

**COURSE TITLE:**

Bombardier Challenger 604 Pro Line Fusion Maintenance.

Level 1 Flight Line Maintenance

**TARGET AUDIENCE:**

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

**DESCRIPTION:**

This course provides line maintenance personnel with training to operate and perform flightline maintenance for the Bombardier Challenger 604. This course is designed to teach troubleshooting for Line Replaceable Unit (LRU) replacement and does not include internal maintenance of any component.

**OBJECTIVES:**

1. Identify all Collins Aerospace system components and identify their operational characteristics.
2. Understand the features and theory of operation of all Collins Aerospace systems.
3. Understand and use the Fault Isolation Publication
4. Use the Install Manual to troubleshoot aircraft avionic systems

**COURSE LENGTH:**

5 Days

**TRAINING DEVICES:**

1. Challenger 604 Pro Line Fusion Aircraft (if available)
2. Engineering Test Rig, Cedar Rapids (if available)

# Publications, Training, and Logistics Services

## TRAINING MATERIALS:

1. PowerPoint Presentation with LCD Projector
2. Student Training Manual
3. Information Handouts

## REFERENCES:

Document Name	Part Number	Edition	Revision	Date
Bombardier Challenger 604 Pro Line Fusion Install Manual	523-0825301	3	0	7/1/2020
Bombardier Challenger 604 Pro Line Fusion Fault Isolation Publication	523-0825300	1	0	7/17/2019
Bombardier Challenger 604 Pro Line Fusion Operators Guide	523-0825299	2	0	3/3/2020
Bombardier Challenger 604 Pro Line Fusion FMS Guide	523-0829545	1	0	7/13/2020

## 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. System Overview

- A. Introduction
- B. Flight Deck Layout

### 2. Adaptive Flight Display (AFD)

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- A. Introduction
- B. Theory of Operation
- C. Graphical User Interface (GUI)
- D. Primary Flight Display (PFD)
- E. Multifunction Display (MFD)
- F. Reversion
- G. Care and Cleaning

## **3. Cursor Control Panel (CCP)/Multifunction Control Panel (MKP)**

- A. Introduction
- B. Cursor Control Panel (CCP)
- C. Multifunction Keyboard Panel (MKP)

## **4. Maintenance Diagnostics & Troubleshooting**

- A. Using the Fault Isolation Publication
- B. Onboard Maintenance System (OMS)
- C. Flight Guidance System Diagnostics

## **5. Integrated Avionics Processing System (IAPS)**

- A. Introduction
- B. ICC-4007 Card Cage
- C. LHP4000/LHP4001 HIRF Protection
- D. PWR-4000 Power Supply
- E. IEC Environmental Controller
- F. IOC-4000 Input/Output Concentrator
- G. CSU-4100 Configuration Strapping Unit
- H. OCM-4000 Options Control Module
- I. Maintenance and Troubleshooting Indications

## **6. Integrated Flight Information System (IFIS)**

- A. Introduction
- B. Data Link Graphical Weather
- C. XM Graphical Weather

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D. Electronic Charts

E. Enhanced Maps

## **7. Automatic Flight Control System (AFCS)**

A. Introduction

B. System Operation

C. Flight Guidance Diagnostics

## **8. Dataloading**

A. Introduction

B. Data Load Process

C. Application License Manager

D. Periodic Software Loads (Databases)

E. System Software Loads (Displays)

## **9. Communication, Navigation and Surveillance Radios (CNS)**

A. Introduction

B. VHF Radios

C. HF Radios

D. Satellite Communication

E. Datalink

F. Navigation Radios

G. Radio Tuning Unit

H. Transponder and TCAS

## **10. Flight Management System (FMS)**

A. Introduction

B. System Setup

C. Flight Planning

## **11. Summary**

A. Course Summary

B. Course Critique

## Publications, Training, and Logistics Services

### EQUIPMENT TYPE:

Equipment	Nomenclature	Part Number
ADC-850E	Air Data Computer	822-0842-421
ADF-462	Automatic Direction Finder	622-7382-101
AFD-3700	Adaptive Flight Display	822-3065-001
AIS-ACPDV	Avtech Audio Control Panel, Dual VHF	856-0073-020
ALT-55B	Radio Altimeter	622-2855-011
ANT-462B	ADF Antenna, Dual	622-7384-001
APM-5000	Aircraft Personality Module	822-2195-001
CCP-3500	Cursor Control Panel	822-2754-010
CMU-4000	Communications Management Unit	822-1739-704
CSU-4100	Configuration Strapping Unit	822-1364-002
DCU-4002	Data Concentrator Unit	822-0179-017
DME-442	Distance Measuring Equipment	622-7309-101
ECU-3000	External Compensation Unit - CMU/RIU	822-1200-996
ERU-4000	EICAS Routing Unit	822-0845-001
FCC-4006	Flight Control Computer	822-0809-810
FCP-4003	Flight Control Panel	822-0182-001
GPS-4000S	Global Positioning System, SBAS	822-2189-100
HF-9031A	HF Receiver/Transmitter	822-0101-002
HF-9041	HF Antenna Coupler	685-0350-002
ICC-4007	Integrated Card Cage	822-0781-001
IEC-4000	IAPS Environmental Controller	822-0288-001
IOC-4100	Input/Output Concentrator	822-1362-710
LDU-4000	Lamp Driver Unit	622-9822-001

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LHP-4000	Lightning HIRF Protector (Left)	822-0287-702
LHP-4001	Lightning HIRF Protector (Right)	822-0332-702
MKP-3500	Multifunction Keypad	822-2568-010
MT-9030B	HF Radio Mount	822-0594-001
OCM-4100	Option Control Module	822-1463-200
PWR-4000	Power Supply	622-9945-021
RAC-870	Radio Altimeter Converter	622-7209-002
RTA-854	Weather Radar: Receiver, Transmitter, Antenna	622-8440-003
SKP-3500	Single Knob Panel, Baro	822-3163-010
SMT-87A	Servo Mount	822-0259-001
SMT-87B	Servo Mount	822-0260-001
SSM-4000	Servo Switching Module	822-0782-001
SVL-4000	Servo, Linear Actuator	622-9968-002
SVO-85A	Primary Servo	622-4404-101
SVO-85B	Primary Servo	622-5027-101
TDR-94D	Diversity Mode S Transponder, ADS-B Out	622-9210-501
TRE-920	TCAS Directional Antenna	622-8973-001
TTR-921	TCAS Transmitter / Receiver	822-1293-033
VHF-4000	VHF Comm Transceiver - 8.33kHz, Data Link	822-1468-390
VHF-422C	VHF Comm Transceiver	822-1115-001
VIR-432	VHF Navigation Receiver	622-7194-201