中国民用航空局 CIVIL AVIATION ADMINISTRATION OF CHINA

C A A C

适 航 指 令

AIRWORTHINESS DIRECTIVE

本指令根据中国民用航空规章《民用航空器适航指令规定》（CCAR-39）颁发，内容涉及飞行安全，是强制性措施。如不按规定完成，有关航空器将不再适航。

编号：CAD2008-B737-02 修正案号：39-5915

一. 标题： 修订检查方案

二. 适用范围：

本指令适用于CFMI公司的装有件号为340-166-205-0、340-166-206-0、340-166-207-0、340-166-208-0、340-166-209-0、340-166-210-0的涡轮后框(TRF)的CFM56-7B18、-7B20、-7B22、-7B24、-7B26、-7B27、-7B22/B1、-7B24/B1、-7B26/B1、-7B27/B1、-7B22/B2、-7B26/B2、-7B27/B3涡扇发动机。上述发动机安装于但不限于波音737系列飞机。

注1：本适航指令适用于上述所有型号的飞机，无论本适航指令要求所涉及的区域是否经过改装、更换或修理。对那些经过改装、更换或修理的飞机，如果所做的改装、更换或修理影响到本适航指令要求的实施，飞机所有人/营运人采用的等效方法必须按照本适航指令E段要求获得批准。其方法中应包含所做的改装、更换或修理对本适航指令所阐述的不安全状态影响的评估；而且，如果该不安全状态没有被消除，其要求中应包含针对这种不安全状态的具体的建议措施。

三. 参考文件：

1、FAA AD 2008-03-09 修正案号：39-15359

2、CFMI 服务通告 CFM56-7B S/B 72-0579R1 2006 年 10 月 27 日

3、CFM56-7B Engine Shop Manual，CFMI-TP-SM.10

四. 原因、措施和规定

为防止由于发动机涡轮后框(TRF)出现低周期的疲劳裂纹，引起发动机从机体脱落，导致飞机失控，要求完成下述工作，事先已完成者除外：

强制检查措施

A、在本指令生效后的30天内，修订航空公司(包括公务机公司和航空承运人)的发动机单元体的适用的检查方案，增加本指令规定的强制检查间隔；修订CFM56-7B发动机车间手册（Engine Shop Manual）CFMI-TP-SM.10的适航限制部分(ALS)(05-21-03章)增加下述内容：

"TURBINE REAR FRAME WITH TANGENTIAL STRUTS – MANDATORY INSPECTIONS – LIFE LIMITS

TASK 05-21-03-200-001

1. General

A. This section contains the FAA and EASA mandatory Eddy Current inspection intervals for the turbine rear frame with tangential struts. The inspection uses:
- a threshold limit, specified in flight cycles
- inspection intervals, specified in flight cycles

B. The threshold limit is the timing of the first required inspection. First inspection must be done before that part has reached the threshold number of flight cycles.

C. The inspection intervals specify the timing of inspections to be done after the threshold inspection has been reached. Inspections are repetitive without any limit.

2. Mandatory Inspection Intervals for the Critical Areas of the Turbine Rear Frame with Tangential Struts (4 Mount Struts, No. 1, 2, 15, and 16).

C. Turbine Rear Frame Part Numbers 340-166-205-0, 340-166-206-0, 340-166-207-0, 340-166-208-0, 340-166-209-0, 340-166-210-0, for all CFM56-7B SAC engine models (except -7B27A engine models). Refer to figure 805.

Figure Index No.	Inspection Location	Inspection Threshold (Cycles since new)	Inspection Intervals (Cycles)	Inspection Reference
805	Strut/outer ring fillet radius on trailing edge (A)	25,000* for -7B SAC (except business jet) engine models	Refer to Figure 806* for -7B SAC (except business jet) engine models	Refer to SB 72-0579*
	Strut/hub fillet radius on leading edge (B)	19,000* for -7B SAC business jet engine models	Refer to Figure 807* for -7B SAC business jet engine models	
	Strut/outer ring fillet radius on trailing edge (C1 below outer ring)			
	Strut/outer ring fillet radius on trailing edge (C2 above outer ring)			

NOTE: * Applicable to all inspection locations.
If inspection is not performed, part must be removed.

Figure 805
Turbine Rear Frame with Tangential Struts P/N 340-166-205-0, 340-166-206-0, 340-166-207-0, 340-166-208-0, 340-166-209-0, 340-166-210-0 – Areas Inspected

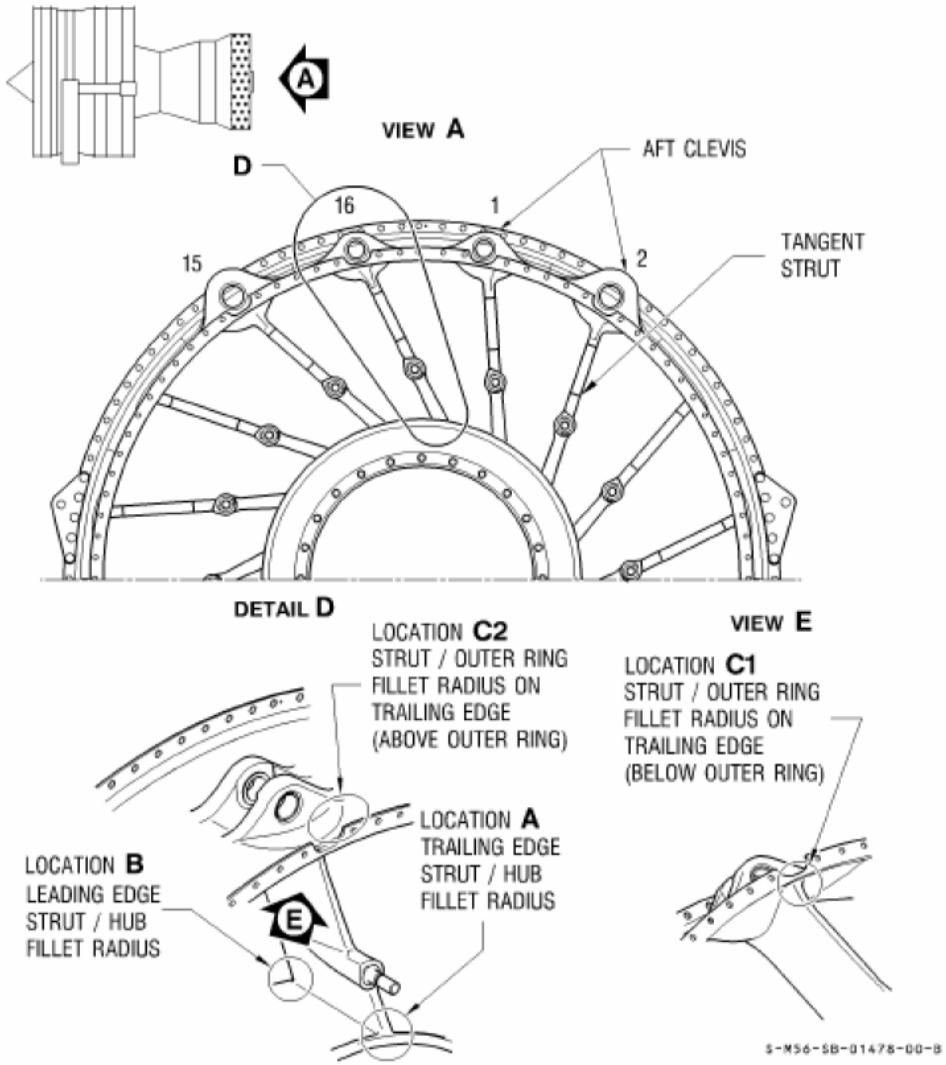

Figure 806
Inspection Intervals for -7B SAC (Except Business Jet) Engine Models

MANDATORY INSPECTION INTERVAL FOR TURBINE REAR FRAME
P/N 340-166-205/206/207/208/209/210-0

If no crack is found on any of the four mount struts, the turbine rear frame is serviceable and must be re-inspected at 4,700 cycle repetitive intervals. If cracks are found on the mount struts, the TRF must be re-inspected according to the following repetitive intervals:

TOTAL CUMULATED CRACK LENGTH AT EACH LOCATION	RE-INSPECT WITHIN
$L < 0.20\ (5)$	4,700
$0.20\ (5) \leq L < 0.28\ (7)$	3.300
$0.28\ (7) \leq L < 0.39\ (10)$	1,300
$0.39\ (10) \leq L < 0.59\ (15)$	700
$0.59\ (15) \leq L < 0.79\ (20)$	120
$L \geq 0.79\ (20)$	IMMEDIATELY REMOVE THE TURBINE FRAME

During each inspection, all the locations must be inspected. If cracks are found at different locations, the repetitive inspection interval is the minimum interval corresponding to the max. cumulated crack lengths.

NOTE: Dimensions are in inches with millimeters in parentheses.

Figure 807
Inspection Intervals for -7B SAC Business Jet Engine Models

MANDATORY INSPECTION INTERVAL FOR TURBINE REAR FRAME
P/N 340-166-205/206/207/208/209/210-0

If no crack is found on any of the four mount struts, the turbine rear frame is serviceable and must be re-inspected at 3,300 cycle repetitive intervals. If cracks are found on the mount struts, the TRF must be re-inspected according to the following repetitive intervals:

TOTAL CUMULATED CRACK LENGTH AT EACH LOCATION	RE-INSPECT WITHIN
L < 0.20 (5)	3,300
0.20 (5) ≤ L < 0.28 (7)	2,400
0.28 (7) ≤ L < 0.39 (10)	900
0.39 (10) ≤ L < 0.59 (15)	500
0.59 (15) ≤ L < 0.79 (20)	80
L ≥ 0.79 (20)	IMMEDIATELY REMOVE THE TURBINE FRAME

During each inspection, all the locations must be inspected. if cracks are found at different locations, the repetitive inspection interval is the minimum interval corresponding to the maximum cumulated crack lengths.

NOTE: Dimensions are in inches with millimeters in parentheses"

B、本指令生效后，不允许对上述零件采用任何替代的检查间隔，本指令E段提到的情况除外。

无法确认其循环的涡轮后框

C、如果无法确认涡轮后框累计的自新循环数，在本指令生效后的300个使用循环内，拆下或检查涡轮后框。CFM56-7B发动机车间手册（ESM）或运营人被批准的持续适航维修方案（CAMP）包含检查TRF的信息。

D、在通过了初始裂纹检查后，允许重新安装本指令C段拆下的涡轮后框（TRF）。CFM56-7B ESM或者CAMP包含检查TRF的信息。

替代方法

E、（1）完成本适航指令可采取能保证安全的替代方法或调整完成的时间, 但必须得到适航审定部门的批准。

（2）在使用任何经批准的替代方法之前，通知有关飞行标准部门的

主管监察员。

五. 生效日期：2008 年 3 月 10 日

六. 颁发日期：2008 年 2 月 27 日

七. 联系人： 崔玉亮
民航华北地区管理局适航审定处
010-64596921