

Publications and Training Solutions

Course Syllabus: 523-0817473

COURSE TITLE: Bombardier Global Vision 5000/5500/6000/6500
Level I Flightline Maintenance

PREREQUISITES:

Students should have basic knowledge of aircraft avionics systems and a working command of the English language (interpreters are available for special cases).

PURPOSE:

This course provides line maintenance personnel with training to operate and perform flightline maintenance for the Global 5000/6000 aircraft. This course is designed to teach troubleshooting for Line Replaceable Unit (LRU) replacement and does not include internal maintenance of any component.

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

Have an overall understanding of Pro Line Fusion Avionics principles and operation.
Identify system components and the functional/operational characteristics of each Line Replaceable Unit (LRU)/Line Replaceable Module (LRM).
Identify typical aircraft system interface/system architecture.
Perform fault isolation to a faulty LRU using built-in test diagnostics.

COURSE LENGTH: 5 Days

TRAINING DEVICES:

Global 5000/6000 Aircraft (if available)
Global 5000/6000 Test Rig, Cedar Rapids (if available)

TRAINING MATERIALS:

PowerPoint Presentation with LCD Projector
Student Training Manual
Information Handouts

Publications and Training Solutions

Course Syllabus: 523-0817473

REFERENCES:

Title	CPN	Edition	Revision	Date
Bombardier Global Vision 5000/5500/6000/6500 Avionics System Avionics System Manual	523-0808928	6	1	2/16/2023
Bombardier Global Vision 5000/5500/6000/6500 Pro Line Fusion Avionics System® Pilot Guide	523-0808930	8	0	7/25/2022
Bombardier Global Vision 5000/5500/6000/ 6500 Pro Line Fusion® Avionics System Diagnostic Guide	523-0808929	7	0	7/25/2022

Publications and Training Solutions

Course Syllabus: 523-0817473

COURSE OUTLINE

0. Welcome & Introductions

- A. Introductions
- B. Registration
- C. Course Description
- D. Course Objectives
- E. Course Outline
- F. Course Critique
- G. Publications
- H. Summary

1. Display and Display Control System (D&DCS)

- A. Overview
 - i. Adaptive Flight Displays (AFD)
 - ii. Control Tuning Panel (CTP)
 - iii. Cursor Control Panel (CCP)
 - iv. Multifunction Keyboard Panel (MKP)
 - v. Reversion Switch Panel (RSP)
- B. Equipment Location
- C. Equipment Description
 - i. Adaptive Flight Displays (AFD)
 - ii. Control Tuning Panel (CTP)
 - iii. Cursor Control Panel (CCP)
 - iv. Multifunction Keyboard Panel (MKP)
 - v. Reversion Switch Panel (RSP)
- D. Display Formats
- E. Display Reversion

Publications and Training Solutions

Course Syllabus: 523-0817473

F. Comparators/Failures

G. AFD Theory

H. Summary

2. Integrated Processing System (IPS)

A. Overview

- i. Integrated Processing Cabinet and installed modules
- ii. Installed application software

B. Global 5000/6000 Locations

C. Integrated Processing System

i. IPC-6210

- 1. Cover Environmental Module
- 2. Power Environmental Module
- 3. Digital Switching Module
- 4. Common Computing Module

ii. IPC-6220

- 1. Cover Environmental Module
- 2. Power Environmental Module
- 3. Digital Switching Module
- 4. Common Computing Module
- 5. TAWS Processing Module
- 6. Synthetic Vision Module

D. Installed application software

E. IPS Theory

3. Data Concentration System (DCS)

A. Overview

- i. Data Concentrator Unit Module Cabinet (DMC)
- ii. Aircraft Personality Module
- iii. Installed software applications
- iv. Engine Indicating Crew Alerting System (EICAS)
- v. Stall Protection System (SPS)

B. Data Concentrator Unit Module Cabinet (DMC)

Publications and Training Solutions

Course Syllabus: 523-0817473

- i. DMC Cover and Environmental Module (CEM-6000)
- ii. Data Concentrator Module (DCM-6000)
- iii. Data Concentrator Power Producing Module (PPM-6000)
- iv. Data Concentrator Input/Output Module (IOM-6000)
- v. Data Concentrator Input/Output Module (IOM-6500)
- vi. Aircraft Personality Module (APM-5000)

C. Data Concentrator System

- i. Crew Alerting System (CAS)
- ii. Electronic Checklist
- iii. Aural Alerting
- iv. Data Acquisition and Distribution

D. EICAS

- i. Engine Indicating System

E. System Synoptics

F. DCS Theory

G. Summary

4. Data Loading

A. Overview

- i. Information Management System
- ii. IMS-6000
- iii. Terminology

B. Data Load Architecture

C. Data Load Procedures

- i. Load New Databases
- ii. Load New Documents & Tables
- iii. Load/Update IMA Aircraft Software Set

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Course Syllabus: 523-0817473

- iv. Load New/Misconfigured LRU Item
- v. Reload LRU/LRM
- vi. Load ARINC 429 LRUs

D. Data Loading Theory

E. Summary

5. Onboard Maintenance System (OMS)

A. Overview

- i. Onboard diagnostics
- ii. Aircraft Condition Monitoring
- iii. Diagnostic downloads

B. Maintenance Main Menu

- i. View Flight Deck Effects
- ii. View Fault Messages
- iii. View Service Messages
- iv. View System Exceedances
- v. View System Trends

C. OMS Theory

D. Summary

6. Heads-Up Display & Enhanced Vision System (HUD & EVS)

A. Overview

B. HUD Overview

C. HUD Components

D. HUD Control

E. HUD Display

F. HUD Monitor Application (HMA)

G. HUD Display Application (HDA)

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Course Syllabus: 523-0817473

- H. HUD Troubleshooting
- I. EVS Overview
- J. EVS Components
- K. EVS Control
- L. EVS Alignment
- M. EVS/HUD Troubleshooting
- N. EVS/HUD Theory

7. Synthetic Vision System (SVS)

- A. Overview
- B. SVS Overview
- C. SVS Components
- D. SVS Display
- E. SVS Controls
- F. SVS Theory

8. Air Data System (ADS)

- A. Overview
- B. Air Data Computer
- C. ADC Locations
- D. ADS Displays
- E. ADS Controls
- F. Reversionary Mode
- G. Indications & Warnings
- H. ADC Data Loading
- I. ADS Theory
- J. Summary

Publications and Training Solutions

Course Syllabus: 523-0817473

9. Attitude Heading System (AHS)

- A. Overview
- B. Displays and Indications
- C. Reversionary modes
- D. AHS Theory
- E. Summary

10. Integrated Flight Information System (IFIS)

- A. Overview
- B. IFIS Overview
- C. Electronic Charts
- D. Enhanced Map Overlays
- E. Graphical Weather
- F. Subscriptions
- G. IFIS Theory
- H. Summary

11. Automatic Flight Control System (AFCS)

- A. Overview
- B. Global 5000/6000 Locations
- C. Flight Control Panel
- D. Remote Electronics Unit
- E. Servos
- F. Yaw Damper Actuator
- G. Reversion Switch Panel
- H. AFCS Theory
- I. Summary

Publications and Training Solutions

Course Syllabus: 523-0817473

12. Flight Management System (FMS)

- A. Overview
- B. FMS Overview
- C. FMS Controls
- D. Display Operations
- E. Fault Indications
- F. FMS Theory
- G. Summary

13. Communication System (COMM)

- A. Overview
- B. Digital Audio System
- C. Radio Management
- D. Global 5000/6000 Locations
- E. VHF-4000
- F. Controller Pilot Data Link Communication (CPDLC)
- G. HF-9000
- H. Communication Theory
- I. Summary

14. Navigation Systems (NAV)

- A. Overview
- B. NAV-4000
- C. Global 5000/6000 Locations
- D. DME-4000
- E. GPS-4000
- F. Radio Altimeter-4000
- G. Navigation Theory

Publications and Training Solutions

Course Syllabus: 523-0817473

H. Summary

15. Traffic Surveillance System & Terrain Awareness Warning System (TSS & TAWS)

A. Overview

B. Traffic Surveillance System (TSS)

- i. TSS-4100
- ii. Global 5000/6000 Locations
- iii. TSS Controls
- iv. TSS Troubleshooting
- v. TSS CAS Messages
- vi. TSS Theory

C. Terrain Awareness Warning System (TAWS)

- i. CCM-6210
- ii. TPM-6000
- iii. TAWS Software
- iv. TAWS CAS Messages

D. Summary

16. MultiScan™ Weather Radar System (WXR)

A. Receiver Transmitter Assembly (RTA)

B. Weather Radar Fundamentals

C. MultiScan™ Theory

D. Operation

E. WXR Fault Indications

F. Hazard Area

G. Summary

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Course Syllabus: 523-0817473

17. Course Summary

- A. Summary
- B. Final Exam
- C. Course critique

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Course Syllabus: 523-0817473

EQUIPMENT TYPE:

EQUIPMENT	NOMENCLATURE	PART NUMBER
AFD-6520	Adaptive Flight Display	822-2332-100
CMA-2700-WIN	EVS Infrared Window (IRW)	1500-3190-001
CMA-2700	EVS Sensor	1500-3180-002
CMA-2700-AIT	EVS Aircraft Identification Tag (AIT)	1500-3200-001
SVM-6110H	SVS Module with integrated HUD	822-2539-001
SVM-6110	SVS Module (Optional)	822-2323-001
ADC-3020	Air Data Computer	822-2504-001
ACT-3020	Aircraft Configuration Table, Generic	810-0071-102
ACP-4120	Audio Control Panel (Base+VHF+HF1/2+SAT+ADF1/2)	822-1950-503
RIU-4110	Radio Interface Unit (SELCAL)	822-1864-171
RIU-4010	Radio Interface Unit (SELCAL, Data Link)	822-1863-171
ECU-3000	External Compensation Unit, unprogrammed	822-1200-997
VHF-4000	VHF Comm Transceiver - 8.33kHz, DataLink	822-1468-302
VHF-4000	VHF Comm Transceiver - 8.33kHz	822-1468-102
VHFA-4000	VHF Comm Antenna	822-2778-010

Publications and Training Solutions

Course Syllabus: 523-0817473

EQUIPMENT	NOMENCLATURE	PART NUMBER
HF-9031A	HF Transceiver	822-0101-002
HF-9041	HF Antenna Coupler	685-0350-002
NAV-4000	VOR/ILS/MB/ADF Receiver	822-1465-101
ANT-462B	Dual ADF Antenna	622-7384-001
DME-4000	DME Transceiver	822-1466-001
GPS-4000S	Global Positioning System, SBAS Capable	822-2189-003
ALT-4000	Radio Altimeter	822-0615-207
RTA-4118	MultiScan™ Weather Radar, 18"	822-2256-001
TSS-4100	TCAS and Transponder Unit	822-2132-001
TSSA-4100	TSS TCAS & Transponder Software Application	810-0052-003
TSA-4100	Directional Antenna For TSS	866-0016-001
ECU-3000	External Compensation Unit - TDR, TCAS, Ext Sqtr	822-1200-803
TDR-94D	Diversity Transponder, ADS-B & EHS	622-9210-410
CCM-6210	Common Computing Module with Mass Storage	822-2192-001
CCM-5110	Common Computing Module	822-1991-002
TPM-6000	TAWS Processing Module	822-2586-001

Publications and Training Solutions

Course Syllabus: 523-0817473

EQUIPMENT	NOMENCLATURE	PART NUMBER
TPMA-6000	Terrain Processing Module Application	810-0088-001
CTP-6000	Control Tuning Panel	822-2493-001
CCP-6000	Cursor Control Panel	822-2831-001
MKP-6000	Multifunction Keyboard Panel	822-2471-001
RSP-6200	Reversion Switch Panel	822-2335-002
IPC-6210	Integrated Processing Cabinet, Common Computing	822-2404-001
CEM-6210	Cover and Environmental Module	822-2405-001
PEM-6210	Power Environment Module, DC Power	822-2352-001
DSM-5110	Digital Switching Module (24 Port AFDX Switch)	822-2133-001
IPC-6220	Integrated Processing Cabinet, Situational Awareness	822-2142-001
CEM-6220	Cover and Environmental Module	822-2406-001
OMST-6000	Onboard Maintenance System Table	810-0099-1B0005
FCP-5120	Flight Control Panel	822-2468-001
SVO-5000	Primary Servo	822-2136-001
SMT-5001	Dual Servo Mount	822-2431-003

Publications and Training Solutions

Course Syllabus: 523-0817473

EQUIPMENT	NOMENCLATURE	PART NUMBER
REU-6000	Remote Electronics Unit	822-2461-001
FSA-6000	File Server Application	810-0072-001
ECH-6200	Electronic Charts Application Key	810-0137-001
OVL-6200	Enhanced Map Overlay Application Key	810-0134-001
IMS-6000	Information Management System	822-2327-001
DMC-6000	DCU Module Cabinet	822-2403-101
CEM-6000	DMC Cover and Environmental Module	822-2401-001
DCM-6000	Data Concentrator Module	822-2394-002
PPM-6000	Data Concentrator Power Producing Module	822-2395-002
IOM-6000	Data Concentrator Input / Output Module	822-2396-002
IOM-6500	Data Concentrator Input / Output Module	822-2397-001
APM-5000	Aircraft Personality Module	822-2195-001
OMSA-6000	Onboard Maintenance System Application	810-0106-001
XMWR-1000	XM Weather Receiver	822-2031-002
GWX-3000	XM Graphical Weather Key	810-0007-001

Publications and Training Solutions

Course Syllabus: 523-0817473

EQUIPMENT	NOMENCLATURE	PART NUMBER
GWX-3001	XM Graphical Weather Key, Expanded Features	810-0058-001
GWX-3002	XM Graphical Weather Key, Growth Features	810-0142-001