

# Publications and Training Solutions

## Course Syllabus: 523-082190813

**COURSE TITLE:** Pro Line Fusion King Air Pilot Training

**PREREQUISITES:** Students should have basic knowledge of aircraft avionics systems, King Air aircraft systems, and instrument flying procedures

**PURPOSE:** This course provides Pilot/Operator personnel with training to operate and perform normal and abnormal flight procedures for the King Air Pro Line Fusion System.

**OBJECTIVES:** Upon completing this course, the student will be able to:

1. Identify the Function/Operation of the Pro Line Fusion Avionics System components for the King Air.
2. Demonstrate the use of the Pro Line Fusion controls for the King Air Avionics System.
3. Operate the Pro Line Fusion Avionics System in accordance with Normal and Abnormal procedures.
4. Perform Instrument Flight procedures using the Pro Line Fusion Avionics System.
5. Identify Abnormal Pro Line Fusion Avionics Operations.

**COURSE LENGTH:** 3 Days

**TRAINING DEVICES:**

1. Pro Line Fusion – King Air FMS Desk Top Trainer
2. Systems Integration Lab, Virtual Avionics Procedure Trainer **OR** Aircraft Cockpit
3. Laptop PC
4. LCD/Box Light projector

**TRAINING MATERIALS:**

1. PowerPoint Presentation with LCD/Box Light projector
2. Student Guide – Flash drive (pdf) – Training Presentation  
Information Sheets
3. Videos
4. Computer Based Training

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**REFERENCES:**

- |   |             |
|---|-------------|
| 1. Pro Line Fusion for King Air Operator's Guide      | 523-0820001 |
| 2. Pro Line Fusion for King Air Quick Reference Guide | 523-0822518 |

**NOTE:** Video elements of training are shown in the syllabus by the designation of "Video". These are used in conjunction with Instructor led training.

**NOTE:** "Demo" and "Perform" designation(s) indicate a demonstration of the topic indicated through the use of one or more of the following:

- Avionics Simulation Software
- Engineering Systems Integration Lab (SIL)
- Physical Aircraft Cockpit

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### COURSE SYLLABUS

#### 1. Welcome & Introductions

- a. Course Overview
  - i. Welcome
  - ii. Student Registration
  - iii. Student Policies and Procedures

#### 2. System Overview (Video)

- a. Pro Line Fusion Components Demo
- b. Displays Demo
- i. Flight Data (ADI, Air Data) Demo & Perform
- ii. Navigation Display (HSI)
- iii. Map Display
- iv. EICAS Display
- v. Checklist Display
- c. Controls Demo & Perform
  - i. Cursor Control Panel (CCP)
  - ii. Multifunction Keyboard Panel (MKP)
  - iii. Flight Guidance Panel (FGP)
- d. Graphical User Interface (GUI) Demo & Perform
  - i. AFD Touchscreen Controls
    - 1. Touch to Select
    - 2. Scroll Function
    - 3. Click & Drag
  - ii. Data Entry Fields
  - iii. Touch Screen Toolbar

#### 3. Operational Philosophy

- a. Quick Access Demo & Perform
- b. Cockpit Autonomy Demo

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### 4. Preflight Operations

- |                              |                |
|------------------------------|----------------|
| a. Power-Up and Engine Start | Explain        |
| b. Video – Communications    | Demo & Perform |
| c. Select NAV Database       | Demo & Perform |
| d. Loading a NAV Database    | Demo           |
| e. Loading Electronic Charts | Demo           |

### 5. Before Taxi (mixed media)

- |  |                |
|--|----------------|
| a. Video – Create a Flight Plan        | Demo & Perform |
| b. Load a Flight Plan                  | Demo & Perform |
| c. Save/Store a Flight Plan            | Demo & Perform |
| d. Delete Stored Flight Plan           | Demo & Perform |
| e. Video - Select an Origin Runway     | Demo & Perform |
| f. Select a Departure (SID)            | Demo & Perform |
| g. Change a Destination Airport        | Demo & Perform |
| h. Enter an Alternate Destination      | Demo & Perform |
| i. Video – Enter Waypoints             | Demo & Perform |
| j. Pilot Defined Waypoints             | Demo & Perform |
| k. Video – Airway Selection            | Demo & Perform |
| l. Route Page Flight Plan Manipulation | Demo & Perform |
| m. BARO Set                            | Demo & Perform |

### 6. Taxi

- |                                     |                |
|-------------------------------------|----------------|
| a. Airport Charts                   | Demo & Perform |
| b. Surface Management System (SVS)  | Demo           |
| c. Vspeed Set-Up                    | Demo & Perform |
| d. Flight Director/Autopilot Set-Up | Demo & Perform |

### 7. Takeoff

- |                                  |                |
|----------------------------------|----------------|
| a. TO Mode                       | Demo & Perform |
| b. Vectors to a Course Intercept | Demo & Perform |
| c. TCAS Operation                | Demo & Perform |

### 8. Climb

- |                                   |                |
|-----------------------------------|----------------|
| a. Adjust Flight Plan Graphically | Demo & Perform |
| b. Change a SID                   | Demo & Perform |

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### 9. Cruise

- a. Editing a Flight Plan Demo & Perform
  - i. Parallel Offset
  - ii. Along-Track Offset
  - iii. Place/Bearing/Distance Waypoint
  - iv. Fix Definition
  - v. Direct-TO Operations
    - 1. Historical Waypoints
    - 2. Nearest Airports

### 10. Descent

- a. Select/Change a STAR Demo & Perform
- b. Select an Approach Demo & Perform
  - i. RNAV Approaches
  - ii. Non-RNAV Approaches
  - iii. Visual Approaches
- c. BARO Set Demo & Perform

### 11. Approach

- a. Start an Approach Demo & Perform
- b. Modifying an Approach Demo & Perform
- c. Flight Guidance (APPR) Demo & Perform

### 12. Go-Around / Missed Approach

- a. Initiating a Go-Around Demo & Perform
- b. Hold Entry Demo & Perform
- c. Hold Exit Demo & Perform
- d. Alternate Destination and Approach Selection Demo & Perform

### 13. Abnormal Operations

- a. Position Selection and Initialization Demo & Perform
- b. Reversion Selection Demo

### 14. VNAV

- a. LEG Attributes Demo & Perform

### 15. Situational Awareness

- a. TCAS Demo & Perform
- b. TAWS Demo & Perform
- c. WXR Demo
- d. SVS Demo & Perform

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### **16.Data Link**

- a. CPDLC Operations

Demo

### **17.Dataloading**

- a. Video - Load Periodic NAV Database

### **18.Summary – Review**

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#### EQUIPMENT TYPE:

EQUIPMENT	NOMENCLATURE	PART NUMBER
Flight Guidance Computer	FGC-3000	822-1108-131/132/147
Flight Guidance Panel	FGP-3000	822-1107-103
Servo	SVO-3000	822-1168-001, -002
VHF Communication Transceiver 8.33kHz	VHF-4000	822-1468-110 822-1468-310 (Datalink)
Communications Management Unit	CMU-4000	822-1739-003
External Compensation Unit	ECU-3000	822-1200-997
HF Transceiver	HF-9031A	822-0101-002
HF Antenna Coupler	HF-9041	622-8114-002
Integrated Card Cage	ICC-3000	822-1129-001
Input/Output Concentrator	IOC-3100	822-1361-620
Configuration Strapping Unit	CSU-3100	822-1363-002
Option Control Module	OCM-3100	822-1484-200
Data Concentrator Unit	DCU-3001	822-1483-102
Remote Data Concentrator	RDC-4002	822-1533-301
Adaptive Flight Display	AFD-3700	822-3065-001
Cursor Control Panel	CCP-3500	822-2754-010
Multifunction Keypad Panel	MKP-3500	822-2568-010
Aircraft Personality Module	APM-5000	822-2195-001
Baro Single Knob Panel	SKP-3500	822-3163-010
Software: Adaptive Flight Display Runtime	AFDR-3700	810-0346-001
Software: Emulated Control Display Unit	ECDA-6000	810-0233-100
Software: Flight Display System Application	FDSA-6500	810-0234-1H0001

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<b>EQUIPMENT</b>	<b>NOMENCLATURE</b>	<b>PART NUMBER</b>
Software: Airframe Parameter Configuration Table	APCT-3700	810-0422-001
Air Data Computer	ADC-3010	822-2083-002/822-1109-026/822-1109-027
Aircraft Configuration Table	ACT-3010	810-0044-009
Attitude Heading Computer	AHC-3000	822-1110-002
Flux Detector Unit	FDU-3000	822-1193-001
External Compensation Unit (FSU)	ECU-3000	822-1200-002
Software: Advanced Terrain Functions	ATF-3500	810-0348-001
Software: Advanced Terrain Functions Table	ATFT-3500	810-0385-1H0001
Tilt Single Knob Panel	SKP-3500	822-3163-020
Weather Radar Receiver Transmitter Antenna	RTA-800 (C90GT) RTA-852	822-1050-004 622-8439-004
Radio Altimeter	ALT-4000	822-0615-206
TCAS Receiver/Transmitter	TTR-4100	822-3075-001
TCAS Directional Antenna	TRE-920	622-8973-001
Diversity Transponder	TDR-94D	622-9210-310/-501
Global Positioning System, SBAS Capable	GPS-4000S	822-2189-010
VOR/ILS/MB/ADF Receiver	NAV-4000	822-1465-001
VOR/ILS/MB Receiver	NAV-4500	822-1579-001
Single ADF Antenna	ANT-462A	622-7383-001
DME Transceiver	DME-4000	822-1466-001
Software: Flight Management System Application	FMSA-6010	810-0163-1H0001
Software: FMS Search and Rescue Key	SARK-3500	810-0387-001
Software: Video Key	VID-3500	810-0392-001
Software: Onboard Maintenance System Application	OMSA-6000	810-0106-250



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<b>EQUIPMENT</b>	<b>NOMENCLATURE</b>	<b>PART NUMBER</b>
Software: Onboard Maintenance System Table	OMST-6000	810-0099-1H0001
Software: Onboard Data Loader Application	ODLA-3500	810-0345-1H0001
Software: File Server Application	FSA-6000	810-0072-302
Software: Data Link Weather Key	DLWX-3500	810-0353-001
Software: Electronic Charts Key	ECH-3500	810-0361-001
Software: Enhanced Map Overlays Key	OVL-3500	810-0360-001
Software: Outboard IFIS Key	FSAX-3500	810-0354-001
Software: Chart Extension Key	CHTX-3500	810-0476-001
XM Weather Receiver	XMWR-1000	822-2031-003
Software: XM Weather Key	XMWK-3500	810-0355-001
Information Management System	IMS-3500	822-299-101
Software: Information Management System Applications	IMSA-3500E	810-0414-001
Software: Information Management System Operating System	IMSOS-3500E	810-0415-001
Software: EICAS Application	EICAS-6000	810-0245-1H0001