NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF AVIATION SAFETY
WASHINGTON, D.C. 20594

May 12, 2009

Maintenance Records Factual Report

A. ACCIDENT: DCA09MA026

LOCATION: Hudson River, Weehawken, New Jersey

DATE/TIME: January 15, 2009, 3:27 p.m. EST

AIRCRAFT: US Airways Airbus A320-214, N106US, S/N 1044

B. GROUP MEMBERS:

Group Chairman: Pocholo Cruz
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Member: Patrick Marty
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C: SUMMARY

On January 15, 2009, about 1527 Eastern Standard Time, US Airways flight 1549, an Airbus A320-214, registration N106US, suffered bird ingestion into both engines, lost engine thrust, and landed in the Hudson River following take off from New York City's La Guardia Airport (LGA). The scheduled, domestic passenger flight, operated under the provisions of Title 14 CFR Part 121, was en route to Charlotte Douglas International Airport (CLT) in Charlotte, North Carolina. The 150 passengers and 5 crewmembers evacuated the aircraft successfully. One flight attendant and four passengers were seriously injured.

D: DETAILS OF THE INVESTIGATION

1.0 Air Carrier Certificates

On February 21, 1997, the Federal Aviation Administration (FAA) Pittsburgh Flight Standards District Office (FSDO), Eastern Region issued Air Certificate Number USAA105A to US Airways, Inc. of Pittsburgh, Pennsylvania.

See Attachment 1 for further information.

2.0 Operations Specifications (OpSpecs)[1]

US Airways, Inc. has a Part 121 Certificate, which included the standards, terms, conditions, and limitations contained in the FAA approved Operations Specifications (Parts D and E) were reviewed.

(a) Air carrier was authorized to conduct operations under 14 CFR Part 121 of the Federal Aviation Regulations.

(b) According to Section D072 (Continuous Airworthiness Maintenance Program (CAMP)) of the OpSpecs, US Airways, Inc. was authorized to use the manufacturer/US Airways, Inc. maintenance and engine maintenance programs to maintain the airplanes.

(c) According to Section D074 of the OpSpecs, US Airways, Inc. is authorized to use a Maintenance Reliability Program.

[1] Operations Specifications contains the authorizations, limitations, and certain procedures under which each kind of operation, if applicable, is to be conducted by the certificate holder.

(d) According to Section D085 of the OpSpecs, US Airways, Inc. had the following airplanes in its fleet A319 (93), A320 (75), A321 (33), A330 (9), 737 (75), 757 (41), 767 (10) and ERJ-190 (25).

(e) According to Section D090 of the OpSpecs, US Airways, Inc. was authorized to utilize CASE[2] as a means of qualifying a vendor for services, parts, and materials to satisfy the requirements of 14 CFR Section 121.373.

(e) According to Section D091 of the OpSpecs, US Airways, Inc. was authorized to make arrangements with other organizations to perform substantial maintenance.

(f) According to Section D095 of the OpSpecs, US Airways, Inc. was authorized to use an approved Minimum Equipment List (MEL).

(g) According to Section D097 of the OpSpecs, US Airways, Inc. had an approved repair assessment program incorporated into the Continuous Airworthiness Maintenance Program.

(h) According to Section D485 of the OpSpecs, US Airways, Inc. had an Aging Aircraft Inspection and Records Review. N106US was below the threshold for the record reporting.

(i) According to Section E096 of the OpSpecs, US Airways, Inc. was authorized for a Weight and Balance Program.

3.0 Aircraft Information

Airbus Industries manufactured the airplane on June 15, 1999. US Airways, Inc. put the aircraft into their certificate on August 3, 1999. The airplane had 25,241:08 total hours with 16,299 total cycles at the time of the accident.

The airplane was equipped with two CFM 56-5B4 series turbofan engines and a Honeywell Auxiliary Power Unit (APU). Table 1 below lists the engines and APU operating times at the time of the accident.

[2] The Air Carriers section of the Nonprofit Coordinating Agency for Supplier Evaluations (C.A.S.E.) was organized as a means of sharing non-prejudicial supplier quality approval data among the membership airlines. This increases surveillance coverage of suppliers and thereby upgrades their quality programs. It also has an economic impact on each C.A.S.E. member by decreasing the cost of supplier surveillance and making their surveillance programs more effective.

Table 1 – Engine/APU Information

		No.1 Engine	No.2 Engine	APU
Manufacturer		CFMI	CFMI	Honeywell
Part Number		1887M10G03	1887M10G03	3800708-1
Manufacture Date		9/12/2000	2/16/2001	7/1/2006
Date Installed		1/15/2008	5/28/2006	9/30/2006
Serial Number		779828	779776	P3294
Location of Engine /APU Installation		PIT	PIT	PIT
Total Time (engine / APU hours) at installation		16,233:00	17,916:13	0
Total Cycles (engine / APU cycles) at installation		11,897	6,755	0
Total Time of Airframe during engine / APU installation (hours)		22,291:58	16,691:30	17,886:10
Total Cycles of Airframe during engine / APU installation		15,071	12,714	13,208
Time Since Overhaul (hours)		19,182:10	26,466:08	7,355:08
Hours since last installation (cycles)		2,949:10 (1,228)	8,549:55 (3,585)	7,355:08 (3,091)
Total Time in hours and (Cycles) as of 1/15/2009		19,182:10 (13,125)	26,466:08 (10,340)	7,355:08 (3,091)

4.0 A320 Maintenance Inspection Program

The FAA approved US Airways, Inc.'s Time Limits Manual (TLM), Revision 10 on September 15, 2008. The TLM describes the US Airways A320-214 Maintenance Inspection Program for the accident airplane.

Daily Check - The Daily Check is to be performed each two (2) calendar days unless the aircraft was scheduled out of service for that entire day or was scheduled for a higher-level check. If the Daily Check is due during a RON (Remain Overnight) or other maintenance, a Daily or higher Check must be accomplished prior to the next flight.

Overnight Check - The Overnight Check is to be accomplished each Maintenance RON when a Weekly or higher Check is not scheduled unless an Overnight or higher check was accomplished within the past two (2) calendar days. The Overnight Check zeroes the Daily Check.

A320 Weekly Check - A Weekly Check is to be accomplished once every 7 calendar days not to exceed 90 flight hours. A Weekly Check is to be accomplished when an 'A' or higher check was not completed. When a line-ready aircraft is not flown for more than three (3) days, a Weekly Check was required. The Weekly Check zeroes the Overnight and Daily Check.

'A' Check - The 'A' Check is to be accomplished every 550 flight hours. The check consisted of 12 checks (A1 thru A12). The 'A' Check contained all requirements of the Weekly, Overnight and Daily Checks and zeroed out the Weekly, Overnight and Daily Checks.

'C' Check - The 'C' Check is to be performed progressively in a series of six Phase Check visits, C1 thru C6, within 18.3 months (551 days) / 6000 flight hours, whichever came first. The 'C' Check included the Weekly Check and zeroed out the Weekly, Overnight and Daily Checks.

'2C' Check - The '2C' Check is to be performed progressively in a series of five Phase Check visits, C7 thru C11, within 36 months. The '2C' Check included the Weekly Check and zeroed out the Weekly, Overnight and Daily Checks.

'S' Check - The 'S' Check is a combination of multi-'C' Check requirements, zonal and structural inspection requirements and performed at 6 year intervals. Job cards included the Weekly and C1 thru C11 Checks. The 'S' Check zeroed out the C1 thru C11, Weekly, Overnight and Daily Checks.

Airworthiness Directives and Manufacturer Service Bulletin compliance were written into the inspection program when applicable. Additionally, all Zonal and Structural tasks were written into US Airways, Inc. maintenance program as well.

Table 2 below lists the previous inspections accomplished on N106US. This information was retrieved from the airplane maintenance records.

Table 2 – Maintenance Inspection Program

CHECK	DATE	LOCATION	TOTAL TIME	TOTAL CYCLES
Daily Check	1/14/09	CLT	25,238:07	16,297
Overnight Check	1/14/09	CLT	25,238:07	16,297
Weekly Check	1/10/09	PIT	25,204:50	16,283
A1 Check	4/26/08	PIT BASE	23,085:28	15,424
A2 Check	6/25/08	PIT	23,618:08	15,643
A3 Check	8/16/08	CLT	24,050:56	15,818
A4 Check	10/7/08	LAX	24,408:37	15,945
A5 Check	12/6/08	PIT	24,912:16	16,155
A6 Check	4/18/07	PHL	19,759:37	14,022
A7 Check	6/6/07	DCA	20,266:16	14,237

A8 Check	7/20/07	DCA	20,738:31	14,411
A9 Check	9/5/07	LAX	21,180:29	14,584
A10 Check	10/26/07	DFW	21,649:16	14,776
A11 Check	12/20/07	LAX	22,111:22	14,989
A12 Check	2/20/08	LAX	22,600:16	15,202
C1 Check	1/29/08	LAX	22,397:19	15,115
C2 Check	1/24/08	LAX	22,360:11	15,097
C3 Check	1/28/08	LAX	22,390:29	15,111
C4 Check	3/6/08	LAX	22,723:48	15,253
C5 Check	2/28/08	LAX	22,655:43	15,227
C6 Check	3/13/08	CLT	22,756:58	15,274
C7 Check	3/15/08	LAX	22,776:04	15,280
C8 Check	4/14/08	CLT	23,033:28	15,398
C9 Check	4/15/08	DCA	23,038:11	15,402
C10 Check	4/18/08	DCA	23,067:16	15,416
C11 Check	1/18/08	PIT BASE	22,301:31	15,075
S Check (2)	4/22/05	PIT	12,932:19	11,106

CLT – Charlotte Douglas International Airport, Charlotte, North Carolina
PIT – Pittsburgh International Airport, Pittsburgh, Pennsylvania
PIT Base – Pittsburgh Maintenance Base
LAX – Los Angeles International Airport, Los Angeles, California
PHL – Philadelphia International Airport, Philadelphia, Pennsylvania
DCA – Ronal Reagan Washington Airport, Washington, DC
DFW – Dallas Ft. Worth International Airport, Dallas, Texas

According to the maintenance records, there were no additional discrepancies during the accomplishment of the Daily and Overnight Checks on the airplane on January 14, 2009.

5.0 Continuing Analysis And Surveillance System (CASS)[3]

In accordance with Title 14 Code of Federal Regulations (CFR) 121.373, Continuing Analysis and Surveillance, US Airways maintained a system to provide for the oversight of its Continuous Airworthiness Maintenance Program (CAMP), which included its inspection program. CASS monitored and evaluated technical operations and vendor compliance, performance, and effectiveness, and helped determine and implement corrective actions for deficiencies resulting from the surveillance and analysis.

CASS has three functional areas of process monitoring. (a) Mechanical Performance Monitoring. This function involves collecting, compiling, and analyzing data, comparing to established company standards, identifying maintenance and inspection program deficiencies, and recommending corrective actions when necessary. (b) Audit and Surveillance. This function involves oversight and analysis of scheduled and unscheduled audits, and continuous

[3] As established by 14 CFR Part 121.373, each certificate holder shall establish and maintain a system for the continuing analysis and surveillance of the performance and effectiveness of its inspection program and the program covering other maintenance, preventative maintenance and alterations and for the correction of any deficiency in those programs, regardless of whether those programs are carried out by the certificate holder or by another person.

surveillance. All aspects of the approved maintenance and reliability programs are reviewed to identify deficiencies, ensure corrective action, and follow up on revised procedures and practices. (c) Process Compliance. This function involves oversight and analysis of company processes and procedures, and regulatory requirements. Events of non-compliance are analyzed and trended, root cause(s) determined, and comprehensive fixes implemented to prevent recurrence and assure continued compliance.

US Airways, Inc. conducted daily meetings to review the previous days maintenance discrepancies on the fleet. As part of the CASS requirements, the operator conducted monthly CASS meetings (third Wednesday of the month) to discuss the previous months data. The program was in place to ensure the adequacy of the maintenance programs and to confirm the programs were properly followed and controlled. A reliability meeting then follows the CASS meeting. Just like the CASS meetings, the reliability meetings covered the proceeding month's maintenance activity. The reliability report was a statistical analysis of maintenance data collected from the following sources: (1) Departure delays; (2) Flight cancellations; (3) Pilot reports, etc. The CASS was an approved program by the FAA and according to the US Airways representative, the FAA Principal Maintenance Inspector or representative's typically attended these meetings.

CASS Reports (October 2008 through January 2009) and Reliability Reports (October 2008 through January 2009) were reviewed. No systemic issues were identified in the review of the documents except in the January 2009 CASS presentation. The presentation reported 12 Compressor Stalls for the month of December. Four of which were on the CFM56-5B engines. None of the engine compressor stalls occurred on the accident airplane. According to the CASS report, the industry has experienced this type of beta stall phenomenon. More information regarding this subject can be seen in the Powerplants Factual Report.

6.0 Minimum Equipment List (MEL)[4]

US Airways, Inc. was authorized to use an approved MEL on its A320 airplanes per its OpSpecs. At the time of the accident, there were no open MEL items in the airplane flight duty maintenance log. The airplane had four scratch and dents deferrals that were being tracked.

However, there were eight monitor (MON) deferrals; two of which were on the #2 Engine. The six other MON were for gouges or blind fasteners on the aircraft fuselage and other minor damage.

[4] The FAA approved Minimum Equipment List contains a list of equipment and instruments that may be inoperative on a specific aircraft for continuing flight beyond a terminal point.

- Repetitive borescope inspection of the J-hook for additional damage (Log Page 4364783). Previously accomplished on December 29, 2008. Checks OK.

- #2 Engine abraidable shroud temporary repair that required an inspection every "A" check and a permanent repair at the next shop visit. Last re-inspection was accomplished on an "A6" check at PIT on December 6, 2008.

See Attachment 2 for further information.

7.0 Supplemental Type Certificates (STC)[5]

Supplemental Type Certificates (STC), supplied by air carrier, were reviewed. The operator for the airplane documented a total of 4 STCs. There were no discrepancies with any of the STCs and their accomplishment documentation.

- STC ST00129NY, GTE Airfone Rack and Shroud Installation. The modification was installed on August 4, 1999.

- STC SA1693GL, Installation of GTE Airfone. The modification was installed on August 6, 1999.

- STC ST00131NY, A320 Shuttle Reconfiguration. The modification was installed on the September 29, 1999.

- STC ST00140NY, Replacement of cargo floor boards on A320 aircraft. The modification was installed on April 17, 2005.

8.0 Airworthiness Directive (AD)[6] and Service Bulletin (SB) Summary

The air carrier provided an AD summary for review. The AD summary contained the applicable Service Bulletins. A review of Airworthiness Directive status lists for the aircraft and all installed powerplant engines were conducted. All ADs applicable to this airplane were implemented. No discrepancies were found during the review of the listing. The following ADs are of note:

[5] The FAA issues Supplement Type Certificates, which authorize a major change or alteration to an aircraft, engine or component that has been built under an approved Type Certificate.
[6] Airworthiness Directive (AD) is a regulatory notice sent out by the FAA informing the operator of an action that must be taken for the aircraft to maintain its airworthiness status.

- AD 2009-01-01, AD requires reviewing exhaust gas temperature (EGT) monitoring records to determine EGT deterioration margin and for airplanes where **BOTH** engines have greater than 80 degrees Celsius deterioration of EGT margin, borescope inspecting the high pressure compressor of both engines.

  According to the US Airways Inc. records, the EGT numbers were recently calculated as recent as January 14, 2009. The airplane had calculated EGT margins of 40.1 degrees Celsius (#1 Engine) and 101 degrees Celsius (#2 Engine). Only **ONE** engine (#2 Engine) was above the limit of 80 degrees Celsius. The AD was complied with on the accident airplane on January 13, 2009. Previously the EGT margins were last calculated on January 7, 2009. At that time the margins were 38.1 degrees Celsius for the #1 Engine and 98.0 degrees Celsius for the #2 Engine.

- AD 2007-03-15, EGT harness replacement, The AD was not applicable for the equipment installed on the airplane.

- AD 2005-10-05, Air Turbine Starter, The AD was not applicable for the equipment installed on the airplane.

- AD 2002-16-18, Low pressure turbine nozzle segments 2 and 3. The AD was not applicable for the equipment installed.

- AD 2002-02-13, AD requires for the inspection of Air Turbine Start. The AD was accomplished on the #1 Engine on April 7, 2002 and the #2 Engine on April 10, 2002

- AD 2002-13-03, AD requires inspection of selected critical life-limited parts rotating parts, i.e. LPT stage 4 disc. The AD had 16 different parts and was a repetitive task at each next vendor visit. The AD was open and being tracked and accomplished.

- AD 2001-11-05, Suspect #4 Bearings. The AD was not applicable for the equipment installed.

See Attachment 3 for further information.

9.0 Flight Duty Maintenance Log

The Flight Duty Maintenance Log (FDML) contained daily flight and maintenance information. The logbooks were reviewed from October 1, 2008 through January 15, 2009. The review indicated that the maintenance check records were up to date and complete. No discrepancies were noted.

10.0 Weight and Balance Summary

Per the US Airways, Inc. OpSpecs, the airplanes were to be weighed every 5 years by using the airplane's actual weight. According to US Airways Inc. representatives, the last weight and balance on the airplane was accomplished on July 16, 2004 in Charlotte, North Carolina.

Actual Empty Weight:	93,315 pounds
Operating Empty Weight:	98,000 pounds
Arm:	743 inches
Moment:	72,814,000 in-lbs

See Attachment 4 for further information.

11.0 Service Difficulty Reports (SDR)[7]

The FAA SDR database listed a total of 24 SDRs for the airplane from July 20, 2001 through January 15, 2009. The most recent report prior to the January 15, 2009 dual engine failure occurred on June 6, 2007 where an escape slide bottle pressure was found low during inspection. The bottle was replaced. There were no recent systemic issues.

See Attachment 5 for further information.

12.0 Major Repairs and Alterations

The airplane major repair records list revealed there were 7 records listed all were structural in nature. The most recent major repair was accomplished during a C11 check on January 11, 2008. Maintenance found a dent with sharp nicks at Station Frame 23 and Frame 24, Stringer 42 and 43R. The discrepancy was rectified using Structural Repair Manual 53-00-11.

The major alteration records revealed 4 major alterations were accomplished on the accident airplane. The most recent alteration was accomplished on September 25, 2008 for the modification of Main Landing Gear Rib 5 Bushings.

See Attachment 6 for further information

[7] A Service Difficulty Report (SDR) is a report of the occurrence or detection of each failure, malfunction, or defect as required by 14 CFR 121.703.

13.0 Time Limit Control Components

Time limited component status for the airplane and two installed powerplant engines and APU were reviewed. The components were being tracked and recorded properly. The compliance status was satisfactory and no discrepancies were noted.

See Attachment 7 for further information.

14.0 Vendors

The Maintenance Records Group reviewed the Approved Vendor List provided by US Airways, Inc. According to US Airways Inc. representatives, audits of the approved vendors are accomplished every two-years. All substantial maintenance vendors are listed in the operator's D91 Operation Specifications. As previously stated, US Airways, Inc. was authorized to use CASE.

15.0 Method of Record Keeping

All routine and non-routine work forms, log books, serviceable part tags from components installed, deferred items records, engine records, etc., were entered into the aircraft computer records (SCEPTRE) on a daily basis. A computer file history was maintained so that all inspections and checks were monitored for time limitations. The computer files were backed up daily to prevent total loss of history files. All hard copies of the paperwork were also kept and /or scanned by US Airways, Inc.

16.0 Manuals

US Airways, Inc. used the following manual to maintain the airworthiness of its fleet and management of the airline.

Maintenance Policies and Procedures Manual (MPPM) – provides the policies and procedures required to maintain the US Airways fleet of aircraft. The MPPM contains administrative information and policies, plus programs and procedures required to perform and record maintenance actions in accordance with FAR and US Airways requirements.

Time Limits Manual (TLM) – contains time limitations for the on-aircraft checks, components and systems

Airbus A320 Trouble Shooting Manual (TSM) – the manual is used by maintenance personnel to enable the systematic identification, isolation and correction of aircraft warnings and malfunctions reported in flight and on the ground.

Minimum Equipment List (MEL) – list of equipment and instruments that may be inoperative on a specific aircraft.

Weight and Balance Analysis and Methodology Manual (WBAMM) – weight and balance procedures to be followed by maintenance and flight operations personnel on all aircraft operated by US Airways, Inc.

Manufacture Supplied Manuals - Aircraft/Engine Maintenance Manuals, Structural Repair Manuals, Wiring Diagrams, Overhaul Manuals, Illustrated Parts Catalog, Corrosion Program Manual, NDT Manual, Significant Structure Items Manual, Service Bulletins and Engine Manuals.

17.0 Engine Information

Maintenance Program

Task No.	Task Description	Frequency	STA	Last Accomplished
711000-C1-1	General Visual Inspection (GVI) of Inlet Cowl Aft Bulkhead	1C/S	CLT	3/13/2008 (C6 visit)
711300-C1-1	Functional Check of Fan Cowl Latches	1C/S	CLT	3/13/2008 (C6 visit)
711300-C2-1	Detailed Inspection of Fan Cowl Latches	1A	PIT BASE	4/26/2008
712111-01-1	Detailed Visual Inspection of Forward Engine Mount Installation	2C/S	LAX	3/15/2008 (C7 visit)
712211-03-1	Detailed Visual Inspection of Aft Engine Mount Installation	2C/S	LAX	3/15/2008 (C7 visit)
722000-C1-1	Detailed Visual Inspection of LH/R/H Engine Inlet, Blades and Outlet	2A	PIT	6/25/2008
722000-C2-1	Fan and Booster Assembly Lube	3000 FC	L/H - GES VV R/H - LAX	12/15/2007 2/25/2008
724000-C1-1	Borescope Combustion Chamber	1600 FC	L/H - GES VV R/H - LAX	12/15/2007 2/25/2008
725000-C1-3	Borescope HPT Blades	1600 FC	L/H – GES VV R/H - LAX	12/15/2007 2/25/2008
730000-C1-2	Correct Faults of Engine Scheduled Maintenance Report	1A	PIT BASE	4/26/2008
730000-C1-1	Correct Faults of Engine Scheduled Maintenance Report	1A	PIT BASE	4/26/2008
730000-C4-1	Remove and Repair Fuel Filter Element	1*	L/H – LAX R/H - PIT	10/7/2008 (A4) 12/6/2008 (A5)
752000-C1-1	Check ECU Cooling Pipe for Obstruction	1C/S	CLT	3/13/2008 (C6 visit)
773200-C1-1	Operational Check of Engine Vibration	1A	PIT BASE	4/26/2008

783000-C1-1	General Visual Inspection of Thrust Reverser Blocker Doors, Hinges, Structure	1C/S	CLT	3/13/2008 (C6 visit)
783000-C2-1	General Visual Inspection of Thrust Reverser Blocker Door Seals	1C/S	CLT	3/13/2008 (C6 visit)
783100-C4-1	General Visual Inspection of Thrust Reverser Hydraulic Tubing and Hoses	1C/S	CLT	3/13/2008 (C6 visit)
783100-C5-1	General Visual Inspection of Thrust Reverser Actuator Rod End Attachments	1C/S	CLT	3/13/2008 (C6 visit)
783100-C6-1	Operational Test of Thrust Reverser Actuator Secondary Lock Mechanism	1C/S	CLT	3/13/2008 (C6 visit)
783100-C7-1	General Visual Inspection of Thrust Reverser Primary Latch Mechanism	1C/S	CLT	3/13/2008 (C6 visit)
791000-C3-1	Check LH/RH Engine Oil Level and EMCD Visual Indicator	Daily	CLT	1/14/2009
792000-C4-2	Replace LH/RH Oil Supply Filter	6A	PHL	4/18/2007
792000-C7-1	Check Scavenge Screens	1C/S	CLT	3/13/2008 (C6 visit)
792000-C8-1	Check Engine Master MCD for Particles	Daily	CLT	1/14/2009
801110-C1-1	Check LH/RH Starter Chip Detector	1A	PIT BASE	4/26/2008
801110-C2-1	Replenish LH/RH Starter Oil	1A	PIT BASE	4/26/2008
801110-C3-1	Drain and Replenish LH/RH Starter Oil	2A	PIT	6/25/2008

1* - Install at 150 FC; repeat at 450 FC; thereafter at 3A Check
GES VV - GE Strothers Vendor Visit, Winfield, Kansas

Engine Log Page Review

Specific logbooks (ATA 71-77 and 80) entries (January 1, 2008 to January 15, 2009) were reviewed.

#1 Engine

A review of the log pages for the #1 Engine revealed no issues or discrepancies.

#2 Engine

A review of the log pages for the #2 Engine revealed the following:

- June 3, 2008 (Non-Routine 4364783) - J-hook borescope in CLT found damage that reduced the borescope interval to within 600 FLT HRS of 24,583.1 HRS.

  December 29, 2008 - CLT accomplished a 600 hour borescope recheck. Checks OK. The task was still open for the 600 hour borescope repetitive inspections.

- August 23, 2008 (Non-Routine 4295845) - PHX was attempting to do J-hook borescope, per PHX QC Supervisor, when damage was found to the HPC Stage 3 blades. This damage was deferred per EA #111554. This damage required re-inspect intervals of no later than 25 FLT cycles, if no further damage is found, re-inspect within 250 FLT cycles and if no further damage is found a final re-inspect within 400 FLT cycles.

  November 7, 2008 - CLT performed re-inspect borescope of HPC Stage 3 blade damage A. A video borescope was accomplished during the visit.

  December 20, 2008 - PIT performed the final re-inspect borescope for the HPC Stage 3 blade damage and the MON (monitor) deferral was closed on December 30, 2008.

- January 13, 2009 (Log Page 8403549) - #2 Engine Stall. Low level 17,000'. Engine Parameters normal. Maintenance in CLT troubleshot the class 3 fault on T25 temp probe, removed and replaced the T25 probe per AMM 73-21-20. Accomplished borescope inspection of booster stage 05 per TSM 73-00-00-810-866 & CFM SB 72-0391 noted on ME-0192, 8403549, No faults noted. AC OK for service.

See Attachment 8 for further information.

Pocholo Cruz
Aerospace Engineer

Attachments:

1 – Air Carrier Certificate
2 – Minimum Equipment List and Monitor Deferrals
3 – Airworthiness Directive and Service Bulletin Lists
4 – Weight and Balance
5 – Service Difficulty Reports
6 – Major Repairs and Alterations
7 – Time Limit Control Components
8 – Engine Documents