

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

DESCRIPTION

The aircraft Quick Access Recorder (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. The aim of the program is to improve safety, evaluate and enhance training practices, revise operating procedures and performance, and assist aircraft maintenance and engineering. 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 \(QAR\)](#).
2. The QAR is installed to the aircraft DFDR Test Plug in the P61 panel.
3. The QAR CFC is to be removed, replaced and data uploaded at Service Check intervals.
4. Remove power from the QAR or aircraft before removing and installing a CFC.
5. After replacement CFC is inserted into the QAR, apply power to QAR and verify fault light comes on then extinguishes. This will confirm the status of the QAR.
6. The CFCs are serialized for CFC tracking. This will allow CFCs be identified if problems are noted during use.
7. The data on the CFCs is uploaded to Flight Data Services (FDS) for analysis through a Polaris Transfer Program.
8. ABX Stations at LGG, CVG, MIA, LAX, & ILN have the Polaris Transfer Program available.
9. Reference - Polaris program ID numbers: ILN – ABX_1, LGG – ABX_2, CVG – ABX_3, MIA – ABX_4, LAX – ABX_5.
10. If sending CFCs to ABX Engineering for uploading, send to ABX Engineering ILN/2061R. Tag CFC with aircraft number.
11. When the data is uploaded through the Polaris Transfer Program the data on the CFC is cleared, the CFC is formatted for reuse and returned to stock.
12. 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.
13. CFCs are identified to the aircraft by the QAR S/N which is recorded to the CFC along with the flight data.
14. The installed QAR S/N is matched to the aircraft registration number through the Flight Data Services system.
15. When uploading data from the CFC verify that the CFC is read with aircraft number and data is sent as indicated in the Polaris program.
16. 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](#).
17. When the recorded flight data is uploaded to FDS the data is matched with uploaded ABX logbook data. Data is matched, 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. Be sure to save spreadsheet after logging use of S/N.
3. The CFCs are formatted with a proprietary Polaris 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 uQAR. See [Flight Data Services Polaris Transfer Software Installation & User Manual](#)
5. Use of the Polaris Transfer Program requires the User to have ADMIN rights with access to change Proxy setting 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 settings must be disabled 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](#) on the [ABXTranet](#).
7. ~~PENDING When the CFCs are uploaded through the Polaris Transfer Program complete the [ABX QAR Compact Flash Log](#) on the [ABXTranet](#). This log is used to assist with troubleshooting CFCs, aircraft, and/or uQARs.~~
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. Verify that the CFC is read by the Polaris program and data is sent. If there are problems with the Polaris Transfer program contact ATSG I.S. Department for support.
10. If CFCs are found damaged the CFC should be tagged as damaged and returned to ABX Materials Management for replacement.
11. Industrial type CFCs are being introduced into the ABX system. This will be the new standard moving forward as CFCs are replaced on attrition.
12. 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 QAR S/N installed on a specific aircraft.
13. When installing a CFC into the QAR ensure CFC is fully seated in the QAR.

TROUBLESHOOTING

1. ~~PENDING 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 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. Replace QAR if required.
5. The QAR status is to be checked each time a replacement CFC is inserted. 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.
7. If data is being read by the Polaris Transfer program, but not being sent, troubleshooting of the Polaris Transfer program and/or PC is required. Contact ATSG I.S. for support.
8. ABX has experienced loose/rotating QAR cannon plugs and loose/rotating aircraft cannon plugs

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

Applicable to 219, 220, 226, 315, 317, 362, 363, 740, 744, 745, 749, 750, 767 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 uQAR Compact Flash Card Tracking Log and apply to CFC with a label.
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 the CFC and recorded flight data will be corrupted.

- A. Applicable to 315, 317, 362, 363, 740, 744, 745, 749, 750, 767, 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. 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.
- E. Re-apply power to QAR and verify QAR Status per F. or G. below as applicable to aircraft.
- F. Applicable to 315, 317, 362, 363, 740, 744, 745, 749, 750, 767, 795.

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.

- G. 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, and stations with upload capability.

- A. Login into computer with the Polaris Transfer program installed.
- B. Reference the [Flight Data Services Polaris Transfer Software Installation & User Manual](#) located on the ABX Intranet.
- C. Open [Internet Explorer](#). Only required for computers in the ATSG network.
- D. Open the [Polaris Transfer Program](#).
- E. 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) Go to the Polaris Transfer Program.
- F. 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.
- G. 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 aircraft number will be displayed and Polaris will start the CFC reading process.
 - (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 uQAR and Send and Initialize Media.
 - (5) When the Reading process has completed the upload process will be initiated.
 - (6) Verify data was uploaded by sent by message noted on the right side of the Polaris Transfer window.

- (7) PENDING ~~Complete ABX QAR Compact Flash Card Log.~~
- (8) If data uploading was unsuccessful troubleshooting is require to resolve problem. ~~Note issue in the ABX QAR Compact Flash Card Log and initiate troubleshooting.~~
- (9) Return CFC to stock.
- (10) Logoff computer when finished. Logging off the computer will reset the Proxy Server settings to the default settings.