





Avioserv San Diego, Inc.  
 6495 Marindustry Place,  
 San Diego, CA 92121  
 PH (858) 812-9700  
 FAX (858) 812-9701

## LIFE LIMITED PARTS STATUS SHEET

**Model: CFM56-3B1**

**ESN: 722386**

**Date: 6/8/2010**

TIME SINCE NEW 50,020  
 CYCLES SINCE NEW 39,415  
 TIME SINCE LAST SHOP VISIT 6,638  
 CYCLES SINCE LAST SHOP VISIT 2,882

LAST REPAIR AGENCY Lufthansa  
 LAST SHOP VISIT DATE 12/04/06  
 ENGINE CONFIGURATION TBD  
 ENGINE LOCATION TBD

Description	Part Number	Serial Number	Total Time	Cycles Life limit			Cycles Recorded			Life Used %	Cycles Remaining		
				Cat A	Cat B	Cat C	Cat A	Cat B	Cat C		Cat A	Cat B	Cat C
Fan Disk	335-014-511-0	DC094156	16,773	30,000	24,900	20,100	9,688	0	0	32.29%	20,312	16,858	13,609
Booster Spool	335-009-306-0	DC094015	16,773	30,000	30,000	30,000	9,688	0	0	32.29%	20,312	20,312	20,312
Fan Shaft	335-006-414-0	DC329514	16,773	30,000	30,000	30,000	9,688	0	0	32.29%	20,312	20,312	20,312
Front Shaft	1275M37P02	GWN0528W	16,773	20,000	20,000	20,000	9,688	0	0	48.44%	10,312	10,312	10,312
Stage 1-2 Spool	1589M66G02	GWN04KRL	16,773	20,000	20,000	20,000	9,688	0	0	48.44%	10,312	10,312	10,312
Stage 3 Disk	1590M59P01	GWN04CEM	16,773	20,000	20,000	20,000	9,688	0	0	48.44%	10,312	10,312	10,312
Stage 4-9 Spool	1588M89G03	GWN05CRM	16,773	20,000	20,000	15,800	9,688	0	0	48.44%	10,312	10,312	8,146
Compressor Rear Airs	1319M25P02	GFF5A2E0	16,773	20,000	18,000	15,000	9,688	0	0	48.44%	10,312	9,280	7,734
Front Shaft	1385M90P04	XAE35990	16,773	20,000	17,300	17,000	9,688	0	0	48.44%	10,312	8,919	8,765
Front Air Seal	1282M72P05	XAE34430	16,773	20,000	15,800	15,100	9,688	0	0	48.44%	10,312	8,146	7,785
HPT Disk	1475M29P02	GWN04H5C	16,773	20,000	18,500	16,600	9,688	0	0	48.44%	10,312	9,538	8,558
Rear Shaft	9514M71P05	TMTGG242	30,605	25,000	20,000	15,800	19,578	0	0	78.31%	5,422	4,337	3,426
Stage 1 Disk	301-331-126-0	DA481324	30,605	25,000	25,000	25,000	19,578	0	0	78.31%	5,422	5,422	5,422
Stage 2 Disk	301-331-227-0	BA294739	30,605	25,000	25,000	25,000	19,578	0	0	78.31%	5,422	5,422	5,422
Stage 3 Disk	301-331-322-0	BA617568	30,605	25,000	25,000	25,000	19,578	0	0	78.31%	5,422	5,422	5,422
Stage 4 Disk	301-331-427-0	DA480836	30,605	25,000	25,000	25,000	19,578	0	0	78.31%	5,422	5,422	5,422
LPT Conical Support	305-056-116-0	DA481174	30,605	25,000	25,000	25,000	19,578	0	0	78.31%	5,422	5,422	5,422
LPT Shaft	301-330-067-0	LA096045	16,773	30,000	30,000	30,000	9,688	0	0	32.29%	20,312	20,312	20,312
LPT Stub Shaft	301-330-626-0	B647692	30,605	25,000	25,000	25,000	19,578	0	0	78.31%	5,422	5,422	5,422

ALTHOUGH THE INFORMATION IN THIS REPORT HAS BEEN OBTAINED FROM SOURCES WHICH AVIOSERV SAN DIEGO, INC. BELIEVES TO BE RELIABLE, SUCH INFORMATION MAY BE INCOMPLETE OR CONDENSED. ALL DATA AND INFORMATION INCLUDED IN THIS REPORT IS FOR INFORMATION PURPOSES ONLY, AND IS NOT INTENDED AS OFFICIAL DOCUMENTATION WITH RESPECT TO THE PURCHASE OF THIS ENGINE OR PARTS OF.



KD Avia  
Airport Khrabrovo, Kaliningrad Region  
238315 Russian Federation

## **ESN 722386 Non-incidents / Non-Accident Statement:**

Date: September 8<sup>th</sup> 2009

Engine Model: **CFM56-3B-1**  
MFR S/N: **722386**

This Letter is to confirm that with regard to the above mentioned CFMI Engine Model CFM56-3B-1 bearing manufacturer serial number 722386. KD Avia, hereby confirms that to the best of our knowledge the above mentioned Engine has not been subjected to any incident, accident, failure or fire, extreme stress or over-temperature outside of normal operations, immersion in salt water nor was it obtained by, or operated by any Government or Military agencies during it's operation with KD Avia until 8<sup>th</sup> September 2009.

Furthermore, during the time the above mentioned engine was owned and operated by KD Avia we can confirm that this engine was not altered from its original approved Type Certificate and has not been altered in type design.

Engine Serial Number: **722386**  
Engine Model Type: **CFM56-3B-1**  
Final Engine TSN: **50,020**  
Final Engine CSN: **39,415**

Yours faithfully,

Signed:   
\_\_\_\_\_

Signature date: 08.09.2009

Name: S. KOZLENKO

Title: Quality Assurance Manager



# DVD VIDEO BORESCOPE INSPECTION REPORT

**FOR AERO TURBINE - 2323 NW 82 AVE - MIAMI, FLORIDA 33122**

<b>ESN</b> <u>722-386</u>	<b>POSITION</b> <u>ONE</u>	<b>ENG TYPE</b> <u>CFM56-3-B1</u>	<b>DATE</b> <u>JANUARY 06, 2010</u>
<b>MODEL</b> <u>B737-300</u>	<b>MSN</b> <u>N/A</u>	<b>REG#</b> <u>EI-DMM</u>	<b>REASON</b> <u>ACCEPTANCE INSPECTION</u>
<b>JOB SITE</b> <u>EUROPE AVIATION, CHATEAUROUX, FRANCE</u>			

SUBJECT MM REFERENCE/DISCREPANCIES (IF ANY)

**GENERAL INSPECTION REFERENCE AMM 72-00-00**

**Exterior Inspection** RH fan cowl, igniter boxes & leads, PMC and anti-ice ducts and oil tank are secure and no broken mounts. LH fan cowl, starter duct & start valve, hydraulic lines and wire harness are all secure with no broken mounts.

**Accessory Drive Gearbox** Starter, CSD, generator, angle gearbox, hydraulic pump, fuel pump and MEC are secure with no evidence of leaks. No damage to the plumbing or tubes.

**Compressor Cases** No damage to the LP compressor bleed valves. No visible bent or broken HP variable stator vanes, customer service ducts have no cracks or evidence of leaking, fuel nozzles have no evidence of leaking. Heat shields for HP turbine cooling manifold has no missing material.

**Exhaust Cases** LP turbine cooling tubes have no dents or evidence of cracks or leaks. No cracked manifold lugs.

**Exhaust Cone** *Axial crack across weld at 9:00 has been previously stop drilled.*



**SUGGESTED ACTION: None**

**LOW PRESSURE COMPRESSOR INSPECTION REFERENCE AMM 72-00**

**38 LPC 1 FAN** LE of the fan blades are smooth to the touch with acceptable shop blends. No recent FOD damage, no missing material or heavy rubs around the running seal. Acoustical panels were secure with no loose or missing fasteners.

**EXIT GUIDE VANES** No discrepancies noted at this time.

**68 LPC 2 BLADES** No discrepancies noted at this time.

**68 LPC 3 BLADES** No discrepancies noted at this time.

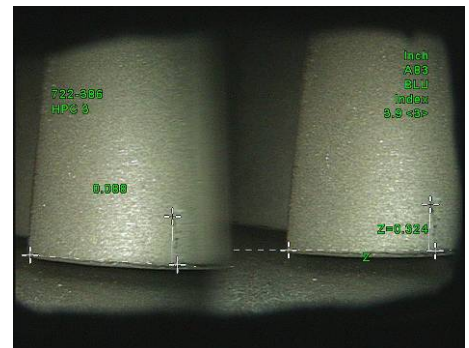
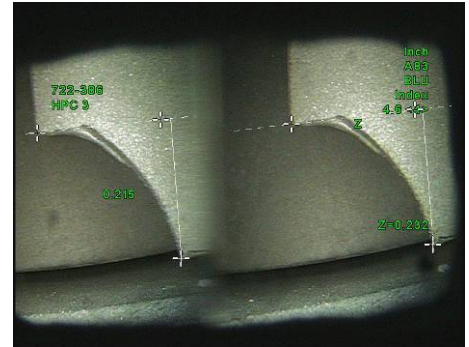
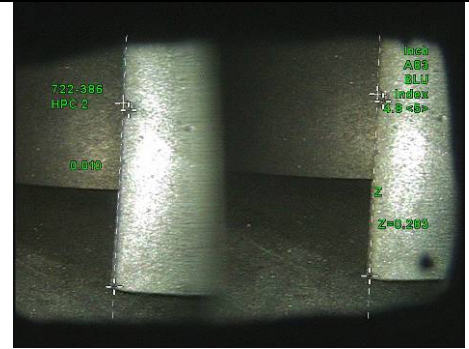
**68 LPC 4 BLADES** No discrepancies noted at this time.



**SUGGESTED ACTION: None**

**HIGH PRESSURE COMPRESSOR INSPECTION REFERENCE AMM 72-00**

- 38 HPC 1 BLADES** No discrepancies noted at this time.
- 53 HPC 2 BLADES** Small nick on the LE Dim A <.010" one blade has a small tear and is acceptable. Ref. 72-00-00 pg. 617 attached.
- 60 HPC 3 BLADES** Missing LE tip corner one blade <.250" x .250" is acceptable. Radial tip crack in one blade .324" in from LE and .088" in length is acceptable. Shop blends are acceptable. Ref. 72-00-00 pg. 616, 618 attached.
- 68 HPC 4 BLADES** Minor dents on the LE of three blades in Dim A, one in Dim B all <.020" are acceptable. Ref. 72-00-00 pg. 617 attached
- 75 HPC 5 BLADES** No discrepancies noted at this time.
- 82 HPC 6 BLADES** Minor nicks in Dim A, Dim B & lower 25% on a few blades <.020" are acceptable. Ref. 72-00-00 pg. 617, 618 attached.
- 82 HPC 7 BLADES** Small dents on the LE Dim A <.020" on a few blades are acceptable. Ref. 72-00-00 pg. 618 attached.
- 80 HPC 8 BLADES** Small dents on the LE Dim A <.020" on a few blades are acceptable. Ref. 72-00-00 pg. 618 attached.
- 76 HPC 9 BLADES** No discrepancies noted at this time.



**SUGGESTED ACTION: None**

**COMBUSTOR INSPECTION REFERENCE AMM 72-00**

**BULKHEAD** No discrepancies noted at this time.

**FUEL NOZZLES** No discrepancies noted at this time.

**INNER & OUTER LINERS** No discrepancies noted at this time.



**HPT NGV's** No discrepancies noted at this time.



**SUGGESTED ACTION: None**

**HIGH PRESSURE TURBINE INSPECTION REFERENCE AMM 72-00**

**DISCOURAGER SEAL** No discrepancies noted at this time.

**HPT SHROUDS** No discrepancies noted at this time.

**72 HPT BLADES LE** *Missing material from tip cap on two blades is acceptable. Ref. 72-00-00 pg. 655 attached.*

**72 HPT BLADES TE** No discrepancies noted at this time.  
**Note:** 2-3 wear notch indicators appear on two witness blades at this time.



**SUGGESTED ACTION: None**

**LOW PRESSURE TURBINE INSPECTION REFERENCE AMM 72-00**

**LPT 1 NGV's** A few vanes have acceptable LE axial cracks <.600" in length. Ref. 72-00-00 pg. 652 attached.

**174 LPT 1 BLADES** Shop blends are acceptable.

**162 LPT 2 BLADES** No discrepancies noted at this time.

**157 LPT 3 BLADES** No discrepancies noted at this time.

**160 LPT 4 BLADES** No discrepancies noted at this time.



**SUGGESTED ACTION: None**

*The contents of this report are based on attentive inspection and review and is exclusive of any damage not detectable without removal and disassemble of the unit. It is believed to be a true representation of the engine. This report is submitted in confidence to the above named client. The engines inspected were prepared for borescope by the facility named above under job site and returned to original condition by the same facility. Maintenance Manual pages attached to this report if any are uncontrolled and are for general reference only. Verify limits with current MM effective for this engine and or aircraft.*

**SIGNATURE**

*David F. Wiedman*

**A&P 2790563**

**DATE JANUARY 06, 2010.**

# RUN UP CFM56-3B1

A/C	B737-300	IMAT	EI-DMM	EEC 1	FOB BEFORE	3480	DATE	1/5/2010		
STATION	CHR	ESN 1	722386	EEC 2	FOB AFTER	1800				
BARO	1005	ENS 2	722410	EEC 2	FUEL USED	1680				
TEMP:	-6	W DIRECTION	45	WIND SPEED	17KT					
ENGINE START DATA										
	FUEL FLOW	TIME TO IDLE	OIL QTY	OIL PRESS	OIL TEMP	VIBRATION	EGT	GEN ELEC		
ENG1	0.3	40	60	22	118	0	450	115-400		
ENG2	0.3	40	66	24	123	0	458	115-400		
	DEPRESS HYD	HYD QTY	HYD PRESS	HYD EMDP						
HYD A		100	3050	3100						
HYD B		94	3050	3050						
TEST N 5 POWER ASSURANCE CHECK										
ENG	OAT	TARGET N1	MPA TEST 85% N1							
			N1	N2	FF	EGT	VIB	OIL QTY	OIL TEMP	OIL PRESS
N2 MAX				92,8						
EGT MAX							720			
1	-6	82,0	79,8	90,5	0,38		674			
2	-6	82,0	79,8	91,8	0,38		690			
ENG	OAT	TARGET N1	MPA TEST 90% N1							
			N1	N2	FF	EGT	VIB	OIL QTY	OIL TEMP	OIL PRESS
N2 MAX				95,3						
EGT MAX							774			
1	-6	86,9	86,8	93,1	0,42		730			
2	-6	86,9	86,7	94,7	0,42		745			
ENG	OAT	TARGET N1	MPA TEST T/O							
			N1	N2	FF	EGT	VIB	OIL QTY	OIL TEMP	OIL PRESS
N2 MAX				97,2						
EGT MAX							820			
1	-6	88,6	93,7	95,9			735			
2	-6	88,6	95,0	96,1			757			
TEST 7 VIBRATION SURVEY										
ENG	OAT	BARO	STATIC T/O TARGET%N1			SELECTOR SWITCH POS				
			%N1	%N1	%N1	%N1	%N1	%N1		

## CALCULATIONS IAW AMM 71-00-00 PB 532

ENG = 1 SN:722386

ENG = 2 SN:722410

N1 DIFF 86,9 - 86,8 = **0,1%**

86, -86,7 = **0,2%**

EGT R + N1 730 + 1 = 731°C

745 + 2 = 747

EGT ADJ **731°C**

**747°C**

N2 ADJ ( 93,1+ 1 ) X 0,045 = 93,14 %

( 94,7 + 2 ) X 0,045 = 94,79 %

N2 MAX **95,3%**

**95,3%**

N2 MARGIN 95,3 - 93,14 = 2,16 %  
**2,16 %**

95,3 - 94,79 = 0,51 %  
**0,51 %**

EGT MARGIN 774 - 731 = 43 °C  
**43°C**

774-747 = 27 °C  
**27°C**

### Result of the MPA Test at 90% N1

N2 margin = 2,16%  
EGT margin = 43°C - 10°C = **33°C At Alt (500 feet)**

N2 margin = 0,51%  
EGT margin = 27°C - 10°C = **17°C At Alt (500 feet)**

CHR

CHR





OPEN JOINT STOCK COMPANY "KD AVIA"  
Airport, v. Khrabrovo, Gurievskiy district,  
Kaliningrad region, 238315, Russia  
tel +7 4012 355 083  
fax +7 4012 355 085  
info@kdavia.ru  
www.kdavia.ru

**Date:** September 18, 2009

To Whom It May Concern:

**Subject: Oil and Fluid Statement**

This letter confirms that during operation at KD Avia the following aircraft, engines and APU have been serviced in accordance with manufacturers recommendations using the fluids identified in the manufacturers maintenance manual.

Description	Serial number	Oil/Fluid used
Airframe hydraulic system	MSN: 24092	Skydrol LD4 (BMS 3-11M)
Engine # 1	ESN: 722386	Mobil Jet Oil II (MIL-PRF-23699)
Engine starter #1	n/a	Mobil Jet Oil II (MIL-PRF-23699)
IDG #1	n/a	Mobil Jet Oil II (MIL-PRF-23699)
Engine # 2	ESN : 722410	Mobil Jet Oil II (MIL-PRF-23699)
Engine starter #1	n/a	Mobil Jet Oil II (MIL-PRF-23699)
IDG #1	n/a	Mobil Jet Oil II (MIL-PRF-23699)
APU	SN: P-60451	Mobil Jet Oil II (MIL-PRF-23699)

Sincerely,

Sergey Kozlenko  
Manager Quality Assurance  
KD Avia



KD Avia Engine Trend Data.txt

200209	X	V	.	G	.	F	2	.	-999.99	0
210209	X	V	.	G	F		2	.	-999.99	0
210209	X	V	.	G	.	F	2	.	-999.99	0
220209	X	V	.	G	.	F	2	.	-999.99	0
220209	X	V	.	G	.	F	2	.	-999.99	0
220209	X	V	.	G	.	F	2	.	-999.99	0
220209	X	V	.	G	.	F	2	.	-999.99	0
230209	X	V	.	G	-FG	.	2	.	-999.99	0
240209	X	V	.	G	.	F	2	.	-999.99	0

1

REPORT ID: CRTRND      GE ENGINE CONDITION MONITORING PROGRAM      CONFIG V4.1.4A - JAN  
 2005      REPORT DATE: 27/02/2009  
 CRUISE PERFORMANCE MONITORING      - FROM 01/01/1980 TO 27/02/2009





**AIRWORTHINESS DIRECTIVES STATUS FOR CFM56-3 ENGINE**

Biweekly: 2009-18  
Date: 08.09.09

Notes: T - terminated; R - repetitive; O - open; S/S - superseded; N/A - not applicable; \* - see also

Aircraft	ESN:	AD/CN No.	Para.	Status	Description	SB, SL	Method of compliance	Compliance			Next Due			Period			Remarks
								Compl. Date	Compl. TFH	Compl. TFC	Next Date	Next TFH	Next TFC	Months	Flight Hours	Flight Cycles	
EI-DMM	722386	98-19-20		N/A	Failure of the HMU overspeed governor spool valve shaft												N/A to -3B power engines
EI-DMM	722386	98-21-23		N/A	Uncommanded engine acceleration event												N/A to -3B power engines
EI-DMM	722386	99-08-16		S/S	SUPERSEDED BY AD 2000-12-01												SUPERSEDED BY AD 2000-12-01
EI-DMM	722386	T97-25-51 F1998-096(B)		S/S	CFM 56-3B2 Turbofan Engines	CFM 72-861 R3											SUPERSEDED BY AD 98-10-11
EI-DMM	722386	T98-18-51		N/A	Uncommanded engine acceleration event												SUPERSEDED BY AD 98-21-23. N/A to -3B power engines
EI-DMM	722386	2000-05-22 F2000-018(B)		N/A	Detect cracks in the bolt holes of HPT front rotating air seals	CFM 72-922											N/A by S/N. S/N XAE34430 installed.
EI-DMM	722386	2000-12-01		S/S	Inspection of Fan Disc (all pins)&HPT Disc												SUPERSEDED BY AD 2002-13-03
EI-DMM	722386	2000-15-01 F1999-245(B) R3		N/A	Prevent fuel leakage from between the fuel pump filter cover and gear housing	CFM 73-0126 CFM 73A129											SB 73-126 R1 not applicable, SB 73-A129 previously complied with. Fuel Pump P/N 708600-7, S/N 12115 installed
EI-DMM	722386	2001-04-06 F1997-298(B) R3		O	Prevent fan disk failure	CFM 72-854					After next disassembly						Inspection perform: >35000<38500 FH/ >20000<22000 FC since new. Never lubricated with lubricants of Par. (g) of AD 2001-04-06 => N/A
EI-DMM	722386	2001-11-05 F2001-240(B)		N/A	Prevent bearing failure	CFM 72-A965 CFM 72-A966											N/A to equipment fitted. P/N 335-352-303-00 installed.
EI-DMM	722386	2001-17-14		N/A	To prevent an LPT conical support from remaining in service beyond its certified cyclic life limit												N/A to CFM-3B series engines.
EI-DMM	722386	2002-02-13		N/A	Uncontained Failure of Starter Due to Loss of Oil												CFM56-5 only
EI-DMM	722386	2002-13-03 F2002-390-JMP (B) R1		R	To prevent critical life-limited rotating engine part failure	Engine Shop Manual (ESM) CFMI-TP SM 5					36 533	piece part exposure					(Note: Engine Manual Revision performed). Fan Disk inspected at 36533 ETC. Fan Shaft open. HPC stg 1-2 Spool open. HPC stg. 3 Disk inspected at 36533 ETC. HPC stg. 4-9 Spool inspected at 36533 ETC. HPC Front Shaft inspected at 36533 ETC. HPT disk open. HPT front rotor seal open. LPT stg. 1 Disk, stg. 2 Disk, stg. 3 Disk open. LPT stg. 4 Disk inspected at 36533 ETC. LPT Stub Shaft open. LPT Rotor Support inspected at 36533 ETC. LPT Shaft open. OPEN: no piece part opportunity at last shop visit, perform inspection at next piece part exposure.
EI-DMM	722386	2002-16-18		N/A	Containment of LPT Rotor												CFM56-5B & -7B only
EI-DMM	722386	2003-02-04		N/A	Deterioration of Critical Rotating Engine Parts												CFM56-5B & -7B only
EI-DMM	722386	2004-10-13 F2004-095		N/A	Main fuel pump bearing failure prevention	CFM 73-0120 R5											N/A by P/N installed. Fuel Pump P/N 708600-7, S/N 12115 installed
EI-DMM	722386	2005-10-05		N/A	Air turbine starter uncontained failure prevention	80-011, 80-013, 80-018, 80-020											CFM56-5B only
EI-DMM	722386	2006-26-01		T	Replace fuel filter, Western Filter P/Ns WF337661 or WF337017 and PTI Technologies P/Ns 7595983-101 or 7588133		C73-11-02-4A-1 C73-11-02-4A-2	09.09.08									Do not install any fuel filter, Western Filter P/ Ns WF337661 or WF337017 or PTI Technologies P/Ns 7595983-101 or 7588133
EI-DMM	722386	2009-01-01		N/A	CFM56-5B1/P engines experiencing HPC stalls during climb out after takeoff												N/A to engine model. CFM56-5B1/P only.



**AIRWORTHINESS DIRECTIVES STATUS FOR CFM56-3 ENGINE**

Biweekly: 2009-18  
Date: 08.09.09

Notes: T - terminated; R - repetitive; O - open; S/S - superseded; N/A - not applicable; \* - see also

Aircraft	ESN	AD/CN No.	Para.	Status	Description	SB, SL	Method of compliance	Compliance			Next Due			Period			Remarks
								Compl. Date	Compl. TFH	Compl. TFC	Next Date	Next TFH	Next TFC	Months	Flight Hours	Flight Cycles	
EI-DMM	722386	2009-11-02		N/A	Do not install any engine with an HPC 4-9 spool that has a P/N and SN specified in Table 1 of FAA AD 2009-11-02		ED 737-0047										N/A to P/N and S/N installed

Chief Airworthiness:

pages 1 through 3  
 KD AVIA  
 QUALITY ASSURANCE  
 DEPARTMENT

# COPY

1. Approving Competent Authority / Country  LBA / Germany		<b>AUTHORISED RELEASE CERTIFICATE EASA FORM 1</b>				3. Form Tracking Number  WP926/041206/001	
4. Approved Organisation Name and Address:   <b>Lufthansa Technik</b>  Lufthansa Technik AG Weg beim Jäger 193 P.O. Box 63 03 00 D-22313 Hamburg Federal Republic of Germany						5. Work Order/Contract/Invoice  651204	
6. Item	7. Description	8. Part No.	9. Eligibility (*)	10. Qty	11. Serial / Batch No.		12. Status / Work
1	POWER PLANT	CFM56-3B1	B737	1	722386		REPAIRED/TESTED
13. Remarks FSCM 07482 ATA 71 00 / 72 00 TP R      MK-No. --    Pack Code --    Resp. Workshop 247926    Workshop Station HAM WT Please refer to Transfer Report TT: - 43382 - TC: - 36533 -							
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Return to Service in Accordance with U.S. Federal Aviation Regulations This civil aeronautical product has been maintained, altered, or modified (as appropriate) in accordance with U.S. Federal Aviation Regulations</p> <p style="text-align: center;">For Lufthansa Technik AG, HAMBURG, GERMANY FAA Certificate No.                      DLAY225D</p> <p><small>Note: If the above statement is completed with a location designation and certificate number, the statement in block 19 indicating "Other regulation specified in block 13" is checked, and block 20 of this EASA Form 1 is signed, this signature constitutes approval for return to service according to FAR 43.9 with respect to the work performed (see FAA Advisory Circular AC 145-7, as revised).</small></p> <p><input checked="" type="checkbox"/> Further details of work performed are attached either in a Workshop Report reference number see blocks 3 and 5 or in other applicable documents</p> </div>							
14. Certifies that the items identified above were manufactured in conformity to:			19 <input checked="" type="checkbox"/> Part-145.A.50 Release to Service <input checked="" type="checkbox"/> Other Regulation specified in block 13				
<input type="checkbox"/> approved design data and are in condition for safe operation <input type="checkbox"/> non-approved design data specified in block 13			Certifies that unless otherwise specified in block 13, the work, identify in block 12 and described in block 13, was accomplished in accordance with Part- 145 and in respect to that work the items are considered ready for release to service.				
15. Authorised Signature		16. Approval / Authorisation Number <b>DE.21G.0047</b>		20. Authorised Signature 		21. Certificate / Approval Ref. Number <b>DE.145.0001</b>	
17. Name		18. Date (d/m/y)		22. Name <b>Matlik</b> 		23. Date (d/m/y) <b>04 DEC 2006</b>	

EASA FORM 1 - Issue 1  
USER/INSTALLER RESPONSIBILITIES

- Note:
1. It is important to understand that the existence of the document alone does not automatically constitute authority to install the part/component/assembly.
  2. Where the user/installer works in accordance with the national regulations of the Airworthiness Authority different from the Airworthiness Authority specified in block 1 it is essential that the user/installer ensures that his/her Airworthiness Authority accepts parts/components/assemblies from the Airworthiness Authority specified in block 1.
  3. Statements 14 and 19 do not constitute installation certification. In all cases the aircraft maintenance record must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.



Lufthansa Technik

## AIRWORTHINESS DIRECTIVE STATUS

**Engine CFM 56-3-B1, Serial No. 722 386**

**Engine Total Time: 43 382 hrs.**

**Engine Total Cycles: 36 533**

**as of Date: 04 December 2006**

Issued on 11 December 2006 by

**Lufthansa Technik AG**

FAA Repair Station No. DLAY 225D

EASA Certificate Ref. No. DE.145.0001

Technical Documentation Engines

WP 312

Rieger

prepared by Rieger,





**Lufthansa Technik**

**Airworthiness Directive Status**

as of Date **04 December 2006**

Engine CFM56-3-B1. Serial No. **722 386**

Engine Total Time: **43 382** hrs.

Engine Total Cycles: **36 533**.

FAA AD No. (Amdt.) GSAC CN	Method of Compliance	Description	Status
86-08-05R1 (39-5339)	SB72-253	TGB-Oil Distributor Looseness	Not applicable since production (Ref. Delivery Documents).
88-11-01			Superseded by FAA AD 91-20-03
89-13-51 CN 90-031(B)R2			Superseded by FAA AD 96-25-11
89-17-04 CN 89-181(B)			Superseded by FAA AD 89-23-06 R1 Replaced by CN 89-181(B) R3
89-23-06 R1 (39-10290) CN 89-181(B) R3	SB72-530	Removal of suspect Bearing #3	Not applicable by Bearing P/N, P/N 1461M16P06 installed.
90-20-13 (39-6679) CN 90-031(B) R2	SB 72-494R2	Introduction of Fan Blade Damper	Not applicable by Fan Blade P/N (37° Fan Blades installed)
91-02-10 (39-6839) CN 91-030(B)	SB72-450R1 SB72-462R1	Introduction of new Splitter Fairing Reintroduction of 12 door VBV Config.	Previously complied with. Previously complied with.
91-20-03			Superseded by FAA AD 92-24-05
92-24-05 (39-8410)	SB 71A1208R2	Chafing VSV Fuel Lines on Air Duct Clamps	Previously complied with.



**Lufthansa Technik**

**Airworthiness Directive Status**

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FAA AD No. (Amdt.) GSAC CN	Method of Compliance	Description	Status
96-18-16 (39-9742) CN 97-010(B) R1	SB 72-695 Shop Manual Chapt. 05	LPT Conical Support and LPT Stub Shaft Life Time Reduction	Not applicable by instl. Conical Supp. P/N 305-056-116-0 not applicable by instl. Stubshaft P/N 301-330-626-0.
96-25-11 (39-9854)	SB 72-543R4	Fan Disk and 25° Fan Blade Thrust Restriction for -3C and -3B.	Not applicable by Thrust Rating. Fan Disk P/N 335-014-511-0 S/N DC094156 operated with max. thrust <=20klbs.
97-08-01 (39-9989) CN 94-195(B)	Shop Manual Chapt. 05-11-01 R38	Reduced Fan Disk Life Limit	Not applicable by Engine Thrust Rating <=20klbs.
T97-25-51 CN 97-354(B)R4			Superseded by FAA AD 98-10-11 Replaced by CN 98-096(B)
98-07-02 (39-10420) CN 98-080(B) R1	SB 72-855 SB 72-856	HPC Spool 1-2 and Bearing No. 3 Aft Air/Oil Seal Removal of Suspect PN/SN	Not applicable by ESN.
98-10-11 (39-10523) CN 98-096(B)	SB 72A861 R3 SB 72-863 R1 SB 72-865 SB 72-873 R1 SB 72-867	Suspect AGB Starter Gear Shaft and TGB Conical Gearshaft	Not applicable by ESN

as of Date 04 December 2006

FAA AD No. (Amdt.) GSAC CN	Method of Compliance	Description	Status
98-12-32 (39-10585) CN 97-327(B)	SB 72-843	HPT Disk Rim Bolt Hole Eddy Current Inspection	Not applicable by S/N S/N GWN04H5C installed.
98-19-10 (39-10752) CN 98-198(B) R1	SB 72-877 R1	Suspect AGB Starter Gear Shaft	Not applicable by ESN
99-08-16 CN1999-274-IMP(B)R1			Superseded by FAA AD 2000-12-01 Replaced by CN2000-294-IMP(B)
2000-05-22 (39-11632) CN 2000-018(B)	SB 72-922	HPT Front Rotating Air Seal One Time ECI	Not applicable by S/N S/N XAE34430 installed.
2000-12-01 CN 2000-294-IMP(B)R1			Superseded by FAA AD 2002-13-03 Replaced by CN2002-390-IMP(B)
2000-15-01 (39-11830) CN 1999-245(B)R1	SB 73-126 R1 SB 73-A129	Fuel Filter Cover Attachment, inspection and modification	SB 73-126 R1 not applicable, SB 73-A129 previously complied with. Fuel Pump P/N 708600-7, S/N 12115 installed.



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## Airworthiness Directive Status

as of Date 04 December 2006

Engine CFM56-3-B1. Serial No. 722 386

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FAA AD No. (Amdt.) GSAC CN	Method of Compliance	Description	Status
2001-04-06 (39-12124) CN F 1997-298 R4	SB 72-854 R5	Fan Disk / Blade Lubrication and Wear Inspection	<b>Open</b> inspection perform: >35000 <38500 FH / >20000 <22000 FC since new 37° Fan Blade installed Never lubricated with lubricants of §(g) of FAA AD => N/A
2001-11-05 (39-12246) CN 2001-240(B)	SB 72-A0965 SB 72-A0966	Suspect No. 4 Bearing Inspection & Replacement	Not applicable by P/N, P/N 335-352-303-0 installed.



as of Date 04 December 2006

Engine CFM56-3-B1. Serial No. 722 386

Engine Total Time: 43 382 hrs.

Engine Total Cycles: 36 533.

FAA AD No. (Amdt.) GSAC CN	Method of Compliance	Description	Status
2002-13-03 (39-12790) CN 2002-390-IMP(B)	Engine Manual	Enhanced inspection of critical life limited parts at each Piece Part opportunity i.a.w. the instructions provided in the applicable Manual Chapter.	(Note: Engine Manual Revision performed). Fan disk inspected at 36533 ETC Fan Shaft <b>open</b> HPC stg 1-2 Spool <b>open</b> HPC stg. 3 Disk inspected at 36533 ETC HPC stg. 4-9 Spool inspected at 36533 ETC HPC Front Shaft inspected at 36533 ETC HPC Rear Air Seal (CDP) inspected at 36533 ETC HPT disk <b>open</b> HPT front rotor seal <b>open</b> LPT stg. 1 Disk <b>open</b> LPT stg. 2 Disk <b>open</b> LPT stg. 3 Disk <b>open</b> LPT stg. 4 Disk inspected at 36533 ETC LPT Stub Shaft <b>open</b> LPT Rotor Support inspected at 36533 ETC LPT Shaft <b>open</b> <b>Open:</b> no piece part opportunity at this shop visit, perform inspection at next piece part exposure.
2004-10-13 (39-13643) CN F-2004-095	SB 73-0120R5	Main Fuel Pump – conversion of bronze bearings to aluminum / bronze bearing.	Not applicable by P/N, Fuel Pump P/N 708600-7, S/N 12115 installed.

\*\*\*\*\*End of Report\*\*\*\*\*



## PERFORMANCE SUMMARY

ENGINE S/N: <b>722386</b>	DATE: <b>28.11.2006</b>	OPERATOR: <b>KNI</b>
CFM56-3-B1		RUN NO.: 1
TESTCELL: HAM P2		EVENT NO.: 651204
ENGINE TEST: REPAIR		
REASON OF REMOVAL: COMB. CH. MISALIGNMENT		

### PERFORMANCE

POWER	N1K	STANDARD DAY				HOT DAY	
		FNK [lbs]	TSFC	N2K	T495K [C]	N2K	T495K [C]
TAKEOFF	4691	20358	0.3890	13994	758	14309	806
MAX CONT.	4587	19114	0.3866	13852	732	14067	764
		Margin [%]		Margin	Margin [C]	Margin	Margin [C]
		2.1		319	84	334	89

### SYSTEM PERFORMANCE

	ACTUAL [sec]	MARGIN [sec]
ACCELERATION TIME	= 4.8	2.2
VIBRATION - LP ROTOR - MAX AT 95.31 % N2, # 1BRG	= 0.7	[mils d.a.]
HP ROTOR - MAX AT 95.31 % N2, # 1BRG	= 0.2	[ips]
LP ROTOR - MAX AT 95.31 % N2, TRF	= 0.6	[mils d.a.]
HP ROTOR - MAX AT 96.41 % N2, TRF	= 0.3	[ips]
OIL CONSUMPTION	= 0.10	[ltr/hr]
OIL PRESSURE CORRECTED AT TAKEOFF	= 56.2	[psi]
OIL PRESSURE OBSERVED AT MINIMUM IDLE	= 23.6	[psi]
SCAVANGE OIL TEMPERATURE AT TAKE OFF	= 92.1	[deg. C]
SUMP PRESSURE AT TAKEOFF	= 7.4	[psi]

### GENERAL CHARACTERISTICS

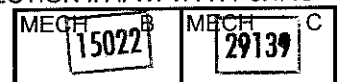
MINIMUM IDLE	= Within Limits
APPROACH IDLE	= Within Limits
VSV TRACKING	= Within Limits
VBV TRACKING	= Within Limits
PMC CHECK	= Within Limits
SEAL RUN IN PROCEDURE ACCOMPLISHED [YES / NO]	= YES
T/B ACCOMPL. BALANCE WEIGHTS INST.:	= NO
OIL FILTER INSPECTION	= OK
FUEL FILTER INSPECTION	= OK
MAGNETIC PLUGS	= OK
OIL TYPE	= Mobil Jet II
FUEL TYPE	= Jet-A1
FUEL SYSTEM PRESERVED WITH MOBIL AVREX [YES / NO]	= YES
OIL SYSTEM PRESERVED WITH BRAYCO [YES / NO]	= YES
MEC S/N	= WYG43761
TOTAL RUNNING TIME	= 105 [min]
ACCESSORIES CHANGED :	= NONE
REMARKS:	= NONE
MANUAL REVISION:	= 61

**ENGINE: ACCEPTED**

ISSUED BY HAM WP92 28.11.2006

REQ. INSPECTION I. A. W. VA WT 8.1/18

DISTRIBUTION: KNI - WP312/A - WP3 - CFMI - WT3 - WP1/M - ENGINE - WP92 - WP924



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## Test Run Log Sheet

RUN NO. 1

EVENT NO.: 651204

CFM56-3-B1 ENGINE S/N: 722386 OPERATOR: KNI  
TESTCELL: HAM P-2 DATE: 28/11/06

ENGINE TEST: REPAIR

REASON OF REMOVAL: COMB. CH. MISALIGNMENT

Name of Sc	PP Takeoff	PP MaxCont	PP 4000	AI	MI
Time of Sc	18:19:47	18:24:52	17:45:57	18:28:02	18:32:45
Date of Sc	11/28/2006	11/28/2006	11/28/2006	11/28/2006	11/28/2006
FNK	Lbs 20357.84	19114.43	12962.17	*****	*****
FNC	Lbs 20299.63	19035.14	12962.17	1430.05	814.98
N1C	RPM 4694.41	4586.20	4011.27	1462.15	1112.97
N2K	RPM 13994	13852	13108	*****	*****
N2C	RPM 13983	13842	13108	10184	8936
WPM	PPH 7944.23	7408.34	5077.28	*****	*****
WPC	PPH 7918.21	7373.82	5077.28	897.60	734.29
TSFC	0.389	0.387	*****	*****	*****
T495K	DegC 757.66	732.30	764.68	*****	*****
T495C	DegC 756.83	730.72	652.24	427.59	461.51
T495MG	DegC 84	95	62	*****	*****
FANPR	1.629	1.591	1.393	1.044	1.025
LPCPR	2.145	2.089	1.815	1.067	1.038
LPCTR	1.266	1.254	1.204	1.022	1.013
HPCPR	10.163	9.938	8.535	3.507	2.594
HPCTR	2.093	2.081	1.976	1.641	1.475
CFR	21.794	20.765	15.495	3.741	2.692
CTR	2.650	2.611	2.379	1.677	1.494
HPTEXR	5.783	5.795	5.684	3.259	2.475
HPTTR	0.739	0.748	0.743	0.696	0.592
LPTTR	1.232	1.217	1.194	0.985	0.976
VIB_1_1	Mils 0.61	0.74	0.44	0.07	0.00
VIBTF_1	Mils 0.60	0.62	0.84	0.13	0.00
VIB_1_2	IPS 0.13	0.15	0.11	0.08	0.06
VIBTF_2	IPS 0.31	0.30	0.17	0.13	0.13
EPR	3.78	3.59	2.73	*****	*****
MOPC	PSID 56.23	56.14	59.81	59.58	60.81
PSUMP	PSIG 7.42	7.29	3.96	0.32	0.31