Publications and Training Solutions
Course Syllabus: 523-0809384

COURSE TITLE: Pro Line 21™ – Falcon 20/50 Retrofit Operator/Pilot Training

PREREQUISITES:

Students should have a basic knowledge of aircraft avionics systems and a working command of the English language. Students should be familiar with MS Windows® based Operating Systems.

PURPOSE:

This course provides training to familiarize pilots with the functionality of the Flacon 20/50 Pro Line 21™ system.

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

1. Identify Pro Line 21 component operational characteristics.
2. Perform Pro Line 21 Primary Flight Display (PFD) operational procedures.
3. Identify Integrated Flight Information System (IFIS) operational characteristics.
4. Identify Radio operational characteristics.
5. Identify Weather Radar (WXR) operational characteristics.
6. Perform WXR operational procedures on the PFD.
7. Identify the description, operation, and theory of operation of the Flight Management System (FMS).

COURSE LENGTH: 5 Hours

REFERENCES:

1. Pro Line 21 Continuum Avionics System For the Falcon 20/50 Operator's Guide 523-0780758
2. Falcon 50EX/2000/2000EX Pro Line 21 Major Retrofit Avionics System Manual 523-0816974

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COURSE OUTLINE

0. Welcome & Introductions

A. Welcome to Rockwell Collins e-Learning

1. Primary Flight Display (PFD)

A. Introduction

B. PFD Familiarization

i. Operation

ii. Theory of Operation

C. Display Control Panel (DCP) Familiarization

i. Operation

ii. Theory of Operation

D. Summary/Test

E. Navigation/Bearing (NAV)/(BRG) Operation Procedures (Guided Practice / Assessment)

i. Select a Navigation Source

ii. Select a Bearing Source

2. Multi-Function Display (MFD)

A. Introduction

B. MFD Familiarization

i. Operation

ii. Theory of Operation

C. DCP Familiarization

i. Operation

ii. Theory of Operation

D. Summary/Test

3. Integrated Flight Information System (IFIS)

A. Introduction to IFIS-5000

i. Key Performance Features

ii. Preconditions

B. IFIS Line Replaceable Unit (LRU) Descriptions

i. File Server Unit (FSU)

ii. Adaptive Flight Display (AFD)

iii. Cursor Control Panel (CCP)

iv. External Compensation Unit (ECU)

v. XM Weather Receiver (XMWR) and Antenna

C. IFIS Operations

i. CCP Controls and Functions

D. IFIS Theory of Operation

E. Summary/Test

4. Radio Sensor System (RSS)

A. Introduction

B. Tuning Description

i. Control Display Unit (CDU)

ii. COMM/NAV Tune Unit (CTL-23D)

C. CDU Familiarization

i. Operation

D. RSS Theory of Operation

E. Summary/Test

5. Weather Radar System (WXR)

A. Introduction

B. How Radar Works

i. Factors

ii. Thunderstorms

iii. Reflection

iv. Calibrated Gain

C. WXR Description

i. Receiver/Transmitter Antenna (RTA)

ii. Display Control Panel (DCP)

1. DCP Controls

D. Turbulence WXR Theory of Operation

E. Summary/Test

F. Weather Radar Mode Operation (Guided Practice / Assessment)

i. Initiate Weather Radar Moe

ii. Set Receiver Gain

iii. Turn off Sector Scan

iv. Initiate Antenna Stabilization

v. Turn off Target Mode

G. Weather Radar Range / Weather Radar Manual Tilt and Auto Tilt Operations (Guided Practice / Assessment)

i. Change the Display Map Range

ii. Change the Weather Radar Tilt

iii. Enable the Weather Radar Autotilt

6. Flight Management System (FMS)

A. Overview (Video)

B. Introduction

C. FMS Familiarization

i. CDU Operation

ii. FMS Theory of Operation

iii. Summary/Test

D. Preflight (Video)

E. FMS Power-Up Initialization Procedures (Guided Practice / Assessment)
    i. CDU Power-Up Page
    ii. Check for a Current NAV Database
    iii. Swap the Current and Second NAV Database
    iv. Synchronize FMS1 and FMS2
    v. Initialize the FMS Position

F. Build a Flight Plan Procedures (Guided Practice / Assessment)
    i. Enter the Departure Airport
    ii. Enter the Destination Airport
    iii. Enter an Alternate Airport
    iv. Enter a Waypoint
    v. Enter an Airway
    vi. Delete a Flight Plan Discontinuity
    vii. Enter a Delete Command
    viii. Enter the Departure Runway
    ix. Enter the Standard Instrument Departure (SID)
    x. Enter the Destination Approach & Transition
    xi. View the Flight Plan on the Plan Map
    xii. View (other) Airport Data

G. Vertical Navigation (Video)

H. Approaches (Video)

I. Save and Load a Flight Plan Procedures (Guided Practice / Assessment)
    i. Save a Flight Plan to a Pilot Route List
    ii. Copy the Active Flight Plan to the Second Flight Plan
    iii. Activate the Second Flight Plan

J. Uploading Performance Data Procedures (Guided Practice / Assessment)

i. Enter the Cruise Altitude

ii. Enter the Passenger Weight

iii. Enter the Cargo Weight

iv. Check the Total Fuel Onboard

K. Enroute Procedures (Guided Practice / Assessment)

i. View the Legs Page

ii. Delete a Flight Plan Discontinuity

iii. Enter a Hold

iv. Modify a Hold

v. Insert a Direct-TO Waypoint

vi. Insert a Radial Intercept from a Heading Leg

vii. Insert a Radial & Distance Waypoint

viii. Insert an Off Airway Waypoint

L. Missed Approach Procedures (Guided Practice / Assessment)

i. View the Missed Approach

ii. Sequence to the Missed Approach

iii. Sequence to the Alternate

7. Summary/Test

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EQUIPMENT TYPE:

EQUIPMENT	NOMENCLATURE	PART NUMBER
Adaptive Flight Display	AFD-3010	822-1084-414
Adaptive Flight Display	AFD-3010E	822-1753-414
Display Control Panel	DCP-3000	822-1134-202
File Server Unit	FSU-5010	822-1543-101
Cursor Control Panel	CCP-3000	822-1746-002
External Compensation Unit	ECU-3000	822-1200-997 / 998
XM Weather Receiver	XMWR-1000	822-2031-002
XM Weather Antenna	XMA-1000	822-2030-001
Communications Management Unit	CMU-4000	822-1739-003
Software: XM Graphical Weather	GWX-3000	810-0007-001
Software: Universal Graphical Weather	GWX-5000	810-0004-001
Software: Collins Portable Access Software	CPAS-3000	810-0032-003
Control Display Unit	CDU-6100	822-1354-102 / 104
COMM/NAV Tune Unit	CTL-23D	822-2177-001 / 003 / 007
Receiver/Transmitter Antenna	RTA-858	622-8441-004