derivative of the commercial Leonardo TH-119 single-engine Instrument Flight Rules (IFR) approved helicopter. As part of the Advanced Helicopter Training System (AHTS), the TH-73A serves as the IFR approved single-engine training platform for Navy, Marine Corps, and Coast Guard helicopter training.

Features of the Genesys TH-73A avionics suite include:
- PFD and MFD EFIS digital cockpit display suite
- Synthetic Vision and Highway-In-The-Sky flight navigation symbology
- Hover Vector
- Enhanced Helicopter Terrain Awareness & Warning Systems (HTAWS)
- Full EICAS display capability
- Integrated Genesys GDR UHF & VHF Nav/Comm radio package
- Integrated FMS
- NVG compatible
- IFR Approved

PILATUS PC-7 TURBO TRAINER AIRCRAFT

SMART BASIC TRAINER - The Pilatus PC-7 Turbo Trainer is a low-wing tandem-seat training aircraft. The aircraft is capable of all basic training functions, including aerobatics, instrument, tactical, and night flying. It has developed a sizable presence of the global trainer market and has been adopted by more than twenty air forces as their ab initio trainer, as well as multiple civilian operators. The Genesys customizable EFIS smart displays brings modern glass-cockpit functionality to the PC-7 fleet.

Features of the Pilatus PC-7 avionics suite include:
- PFD and MFD EFIS digital cockpit display suite
- Synthetic Vision and Highway-In-The-Sky flight navigation symbology
- Terrain Awareness & Warning System (TAWS)
- Full EICAS display capability
- Integrated Genesys GDR UHF & VHF Nav/Comm radio package
- MIL-STD qualified
- NVG compatible

Trainer Solutions Components

EFIS - Primary & Multi-Function Flight Displays

Genesys' IDU EFIS suites feature a variety of PFD and MFD formats that can be configured to show flight instruments, moving map, HSI, flight planner, traffic, terrain, weather radar, datalink, video, radio/audio management, and engine displays.

FMS - Flight Management System

Genesys' IDU EFIS suites feature a built-in Flight Management System for improved mission effectiveness, enhanced safety, and workload management.

EICAS - Engine Indication & Crew Alerting System

Genesys' patented OASIS (Open Architecture System Integration Symbology) software allows easy customization and display of engine information and CAS messages.

TAWS - Fixed Wing & Rotary Wing

Genesys' IDU EFIS suites feature all classes of fixed wing and helicopter TAWS (Terrain Awareness and Warning System) for enhanced safety and workload management.

SVS - Synthetic Vision & Highway-In-The-Sky

Genesys' 3D Synthetic Vision and Highway-In-The-Sky flight navigation enhances safety and reduces pilot workload plus provides precision aircraft operations including RNP and LPV approaches.

Fixed-Wing Autopilots

S-TEC fixed-wing autopilots are full-featured, attitude-based digital flight control systems that provide dramatic workload reduction and safety enhancements making flying safer and more enjoyable.

Helicopter Autopilots

Genesys' Helicopter Autopilot and Stability Augmentation Systems (GRC) provides the safety and workload reduction benefits of stability augmentation for both VFR and IFR operations in all weather conditions and environments.

Radios - Navigation & Communication

The Genesys Digital Radio (GDR) is a family of remote-mount, software-definable radios combining VOR/localizer/glideslope and marker beacon navigation and VHF communication with a UHF communication option in a single box.

Interfaces

System interfaces are key to the open-architecture design to help dramatically reduce integration costs and schedules. The Genesys Avionics Suite includes all necessary interfaces to get the aircraft up and flying.

Sensors

Sensors provide key aircraft system inputs to help increase aircraft operational performance and reduce integration costs and schedules. The Genesys Avionics Suite includes all necessary sensors to get the aircraft up and flying.

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a Moog Company

+1.817.215.7600
Genesys-Aerosystems.com