Docket No. SA-533

Exhibit No. 7-B

NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C.

Previous Accident

(19 Pages)

CEN09MA142 Section 1

Attachments 1.1 Previous Accident

CEN09MA142 Section 1

Attachment 1.1.1 Previous Accident Factual Report and Brief

National Transportation Safety Board
FACTUAL REPORT
AVIATION

NTSB ID: NYC98FA062	Aircraft Registration Number: N15827
Occurrence Date: 01/21/1998	Most Critical Injury: Minor
Occurrence Type: Accident	Investigated By: NTSB

Location/Time

Nearest City/Place	State	Zip Code	Local Time	Time Zone
WINDSOR LOCKS	CT	06096	2123	EST

Airport Proximity: On Airport/Airstrip | Distance From Landing Facility:

Aircraft Information Summary

Aircraft Manufacturer	Model/Series	Type of Aircraft
Aerospatiale	ATR-42-320 /ATR-42-320	Airplane

Revenue Sightseeing Flight: No | Air Medical Transport Flight: No

Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

HISTORY OF FLIGHT

On January 21, 1998, at 2123 eastern standard time, an Aerospatiale ATR-42-320, N15827, operated by Continental Express as Flight 3332, was substantially damaged during an engine fire after landing at Bradley International Airport, Windsor Locks, Connecticut. There were no injuries to the 2 certificated pilots, or 36 passengers. The flight attendant received minor injuries. Visual meteorological conditions prevailed for the scheduled flight, which originated from Newark, New Jersey, about 2045. Flight 3332 was operated on an instrument flight rules (IFR) flight plan, and was conducted under 14 CFR Part 121.

In a written statement, the captain reported:

"...Upon touchdown [the first officer]...brought the power levers back to the REVERSE position to slow the aircraft, at which time we both heard a loud bang noise from the right side of the aircraft, and noticed a bright orange glow on the ground outside. As we slowed I heard several secondary bangs coming from the right side of the aircraft, and continued to see the orange glow. We stopped the aircraft on the runway and set the parking brake at which time we received a warning from the panel advising that engine #2 was on fire. This was the first time that the warning sounded. We received no fire warning upon landing or throughout the rollout up to this point. At this time I brought the power levers to Ground Idle as [the first officer]...brought the condition levers back to the FUEL SHUT OFF position. [The first officer]...pulled the number two-engine fire handle and I pulled the number one engine fire handle. [The first officer]...then discharged the squibs for engine number two in an attempt to extinguish the fire. The fire did not go out as a result of this effort. At this time [the first officer]...exited the cockpit to assist with the evacuation as I called for the evacuation to the left side of the aircraft. I continued securing the cockpit. After the cockpit was secured, I exited the cockpit and passed through the cabin ensuring that all passengers had exited the aircraft. I followed the Flight Attendant out the rear main cabin door, and advised all of the passengers to leave the area and head toward the terminal and away from the aircraft. Through the evacuation, the right side of the aircraft continued to burn, as well as a pool of jet fuel that had spilled out of engine number 2...."

The flight attendant in the rear of the airplane opened the left side main cabin door and commenced evacuating the passengers. Smoke started to fill the cabin. A non-revenue company pilot, seated in the forward left side seat, opened the forward left side fuselage emergency exit. He exited the airplane and then assisted passengers as they exited. The first officer exited via the left side emergency exit, and the captain who was last out of the airplane exited through the main cabin door.

The fire was extinguished by airport firefighters.

National Transportation Safety Board
FACTUAL REPORT
AVIATION

NTSB ID: NYC98FA062
Occurrence Date: 01/21/1998
Occurrence Type: Accident

Narrative (Continued)

The accident occurred during the hours of darkness at 41 degrees, 56 minutes north latitude, and 72 degrees, 41 minutes west longitude.

FLIGHT RECORDERS

The airplane was equipped with a cockpit voice recorder (CVR) and digital flight data recorder (DFDR). Both units were removed and forwarded to the Safety Board Laboratory in Washington, DC for evaluation. The cockpit voice recorder did not provide any information that was not obtainable elsewhere and a transcript was not prepared. The flight data recorder was examined and report prepared.

WRECKAGE AND IMPACT INFORMATION

Examination of the right engine area disclosed fire damage to the right engine cowling, and to the right trailing edge wing and wing flap. The wing flaps were set at 30 degrees. Several wires along the aft spar were burned, and examination of the rear spar revealed it had been warped about 1/8 inch.

The airplane was equipped with two Pratt & Whitney of Canada (PWC) PW121 series engines. A fuel/oil heat exchanger was located on the left side of each engine, about halfway back from the nose. A fuel filter was part of the heat exchanger. On the right engine, one of three studs used to hold the nuts that secure the filter cover to the heat exchanger was pulled out, and the filter housing was bent away from its fitting about 1/2 inch. The remaining two studs were found to be partially extracted from their holes. The inside of the filter housing, which contained fuel, was exposed.

FIRE

The pilots reported that they were not aware of a fire until after touchdown. Examination of the engine revealed that, in the area of the fuel leak, there were no fire detectors. However, there was ambient air flow through that portion of the engine, and it exited around the exhaust stack on the engine.

TESTS AND RESEARCH

A Safety Board Powerplants Group was appointed to assist in the investigation. According to the Chairman's report:

"...The disassembly and inspection of the fuel heater assembly commenced in the presence of the Powerplant Group on February 2, 1998. The top several threads in the hole where the stud disengaged were completely destroyed. The two other filter cover studs were found partially disengaged in the housing but were bent. All three filter cover stud holes showed indications that the studs were cross-threaded into the holes....."

Examination of the holes (lugs) that the studs fit into revealed:

"...The top three or four threads were heavily damaged and almost nonexistent, the next thread or two with less damage and remaining bottom threads with no damage. The lug cross-sections and polymer molds exhibited extraneous thread marks that were offset from the tapped threads...."

The fuel heater was manufactured by Steward, Warner and carried a part number of 10718D/AF. The serial number was 510. The unit had accumulated 14,615.8 hours and 18,104 cycles since new. Continental Express used a 1,200 hour check interval, and a 6,600 hours overhaul interval. Prior overhaul records were not required to be kept and were not available for review. Following the overhaul by Kansas Aviation of Independence, on July 30, 1997, the unit was returned to Continental

National Transportation Safety Board
FACTUAL REPORT
AVIATION

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Occurrence Type: Accident

Narrative (Continued)

Express and subsequently placed on the engine as a unit on August 27, 1997. Continental Express had no record of removing, servicing or performing any maintenance on the unit since its installation. The unit had accumulated 1,004.7 hours and 1,084 cycles since installation, and was scheduled to be checked when it reached 1,200 hours time in service.

Material was found in the threads of the stud that had pulled out. The material was analyzed and found to be consistent with the aluminum base alloy used for the housing, and the stud. Examination of the stud hole revealed it was oversized. However, exact hole measurements could not be taken due to hole damage. A no-go gage could be partially inserted in the holes.

Testing performed at PWC found that stainless steel 303 studs would shear at 125 inch-pounds, and the studs made from the stronger A-286 material would shear at 250 inch-pounds. In the testing, the studs sheared, but did not pull out of the housing.

The maximum fuel pressure inside the housing was 50 psi. The force required to pull out the three studs was calculated at 13,653 pounds.

Examination of the Steward Warner Component Maintenance Manual revealed following:

1. - No requirements for inspecting the studs for straightness. 2. - No information as to whether a stud would be removed if it were bent, with no other physical damage noted to the housing or stud. 3. - The stud replacement repair procedures, gave a general technique for the removal of studs, but did not provide specific details such as; drill size, drill depth, or the use of drill guides. 4 - There were no notes, cautions or warning that damage to the housing threads were not repairable and when the housing was to scrapped. 5 - No final inspection was specified after a repair, such as a torque check for the proper engagement of the stud with the housing and whether the stud was straight.

ADDITIONAL INFORMATION

The investigation revealed that the fire occurred initially in an area not protected by fire detectors. In addition, there was an ambient air flow in the area of the fuel spill from front to rear, due to forward motion of the airplane through the air, and propeller air flow.

There were two fuel shutoffs. An airframe shut off actuated by the fire handle in the overhead panel, and a shutoff in the hydromechanical fuel control unit which was actuated by retarding the propeller condition levers on the center pedestal to the FUEL SHUTOFF position. The location of the ruptured fuel filter cover was between the two fuel shutoffs.

According to the EMERGENCY EVACUATION checklist, the immediate actions items are:

After the aircraft comes to a stop: Parking Brake SET
Condition Levers FUEL SHUTOFF Fire Handles PULL Agents AS REQUIRED

Note: For an engine fire on the ground, it is not necessary to wait 10 second before discharging the fire extinguishing agents. Both agents will be discharged to the engine with the fire indications.

SECONDARY ACTION

PA "EVACUATE! EVACUATE!" (Directions) Min
Cabin Lights ON Tower/Ground
(VHF-1) NOTIFIED Fuel
Pumps OFF Batteries (Before leaving Aircraft) OFF

National Transportation Safety Board
FACTUAL REPORT
AVIATION

NTSB ID: NYC98FA062
Occurrence Date: 01/21/1998
Occurrence Type: Accident

Narrative (Continued)

Additional Persons participating in this investigation

Mr. Accident Investigation Pratt & Whitney - Canada Longueuil, Quebec

Alain Bouillard Bureau Enquetes-Accidents Le Bourget, France

Robert Graham Stewart Warner, South Wind Corporation Indianapolis, Indiana

National Transportation Safety Board

FACTUAL REPORT AVIATION

NTSB ID: NYC98FA062

Occurrence Date: 01/21/1998

Occurrence Type: Accident

Landing Facility/Approach Information

Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
BRADLEY INTL AIRPORT	BDL	174 Ft. MSL	33	6846	150

Runway Surface Type: Asphalt

Runway Surface Condition: Dry

Approach/Arrival Flown: Visual

VFR Approach/Landing: None

Aircraft Information

Aircraft Manufacturer	Model/Series	Serial Number
Aerospatiale	ATR-42-320 /ATR-42-320	175

Airworthiness Certificate(s): Transport

Landing Gear Type: Retractable - Tricycle

Amateur Built Acft?	Number of Seats:	Certified Max Gross Wt.	Number of Engines:
No	46	37059 LBS	2

Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:
Turbo Prop	P&W	PW121	2150 HP

- Aircraft Inspection Information

Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time
Continuous Airworthiness	12/1997	201 Hours	18157 Hours

- Emergency Locator Transmitter (ELT) Information

ELT Installed?/Type		ELT Aided in Locating Accident Site?
Yes /	No	

Owner/Operator Information

Registered Aircraft Owner	Street Address		
CONTINENTAL AIRLINES	2929 ALLEN PKWY STE 1900		
	City: HOUSTON	State: TX	Zip Code: 77019

Operator of Aircraft	Street Address		
CONTINENTAL EXPRESS	15333 JFK BLVD, STE 600		
	City: HOUSTON	State: TX	Zip Code: 77032

Operator Does Business As: CONTINENTAL EXPRESS

Operator Designator Code: C2XA

- Type of U.S. Certificate(s) Held:

Air Carrier Operating Certificate(s): Flag Carrier/Domestic

Operating Certificate:

Operator Certificate:

Regulation Flight Conducted Under: Part 121: Air Carrier

Type of Flight Operation Conducted: Unknown;Scheduled; Domestic; Passenger/Cargo

National Transportation Safety Board

FACTUAL REPORT AVIATION

NTSB ID: NYC98FA062

Occurrence Date: 01/21/1998

Occurrence Type: Accident

First Pilot Information

Name	City	State	Date of Birth	Age
On File	On File	On File	On File	27

Sex: M | Seat Occupied: Left | Occupational Pilot? Civilian Pilot | Certificate Number: On File

Certificate(s): Airline Transport; Flight Instructor

Airplane Rating(s): Multi-engine Land; Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): Airplane Multi-engine; Airplane Single-engine

Current Biennial Flight Review?

Medical Cert.: Class 1 | Medical Cert. Status: Valid Medical--no waivers/lim. | Date of Last Medical Exam: 07/1997

- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Night	Instrument Actual	Instrument Simulated	Rotorcraft	Glider	Lighter Than Air
Total Time	3200	850	1200	2000	400	375	40			
Pilot In Command(PIC)	2400	850	1140	1100	360	250				
Instructor	675		600	75	100	25	40			
Instruction Received										
Last 90 Days	200	200		200	25	20				
Last 30 Days	65	65		65	8	5				
	6	6		6	1					

Yes | Yes | No | Yes

Flight Plan/Itinerary

Type of Flight Plan Filed: VFR/IFR

Departure Point	State	Airport Identifier	Departure Time	Time Zone
NEWARK	NJ	EWR	2015	EST

Destination	State	Airport Identifier
Same as Accident/Incident Location		BDL

Type of Clearance: IFR

Type of Airspace: Class C

Weather Information

Source of Wx Information:

Company

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB ID: NYC98FA062

Occurrence Date: 01/21/1998

Occurrence Type: Accident

Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
BDL	2126	EST	174 Ft. MSL	0 NM	0 Deg. Mag.

Sky/Lowest Cloud Condition: Clear 0 Ft. AGL | Condition of Light: Night/Dark

Lowest Ceiling: None 0 Ft. AGL | Visibility: 10 SM | Altimeter: 30.00 "Hg

Temperature: 3 °C | Dew Point: -8 °C | Weather Conditions at Accident Site: Visual Conditions

Wind Direction: 310 | Wind Speed: 5 | Wind Gusts:

Visibility (RVR): 0 Ft. | Visibility (RVV) 0 SM

Precip and/or Obscuration:

Accident Information

Aircraft Damage: Substantial | Aircraft Fire: Ground | Aircraft Explosion None

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot				1	1
Second Pilot				1	1
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants			1		1
Other Crew					
Passengers				36	36
- TOTAL ABOARD -			1	38	39
Other Ground	0	0	0		0
- GRAND TOTAL -	0	0	1	38	39

National Transportation Safety Board FACTUAL REPORT AVIATION	NTSB ID: NYC98FA062	
	Occurrence Date: 01/21/1998	
	Occurrence Type: Accident	

Administrative Information

Investigator-In-Charge (IIC)

ROBERT L. HANCOCK

Additional Persons Participating in This Accident/Incident Investigation:

STEVEN RACICOT
WINDSOR LOCKS, CT

PIERRE SCARFO
WASHINGTON, DC

DAVID W CASE
WASHINGTON, DC

FRED JUNEK
HOUSTON, TX

National Transportation Safety Board
Washington, DC 20594

Printed on : 6/5/2009 10:32:19 AM

Brief of Accident

Adopted 07/26/2001

NYC98FA062
File No. 10201 | 01/21/1998 | WINDSOR LOCKS, CT | Aircraft Reg No. N15827 | Time (Local): 21:23 EST

Make/Model:	Aerospatiale / ATR-42-320
Engine Make/Model:	P&w / PW121
Aircraft Damage:	Substantial
Number of Engines:	2
Operating Certificate(s):	Flag Carrier/Domestic
Name of Carrier:	CONTINENTAL EXPRESS
Type of Flight Operation:	Scheduled; Domestic; Passenger/Cargo
Reg. Flight Conducted Under:	Part 121: Air Carrier

	Fatal	Serious	Minor/None
Crew	0	0	3
Pass	0	0	36

Last Depart. Point:	NEWARK, NJ
Destination:	Same as Accident/Incident Location
Airport Proximity:	On Airport/Airstrip
Airport Name:	BRADLEY INTL AIRPORT
Runway Identification:	33
Runway Length/Width (Ft):	6846 / 150
Runway Surface:	Asphalt
Runway Surface Condition:	Dry

Condition of Light:	Night/Dark
Weather Info Src:	Weather Observation Facility
Basic Weather:	Visual Conditions
Lowest Ceiling:	None
Visibility:	10.00 SM
Wind Dir/Speed:	310 / 005 Kts
Temperature (°C):	3
Precip/Obscuration:	

Pilot-in-Command Age: 27

Certificate(s)/Rating(s)
Airline Transport; Flight Instructor; Multi-engine Land; Single-engine Land

Airplane

Flight Time (Hours)

Total All Aircraft:	3200
Last 90 Days:	200
Total Make/Model:	850
Total Instrument Time:	415

During the landing roll, a fire erupted in the right engine. The airplane was stopped on the runway, the engines were shut down, and the occupants evacuated. The investigation revealed that one of three studs used to hold the fuel filter on the fuel/oil heat exchanger had pulled out of the housing. This allowed fuel to spill into the engine bay and come in contact with hot engine surfaces. The installed unit had accumulated about 1,000 hour since overhaul. Examination of the unit revealed the stud had pulled out of an oversized lug hole. Examination of the overhaul manual published by the component manufacturer revealed insufficient information on procedures for working with the lug holes and how to ensure the lug holes were properly drilled and the studs properly inserted in the lug holes.

NYC98FA062
File No. 10201 | 01/21/1998 | WINDSOR LOCKS, CT | Aircraft Reg No. N15827 | Time (Local): 21:23 EST

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: LANDING - ROLL

Findings
1. (C) FUEL SYSTEM,FILTER - CROSS/STRIPPED THREADED
2. (C) MAINTENANCE,OVERHAUL - IMPROPER - OTHER MAINTENANCE PERSONNEL
3. (F) CONDITION(S)/STEP(S) INSUFFICIENTLY DEFINED - MANUFACTURER
4. (C) FUEL SYSTEM,FILTER - FAILURE,TOTAL

Occurrence #2: FIRE
Phase of Operation: LANDING - ROLL

Findings Legend: (C) = Cause, (F) = Factor

The National Transportation Safety Board determines the probable cause(s) of this accident as follows.
The improper overhaul of lug holes on the fuel/oil heat exchanger. A factor was the lack of direction contained in the manufacturer's overhaul manual for working with the lug holes.

CEN09MA142 Section 1

Attachment 1.1.2 Accident Flap Repair

AERO INTERNATIONAL (REGIONAL)

TECHNICAL	
DS/W/T ✓	DS/W
DS/W/TY	DS/W/L
JOEY S	DS/W/S
BP	DS/W/F
SM	
MA	DS/W/AC
~~JOHNS/TA~~	DS/W/AP
DS/W/TS	DS/W/TL
KP	AMI
MC	
DC	FSR
RB ✓	

FAX NOTE

To : AIRAMS
Attn : R. Benenati
CC : P.Chauvin (2 fpo), DS/ET, CLT
Fax : 00 1 703 736 4399
From : Pascal Canguilhem (DS/ET/E)
Fax : (33) 5 62 21 62 90
Phone : (33) 5 62 21 67 91

Date : 5 Feb 98

Our Ref : DS/ET 603.367/98

N° of sheet(s) including cover : 10

DS/WL-RN
DS/W
DS/A

Please call if this message is not received clearly

<u>SUBJECT</u>: *ATR 42-COEX MSN175 / ATA 57 / REAR SPAR WEB REPAIR AND UNDERWING NACELLE REPLACEMENT ON RH WING.*

This is a "full" working party to set-up!

As a permanent fix, partial replacement of the rear spar web (from rib 11 to 13) will be required. For info, please find here advanced copy of repair drawings S571R0056 and S571R0057 just to give you an idea of the cutting and splicing involved.

- S571R0056; cutting and splicing of rear spar web.
- S571R0057; cutting and splicing of ribs 11 and 12.

Installation of the new r/spar will be done from inside the centre wing box with access gained between ribs 10 and 13 (centre wing upper skin panel removed). Performing such installation from the outside would be less practical and with high risk of damage to the structure (new spar web, r/spar flanges, rib 13 junction fitting, etc...).
However, we have just realised that the refuelling pipe which runs along the r/spar at the level of stringer 9/10 (see drawing S28210004) is in the way. At this minute, we are still looking at what would be the best solution to tackle this problem. It appears that the outer wing upper skin panel may also have to be removed.

Below are the main steps for the r/spar repair and underwing nacelle replacement work required for MSN 175.

1/ <u>AIRCRAFT PREPARATION</u>:

- Empty fuel tanks, both wings.
- Load relieve centre wings (engines removed) for removal of the centre wing upper skin panel on RH wing, refer JIC 07-20-00 SOG 10004 and associated tools.

2/ <u>REAR SPAR REPAIR</u>: (refer to drawings provided)

- Remove centre wing upper skin panel on RH wing.
- Remove fasteners attaching r/spar web (from rib 11 to 13) and fasteners attaching ribs 11 and 12 (from r/spar to relevant stringer or cut out position).
- Remove all equipment parts/supports from r/spar web.
- Remove rib 11 and 12 horizontal stiffeners.

AERO INTERNATIONAL (REGIONAL)

FAX NOTE

- Disconnect and remove fuel pipes in the area. For this, the outer wing box may have to be opened.
- Cut r/spar web just inboard of rib 11.
- Cut ribs 11 and 12 at stringer 6/7 position and cut rib 12 lower fitting at stringer 10 position.
- Splice new spar web.
- Install new horizontal stiffeners on ribs 11 and 12.
- Splice ribs 11 and 12 (use existing ribs) and restore end of rib 12 lower fitting which had been removed.
- Re-install all fasteners and close up.
- Refuel tanks and check for absence of leaks.

3/ UNDERWING NACELLE REPLACEMENT: (refer TI 57-03-88)

- Remove old nacelle assy from skin attachment angles and spar attachment fittings.
- Back drill new nacelle assy and associated parts.
- Install new nacelle assy.
- Close up and checks.

Repair kit lists are being produced and will be made available to AIRAMS and COEX shortly together with a cost evaluation of the total work and parts required; cycle/manhours, repair design, repair kits, etc...

Please call me if you have any questions.

Regards,

[redacted]

Pascal Canguilhem

AERO INTERNATIONAL (REGIONAL)

FAX NOTE

To	: AIRAMS	Attn	: R. Benenati / R. Nelson
CC	: DS/TW, DS/BS, DS/ET, CLT V. Panico (AIRAMS)	Fax	[redacted]
From	: Pascal Canguilhem (DS/ET/E)		
Fax	: [redacted]	Phone	[redacted]
Date	: 23 Feb 98		
Our Ref	: DS/ET 603.0552/98	N° of sheet(s) including cover :	3

Please call if this message is not received clearly

***SUBJECT**: ATR 42-COEX MSN175 / ATA 54-57 / RH WING REAR SPAR AND UNDERWING NACELLE.*

Please find an update of the situation regarding above subject.

- Find attached General Instruction ref DS/ET 603.0527/98 giving the main steps for the whole repair work required. A copy of the G.I. was given to our working party representative (J.P. Guedes) prior to his departure.
- The specific Technical Dispositions referenced in the G.I. will be faxed to you when both completed i.e. sometime before Friday 27 Feb.
- The two repair drawings S571R0056 and R0057 have been approved by our stress office and a scale 1:1 copy was also given to J.P Guedes.

Regards,

[redacted]
Pascal Canguilhem

ATR42-300 / COEX MSN 175 / RH ENGINE FIRE

REAR SPAR WEB AND UNDERWING NACELLE REPAIRS ON RH WING

MAIN STEPS

1 - AIRCRAFT PREPARATION:

- EMPTY AND DRAIN FUEL TANKS, BOTH WINGS.
  Ref JIC 12-11-00 DFG 10000

- REMOVE LH AND RH ENGINES.
  Ref JIC 72-00-00 REM 10000-005

- PUT AIRCRAFT ON JACKS
  Ref JIC 07-11-00 JUP 10000

- LOAD RELIEVE LH AND RH WINGS FOR REMOVAL OF RH UPPER WING PANELS. USE APPROPRIATE TOOLS.
  Ref JIC 07-20-00 SOG 10004-001 or SOG 10014-001

2 - REAR SPAR WEB REPAIR, RIBS 10-13:

- REMOVE INBOARD FLAP AND TRAILING EDGE ASSEMBLIES, FROM RIB 4 TO 13.
  Ref JIC 57-52-00 RAI 10000-001
  Ref JIC 57-54-10 RAI 10000-001

- REMOVE CENTRE WING REMOVABLE PANEL.
  Ref JIC 57-14-12 RAI 10000-017

- REMOVE OUTER WING REMOVABLE PANEL.
  Ref JIC 57-24-12 RAI 10000-010

- DISCONNECT AND REMOVE FUEL PIPES INSIDE CENTRE WING BOX IN WORKING AREA, BETWEEN RIBS 10 AND 13.

- IF NECESSARY, FREE WORKING AREA AFT OF REAR SPAR FROM ELECTRICAL WIRES AND HYDRAULIC PIPES.

- PERFORM REAR SPAR WEB REPAIR.
  Ref Repair Drawings S571R0056, S571R0057 and Technical Disposition DS/ET 603.0551/98.

3 - UNDERWING NACELLE REPAIR: Ref Technical Disposition DS/ET 603.0550/98

- REMOVE WHOLE TUBULAR ENGINE MOUNT STRUCTURE.
  Ref JIC 54-11-61 RAI 10000
  Ref JIC 54-21-61 RAI 10000
  Ref JIC 54-21-63 RAI 10000

- REMOVE EXISTING UNDERWING NACELLE ASSEMBLY AND PLACE IT UPSIDE DOWN ON A STOUT AND LEVEL STAND.
- RIG UNDERWING NACELLE ON STAND TO ENABLE REMOVAL OF REAR FRAME.
- PERFORM UNDERWING NACELLE REPAIR
- RE-INSTALL AND ADJUST UNDERWING NACELLE ON CENTRE WING BOX.
- RE-INSTALL ENGINE MOUNT STRUCTURE
  Ref JIC, same as for removal.

4 - CLOSE-UP AND CHECKS:

- RE-INSTALL ALL ELECTRICAL WIRES AND HYDRAULIC PIPES.
- RE-INSTALL FUEL PIPES INSIDE WING BOX.
- RE-INSTALL REMOVABLE WING PANELS.
  Ref JIC, same as for removal.
- RE-INSTALL FLAP AND TRAILING EDGE ASSEMBLIES.
- LOWER AIRCRAFT ON ITS WHEELS.
  Ref JIC 07-20-00 SOG 10004 or 10014
- RE-INSTALL LH AND RH ENGINES.
  Ref JIC 72-00-00 INS 10000-014
- REFUEL LH AND RH WING TANKS.
- CHECK FOR ABSENCE FUEL LEAKS.

5 - OTHERS:

- REPLACE SIDE STRUT (incl. associated bolting assembly) OF RIB 13 FLAP SUPPORT BEAM.
  Ref SRM 57-15-30 Fig. 3 item 60
  Ref DRWG S570 10080

Compiled by Pascal CANGUILHEM

[redacted]

STRUCTURAL REPAIR APPROVAL SHEET

Major	X	Minor	

Sheet Reference : S571R0056..1117 **Issue:** B sh 1 of 1

Aircraft Serial Number: 175 **Registration:** N15827
Airline : CONTINENTAL (ATR 42-320-FW121)
Flight Hours : 18185
Flights : 21750
Incident Date : JAN . 22 . 1998

Brief Damage Description and Location : RH WING REAR SPAR WEB & RIBS PARTIAL REPLAC. BTW RIB LOC. 10 AND 12 DUE TO ENGINE FIRE (see DOC. DS/ET603.629/98 dated MAR . 02 . 1998 for dam. descript.)

REPAIR DRAWING(s) : 21S571R0056 Issue B Date : MAR . 24 . 1998 , 21S571R0057 Sh. 1 Issue B and Sh. 2 Issue A Date : MAR . 23 . 1998 , T. D. DS/ET603.551/98

Justification Document Reference(s): STATIC : NOTE AS 542.4002/98 FATIGUE : NOTE AS 528.1063/98 ED 01

Maintenance Program:
Existing Inspection Tasks: ZL-620-GVI-10000 ; ZL-521-GVI-10000

Supplementary Inspection Tasks: NONE

Permanent validity	X

Temporary validity *	
Repair life limitation	

* *pending final fatigue justification approval*

GIE ATR
Visa [redacted]
M. FERRERO
Date : MAY . 18 . 1998

AEROSPATIALE Stress Office
Visa [redacted]
J. MARTINEZ
Date : 01 / 05 . 1998

DGAC or GSAC Approval: SPAé
SECTION NAVIGABILITE
04 JUIN 1998
Date : __ . ___ . 1998
Visa : [redacted]

Prepared by : DS/ET/D : C. Valentino