

# ABX Air Aircraft Quick Access Recorder (QAR) Removal/Replacement of Compact Flash Card and Data Uploading

## DESCRIPTION

The aircraft QAR records flight data on a Compact Flash Card (CFC). Flight data recorded on the CFC is used to support the ABX Flight Operational Quality Assurance Program (FOQA). The FOQA program is a flight safety program that analyzes data generated during flight operations. Analysis of the data contributes to improved safety and efficiency of aircraft operations. The aim of the program is to improve safety, evaluate and enhance training practices, revise operating procedures, evaluate performance, assist aircraft maintenance and engineering, and improve maintenance efficiency. Successful and timely uploading of the data on a regular basis is required to support the safety program.

## GENERAL PROCESS AND PROCEDURE

1. This document and referenced documents can be found on the [ABXTranet](#) in [ABX Quick Access Recorder \(QAR\) Procedures](#)
2. The QAR CFC is to be removed, replaced and data uploaded at Service Check intervals.
3. The CFCs are serialized so cards can be identified if problems are noted or CFC tracking is required.
4. The data on the CFCs is uploaded to Flight Data Services (FDS) for analysis through the Polaris Transfer Program. ABX Stations at LGG, CVG, MIA, LAX, & ILN have the Polaris Transfer Program available.
5. If sending CFCs to ABX Engineering for uploading, send to ABX Engineering ILN/2061R. Tag CFC with aircraft number.
6. When the data is uploaded through the Polaris Transfer Program the data is cleared and the CFC is formatted for reuse and returned to stock.
7. If a CFC is removed from an aircraft and found not to contain data, additional troubleshooting is required. The card may be defective; there may be a problem with the aircraft and/or a problem with the installed QAR.
8. Procedures for using the Polaris Transfer program can be found in the [Flight Data Services Polaris Transfer Software Installation & User Manual](#) located on the ABXTranet.
9. When the recorded flight data is uploaded it is matched with ABX logbook data. Data is analyzed and feedback provided to the ABX Safety Program.

## PRECAUTIONS, DO's and DON'Ts

1. DO NOT remove or replace a CFC with power applied to the QAR. Removing or inserting a CFC with power applied will corrupt the data on the CFC.
2. All CFCs are serialized. If a CFC is found without a serial number, use the [Compact Flash Serial Number](#) spreadsheet on the ABXTranet to obtain a serial number and apply the number to the card.
3. The CFCs are formatted with a proprietary formatting that cannot be read or seen by Microsoft Windows. DO NOT attempt to read or format the card through Microsoft Windows.
4. If the formatting of the CFC is suspect it can be reformatted by running the card through the Polaris Transfer program and formatting for a L3 QAR. See [Flight Data Services Polaris Transfer Software Installation & User Manual](#)
5. Use of the Polaris Transfer Program requires the User to have ADMIN rights on the computer. Contact ATSG I.S. through your management to obtain ADMIN rights if needed.
6. Prior to use of the Polaris Transfer Program the ATSG Proxy Server setting must be changed if the Polaris Transfer Program is used through the ATSG Network. This also requires ADMIN User rights. See [Changing Proxy Server Setting Prior to Using Polaris Transfer Program](#)
7. When the CFCs are uploaded through the Polaris Transfer Program complete the [ABX QAR Compact Flash Log](#). This log is used to assist with troubleshooting CFCs, aircraft, and/or QARs.

8. The CFCs are to be uploaded within 1 day after removal from the aircraft. Timely data uploading and data analysis is required in order to support the safety program.
9. If CFCs are found damaged the CFC should be tagged as damaged and returned to ABX Materials Management for replacement.
10. Industrial type CFCs are being introduced into the ABX system. This will be the new standard moving forward as CFCs are replaced on attrition.
11. The installed QAR S/N is matched to the aircraft registration number through the Flight Data Services system. If a QAR is replaced Flight Data Service must be notified of the new installed QAR S/N.

## **TROUBLESHOOTING**

1. Use of the ABX QAR Compact Flash Log is required to track and communicate problems and issues with CFCs, QARs, and aircraft.
2. If CFCs are removed from the aircraft and are found blank with no data, the card should be held for follow up verification. If the subsequent aircraft CFC is not blank there is likely a problem with the original CFC. The defective CFC should be replaced.
3. If the subsequent CFC is found to be blank the QAR and or aircraft is suspect. Additional troubleshooting is required.
4. ABX has experienced bent and damaged pins in the QARs. If a QAR is suspect, inspect the QAR card slot for bent or damaged pins.
5. The QAR status is to be checked each time a replacement CFC is replaced. Check the QAR by observing that LED (Status Indicator) on the front of the QAR comes on and extinguishes with 15 seconds after power is applied. If the status light does not come on and extinguish aircraft troubleshooting and/or QAR replacement is required.
6. Aircraft troubleshooting can be accomplished by power and electrical ground checks through the DFDR test plug with the QAR removed. See the WDM for electrical requirements.

## **WORKSTEPS – REMOVE & REPLACE COMPACT FLASH CARD, CHECK QAR STATUS**

Applicable to 219, 220, 226, 315, 317, 362, 363, 740, 744, 745, 767, 750 and 795.

1. Obtain P/N TP2GCF100I-P or interchangeable Compact Flash Card (CFC) from stock. Verify CFC has a S/N such as ABX-XXX. If not, obtain S/N from the ABX QAR Compact Flash Card Tracking Log and apply to CFC with a label.  
NOTE: If formatting of the CFC is suspect format the CFC using the Polaris Transfer Program.
2. Locate QAR at the DFDR Test Plug in the P-61 panel.
3. Remove power from QAR per A. or B. below as applicable to aircraft.

**NOTE: DO NOT remove and replace the QAR Compact Flash card with power applied to the QAR as recorded flight data will be corrupted.**

- A. Applicable to 315, 317, 362, 363, 740, 744, 745, and 767, 750, 795.  
Remove power to QAR by opening the following circuit breakers.
  - (1) 11J7, FLIGHT RECORDER AC
  - (2) 11J8, FLIGHT RECORDER DC
- B. Applicable to 219, 220, 226.  
Verify power is not applied to QAR by the FLT REC Switch located on the Flight Recorder Control Panel (FRCP) on the P-61 Panel.
  - (1) Verify FLT REC Switch is in the OFF or NORM position and the OFF light is illuminated.
- C. Remove Compact Flash card from QAR and tag card with aircraft tail number.
- D. Record CFC S/N removed and CFC S/N installed.

- (1) CFC Removed S/N: \_\_\_\_\_
  - (2) CFC Installed S/N: \_\_\_\_\_
- E. Install replacement card into QAR with the front label facing you (INBD), and card pin sockets facing down. Ensure card is fully seated in QAR.
- F. Reapply power to QAR and verify QAR Status per F. or G. below as applicable to aircraft.
- G. Applicable to 315, 317, 362, 363, 364, 740, 742, 744, 745, and 749.  
Reapply power to QAR by closing circuit breakers.
- (1) 11J7, FLIGHT RECORDER AC
  - (2) 11J8, FLIGHT RECORDER DC
    - (a) Verify that the LED (Status Indicator) on the front of the QAR comes on and extinguishes within 15 seconds when CBs are closed.
- H. Applicable to 219, 220, 226  
Verify status of QAR by applying power to QAR.
- (1) Position the FLT REC Switch to the ON position.
    - (a) Verify that the LED (Status Indicator) on the front of the QAR comes on and extinguishes within 15 seconds when switch is placed in the ON position.
  - (2) Return FLT REC Switch to NORM position and verify OFF light illuminates.

#### **WORKSTEPS – UPLOAD COMPACT FLASH CARD, POLARIS TRANSFER**

LGG, CVG, MIA, LAX, AMS and stations with upload capability.

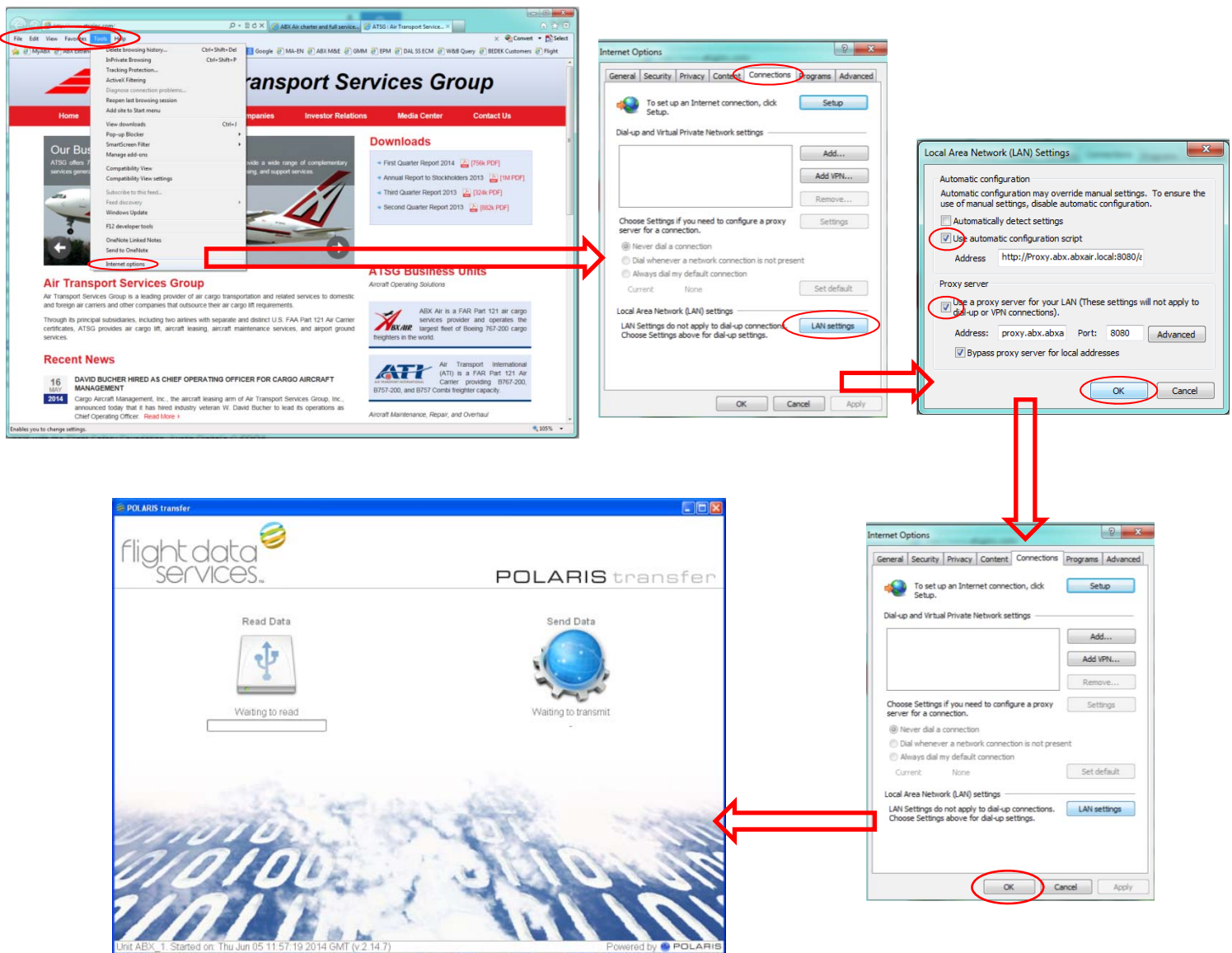
Reference Polaris Transfer Software Installation & User Manual on the ABX Intranet

- A. Login into computer with the Polaris Transfer program installed.
- B. Open the Flight Data Services Polaris Transfer Software Installation & User Manual located on the ABX Intranet. Follow procedures in the manual with the following worksteps.
- C. Open Internet Explorer and Polaris Transfer programs.
- D. If computer is on the ATSG Network change the Proxy Server Settings before uploading data as follows. Also see Changing Proxy Server Setting Prior to Using Polaris Transfer Program
  - (1) Open Internet Explorer
  - (2) View Internet Explorer Menu Bar. If Menu Bar is not displayed press the ALT key.
  - (3) Select Tools on Menu Bar
  - (4) Select Internet Options on drop down menu
  - (5) Select the Connections tab in the Internet Options window.
  - (6) Select LAN settings Button in the Internet Options window.
  - (7) Uncheck Use automatic configuration script in the Local Area Network (LAN) Settings window.
  - (8) Uncheck Use a proxy server for your LAN (These setting will not apply to dial up or VPN connections) in the Local Area Network (LAN) Settings window.
  - (9) Click OK in the Local Area Network (LAN) Settings window.
  - (10) Click OK in the Internet Options window.
  - (11) Open the Polaris Transfer Program.
- E. Verify Polaris Transfer displays the following after the program opens and initializes.

- (1) Read Data with Waiting to read on the left side of the window.
  - (2) Send Data with Waiting to transmit on the right side of the window.
- F. Insert CFC into CFC reader. Polaris Transfer will start processing media once it has been inserted.
- (1) If the aircraft registration can be identified from the CFC, the data will be uploaded to Flight Data Services automatically.
  - (2) If the aircraft registration cannot be identified from the CFC, the Aircraft Registration window will appear. Select the aircraft registration number.
  - (3) If the CFC inserted is empty, you will be informed to remove the CFC. If the CFC was removed from an aircraft and is blank troubleshooting is required.
  - (4) If the CFC does not contain valid data the Unknown Media window will appear. Check Send Image, Continue, Select L3 QAR and Send and Initialize Media.
  - (5) If data was uploaded verify data was sent by message noted on the right side of the Polaris Transfer window. i.e. Last sent NXXXXXX on XX/XX/XX XX:XX:XX. It may be necessary to leave Polaris Transfer open until data is indicated as sent.
  - (6) Complete ABX QAR Compact Flash Log.
  - (7) If data uploading was unsuccessful troubleshooting is require to resolve problem. Note issue in the ABX QAR Compact Flash Card Log and initiate troubleshooting.
  - (8) Return CFC to stock.
  - (9) Logoff computer when finished. Logging off the computer will reset the Proxy Server settings to the default settings.

## Changing Proxy Server Setting Prior to Using Polaris Transfer Program

1. Open Internet Explorer
2. View Internet Explorer Menu Bar. If Menu Bar is not displayed press the ALT key.
3. Select **Tools** on Menu Bar
4. Select **Internet Options** on drop down menu
5. Select the **Connections** tab in the Internet Options window.
6. Select **LAN settings** Button in the Internet Options window..
7. Uncheck **Use automatic configuration script** in the Local Area Network (LAN) Settings window.
8. Uncheck **Use a proxy server for your LAN (These setting will not apply to dial up or VPN connections)** in the Local Area Network (LAN) Settings window.
9. Click **OK** in the Local Area Network (LAN) Settings window.
10. Click **OK** in the Internet Options window.
11. Open the Polaris Transfer Program and transfer recorded flight data.
12. Logoff computer when finished. Logging off the computer will reset the Proxy Server settings to the default settings.



# Flight Recorder System Test Plug (P-61 Panel)



Shorting Cap Installed



Micro-QAR Installed

