

Publications and Training Solutions

Course Syllabus: 523-0816741

COURSE TITLE: Pro Line 21 King Air C90/B200/B350 Premier 1/1A

PREREQUISITES:

1. Students should have basic knowledge of aircraft avionics systems.

PURPOSE:

This course provides line maintenance personnel with the training necessary to operate and maintain the Pro Line 21 Avionics System.

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

1. Identify all Collins Aerospace system and subsystem components and identify their operational characteristics.
2. Describe the system architecture.
3. Identify the typical aircraft system interfaces.
4. Perform fault isolation to a faulty Line Replaceable Unit (LRU).

COURSE LENGTH: 5 Days

TRAINING DEVICES:

1. Not Applicable

TRAINING MATERIALS:

1. Student Guide (Electronic) 523-0816741

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REFERENCES:

1. Beechcraft King Air C90GT/C90GTi/B200GT/B200CGT Avionics System Manual 523-0808533
2. Beechcraft King Air C90GT/C90GTi/B200GT/B200CGT Avionics System Diagnostic Guide 523-0808534
3. Pro Line 21 Avionics System with IFIS for the Beechcraft King Air C90GT/C90GTi/B200GT/ B200CGT Pilot Guide 523-0808535
4. Raytheon King Air with IFIS Avionics System Manual 523-0807237
5. Beechcraft Premier IA Avionics System with IFIS System Manual 523-0807233

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COURSE OUTLINE

0. Welcome & Introductions

- A. Introductions
- B. Policies and Procedures
- C. Course Registration
- D. Course Description
- E. Course Material
- F. Schedule
- G. Course Objectives
- H. Evaluation
- I. Critique

1. Data Buses

- A. Overview
- B. Why Data Buses?
- C. ARINC Data Buses

2. Integrated Avionics Processor (IAPS) Introduction

- A. Overview
- B. System Architecture
- C. Integrated Card Cage (ICC)
- D. Power Supply Module (PWR)
- E. Internal Environmental Controller (IEC)
- F. Input Output Concentrator (IOC)
- G. Maintenance Diagnostic Computer (MDC)
- H. Configuration Strapping Unit (CSU)
- I. Detailed Functional Theory
- J. Maintenance and Troubleshooting

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3. Maintenance Diagnostics

- A. Overview
- B. Maintenance Diagnostic Computer (MDC)

4. Electronic Flight Instrument System (EFIS)

- A. Overview
- B. Adaptive Flight Display (AFD)
- C. Reversionary Mode Select

5. Integrated Flight Information System (IFIS)

- A. Overview
- B. File Server Unit (FSU)
- C. External Compensation Unit (ECU)
- D. File Server Application Software (FSA)
- E. Encrypted Application Key (EAK)
- F. Electronic Charts Region Access Keys
- G. Maintenance and Troubleshooting

6. Engine Indicating System (EIS)

- A. Overview
- B. Data Concentrator Unit (DCU)
- C. Engine Data Concentrator Unit (EDC)
- D. Maintenance and Troubleshooting

7. Air Data System (ADS)

- A. Overview
- B. Air Data Computer (ADC)
- C. Maintenance and Troubleshooting

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8. Attitude Heading System (AHS)

- A. Overview
- B. Attitude Heading Computer (AHC)
- C. Flux Detector Unit (FDU)
- D. External Compensation Unit (ECU)
- E. Maintenance and Troubleshooting

9. Flight Guidance System (FGS)

- A. Overview
- B. Flight Guidance Computers (FGC)
- C. Flight Guidance Panel (FGP)
- D. Primary Servos (SVO)
- E. Autopilot and Yaw Damp Theory of Operation
- F. Autopilot Diagnostics

10. Flight Management System (FMS)

- A. Overview
- B. Flight Management Computer (FMC)
- C. Control Display Unit (CDU)
- D. Data Base Unit (DBU)

11. Data Loading

- A. Overview
- B. Data Base Unit (DBU)
- C. Dataloading Process
- D. Dataloading Faults and Failures

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12. Radio Sensor System (RSS)

- A. Overview
- B. GPS
- C. VOR/ILS/MB/ADF Receiver (NAV)
- D. Distance Measuring Equipment (DME)
- E. VHF Comm. Receiver/Transmitter (VHF)
- F. Mode S Transponder (TDR-94)
- G. Traffic Collision Avoidance System (TCAS)
- H. High Frequency (HF) Radio
- I. Radio Altimeter (ALT)
- J. Radio Tuning Operations
- K. General Maintenance Procedures for Comm /Nav /Pulse Equipment

13. Weather Radar System (WXR)

- A. Overview
- B. AC 20-68B Microwave Radiation Hazards
- C. Weather Radar Theory
- D. Receiver Transmitter Assembly (RTA-8xx)
- E. Maintenance

14. Optional Equipment

- A. Overview
- B. Theory of Operation
- C. IFIS, Data Link Weather, WAAS

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15. SVS

- A. Overview
- B. Theory of Operation

16. ADS-B

- A. Overview
- B. Theory of Operation

99. Summary

- A. Summary
- B. Questions

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EQUIPMENT TYPE:

EQUIPMENT	NOMENCLATURE	PART NUMBER
Air Data Computer	ADC-3000	822-1109-013
Air Data Computer	ADC-3010	822-2083-001
Adaptive Flight Display	AFD-3000	822-1084-960
Adaptive Flight Display	AFD-3010	822-1084-358
Adaptive Flight Display	AFD-3010E	822-1753-358
Attitude Heading Computer	AHC-3000	822-1110-951
Radio Altimeter	ALT-4000	822-0615-002
ADF Antenna	ANT-462A	622-7383-001
Control Display Unit	CDU-3000	822-0884-120
Communication Management Unit	CMU-4000	822-1739-003
Configuration Strapping Unit	CSU-3100	822-1363-001
Configuration Strapping Unit	CSU-3100	822-1363-002
Data Base Unit	DBU-5000	815-8671-001
Data Base Unit	DBU-5000	822-2215-001
Data Base Unit	DBU-5000	822-2215-201
Display Control Panel	DCP-3030	822-1828-012
Data Concentrator Unit	DCU-3001	822-1483-102
Data Concentrator Unit	DCU-3001	822-1483-250
Distance Measuring Equipment	DME-4000	822-1466-001

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EQUIPMENT	NOMENCLATURE	PART NUMBER
External Compensation Unit	ECU-3000	822-1200-204
Flux Detector Unit	FDU-3000	822-1193-001
Flight Guidance Computer	FGC-3000	822-1108-132
Flight Guidance Computer	FGC-3000	822-1108-222
Flight Guidance Panel	FGP-3000	822-1107-136
Flight Management Computer	FMC-3000	822-0883-007
Flight Management Computer	FMC-3000	822-0883-053
Flight Management Computer	FMC-3000	822-0883-054
File Server Application	FSA-5000	810-0001-009
File Server Application	FSA-5000	810-0001-109
File Server Unit	FSU-5010	822-1543-001
Global Positioning System	GPS-4000	822-0931-003
Global Positioning System	GPS-4000S	822-2189-001
High Frequency Radio	HF-9031	622-8125-002
High Frequency Radio	HF-9041	685-0350-002
IAPS Environmental Controller	IEC-3001	822-1167-001
IAPS I/O Concentrator	IOC-3100	822-1361-613
Maintenance Diagnostic Tables	MDT-3110	810-0042-012
Navigation Radio	NAV-4000	822-1465-101
Navigation Radio	NAV-4500	822-1579-101

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EQUIPMENT	NOMENCLATURE	PART NUMBER
Radar Transceiver	RTA-852	622-8439-011
Radio Tuning Unit	RTU-4200	822-0668-032
Radio Tuning Unit	RTU-4220	822-0730-111
Servo Mount	SMT-65	622-5735-101
Servo	SVO-3000	822-1168-032
Transponder	TDR-94	622-9352-207
Transponder	TDR-94D	622-9210-309
VHF Radio	VHF-4000	822-1468-110
VHF Radio	VHF-4000	822-1468-201
VHF Radio	VHF-4000	822-1468-310
VHF Radio	VHF-4000E	822-1872-110
XM Weather Receiver	XMWR-1000	822-2031-001