

CHANGEDEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

8010.2 CHG 3

7/24/79

Cancellation
Date: 10/1/79

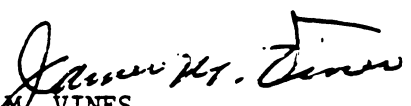
SUBJ: FLIGHT STANDARDS SERVICE DIFFICULTY PROGRAM

1. PURPOSE. This change makes minor editorial changes to Order 8010.2 and incorporates Orders 8010.1 and 8010.3 into the basic order.

2. CANCELLATION. Orders 8010.1, Service Difficulty Report--General Aviation, dated 11/17/76, and 8010.3, Transmittal of General Aviation Airworthiness Alert Information, dated 12/14/78, are canceled.

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Active participation by engineering and manufacturing inspection personnel in this program is essential to assure:

(a) The timely finding of type design and quality control deficiencies which may result in unsafe or undesirable conditions, and

(b) The taking of appropriate corrective action.

(3) It is essential that good interface exists and prevails between engineering and manufacturing personnel and the appropriate general or air carrier inspector(s), so as to better achieve the overall program objectives in a well-balanced (design vis-a-vis maintenance) manner.

8. SERVICE DIFFICULTY BOARD.

a. Organization. The Service Difficulty Board (SDB) is located in Washington headquarters, Flight Standards Service, and consists of:

(1) A Chairman and four Board Members.

(2) The Deputy Director will serve as Chairman and the Chiefs of the Air Carrier, General Aviation, Engineering and Manufacturing Divisions, and the Chief of the Safety Analysis Staff will serve as Members of the Board.

(3) The Deputy Director, Division, and Staff Chiefs may, because of changing priorities and to enhance the continuity of the Board, find it desirable to delegate their Board duties to subordinate representatives on a continuing basis. Delegations should be made to persons fully familiar with the Service Difficulty Program.

(4) Other technical personnel may participate when requested by the Board.

b. Responsibilities. The responsibilities of the SDB are as follows:

(1) Monitor the effectiveness of the Service Difficulty Program.

(2) Provide guidelines and direction in matters of practice and procedure for the Service Difficulty Program.

(3) Assure prompt appropriate corrective action on service difficulty items when such action cannot be, or is not, resolved; i.e., the SDB will act as a mediating body to ensure prompt action.

(4) Maintain close coordination with AFS-580 through the appropriate coordinator who performs the following functions:

- (a) Coordinate procedural changes to be initiated by the SDB.
- (b) Coordinate Directed Safety Investigations.

9. SAFETY ANALYSIS STAFF, AFS-80.

a. Organization. The Safety Analysis Staff is established within the Flight Standards Service in the Washington headquarters.

b. Responsibilities. The Safety Analysis Staff is the principal element of Flight Standards Service with respect to aviation safety data systems pertaining to Flight Standards programs and related industry activity. The Safety Analysis Staff provides the Service's principal point of coordination with the Safety Data Branch and related automatic data processing (ADP) functions. The Service Difficulty Report system is part of an overall safety data base developed to improve the effectiveness of safety programs at all levels, allow analysis of national or local safety problems, and detect trends which may indicate future safety problems.

10. SAFETY DATA BRANCH, AFS-580.

a. Organization. The Safety Data Branch is established within the Flight Standards National Field Office at the Aeronautical Center (AFS-500).

b. Responsibilities. AFS-580 correlates service difficulty data for the general aviation and air carrier fleets. This includes coding of each report, programing data into the computer, analysis of printout data, and dissemination of data to appropriate offices.

11. REGIONAL FLIGHT STANDARDS. The Regional Flight Standards organization is responsible for taking quick and appropriate corrective action as a result of analysis of data provided by the Service Difficulty Program. (In the Western Region, the responsibility is shared with the Aircraft Engineering Division.) In addition, the regional Flight Standards organization administers the Service Difficulty Program by:

* a. Developing a formal regional Service Difficulty Program, involving all technical specialties (operations, airworthiness, avionics, accident prevention, and engineering) designed to meet the program objectives of Order 8010.2.

b. Assigning a priority to the Service Difficulty Program which is consistent with the primary role the program plays in meeting FAA responsibilities in accident prevention and continued airworthiness of aeronautical products.

c. Ensuring effective use of Service Difficulty Program products within the region.

12. SERVICE DIFFICULTY COORDINATOR.

a. Responsibilities. The Regional Service Difficulty Coordinator is responsible for:

(1) Serving as the focal point within the region for receiving service difficulty information and ensuring that information and documents received are disseminated to the appropriate branches for action.

(2) Performing staff functions in overseeing and assessing the Division's Service Difficulty Program management and accomplishments.

(3) Making recommendations to the Division Chief to revise national, regional, or division procedures.

(4) Effecting good communication and coordination with other branches within the division.

(5) Keeping the Division Chief advised on safety issues.

b. Specific Duties. The Regional Service Difficulty Coordinator is responsible for performing the following specific duties:

(1) Reporting, at the direction of the Division Chief, to the appropriate coordinator of the Service Difficulty Board on service difficulty items when corrective action CANNOT BE, or IS NOT, resolved between regions in a time period commensurate with safety implications.

(2) Coordinating Service Difficulty Reports (telephoned significant reports) from the field on products for which his region holds certificate management responsibility.

(3) Following up the status of actions taken in response to Maintenance Difficulty Records (telephoned significant reports) of service difficulties occurring in his region.

(4) Submitting to AFS-580 a monthly report of items to be published in Advisory Circular 43-16, General Aviation Airworthiness Alerts. The region holding certificate management responsibility will make the report.

(5) Ensuring that AFS-580 is informed of TC, PMA, TSOA, or STC address changes.

* (6) Providing the Regional Accident Prevention Coordinator with service difficulty information appropriate for inclusion in public presentations made by accident prevention specialists. *

c. Regional Coordinators' names and locations (see Appendix 1).

13.-19. RESERVED.

SECTION 2. THE SERVICE DIFFICULTY REPORT (AIR CARRIER)

FAA FORM 8070-1 (RIS: FS 8070-1) (SDR)

30. RESPONSIBILITY. The responsibility for completion and submission of this report rests with the FAA district office inspectors. The inspector will normally acquire the needed information from two primary sources.

31. SOURCE OF INFORMATION. The following paragraphs outline the primary information sources for completion of the SDR, FAA Form 8070-1.

a. The first information source is the reporting by air carrier organizations in compliance with Federal Aviation Regulations (FAR) Parts 121.703, 123.27, 127.313, and 135.2.

b. One exception is the submission by air carrier organizations, in compliance with FAR Parts 121.705, 123.27, 127.315, and 135.2, of the Mechanical Interruption Summary (MIS) reports which are retained by the district office. Only those reports citing an occurrence significantly related to safety will be transcribed to the SDR form, and identified as FAA submitted SDRs.

c. The second information source are those significant malfunctions, failures, or conditions, brought to the attention of, or noted by, the inspector during surveillance of the aviation industry activities in all categories. They will be identified as FAA submitted.

32. SDR PREPARATION. The following procedures outline the action to be taken by the aviation industry, FAA district office, the Flight Standards National Field Office, the Safety Data Branch, and the regions.

a. The Aviation Industry. The air carrier industry shall submit information in accordance with applicable Federal Aviation Regulations. The industry organization submitting the report may use FAA Form 8070-1; however, this does not prohibit the organization from submitting the required information in a manner that is suitable to its management system.

b. The FAA District Office. When a required report is received from the industry or is originated by the inspector, the district office is responsible for the processing of a complete and accurate SDR, FAA Form 8070-1. Thorough preparation requires consideration of the following:

(1) The regulations require a report for each malfunction, failure, or defect that occurs under the reportable categories. This includes any such failure that occurs subsequent to a similar failure previously reported. One-time reporting of similar defects is unacceptable. In addition, each certificate holder shall report any other failure, malfunction, or defect in an aircraft that occurs or is detected at any time, if in the holder's opinion that failure, malfunction, or defect has endangered or may endanger the safe operation of an aircraft used by the holder.

(2) Industry reports which are not required by the FAR will be processed only if a significant occurrence is indicated and they are identified as FAA submitted.

(3) The text of a report must identify and describe the cause of the malfunction, failure, or defect. It should contain descriptive information concerning the component and part identification number, time since overhaul, total time, inspection findings, and corrective action taken to prevent recurrence.

(4) The airworthiness/avionics/manufacturing inspector will review all reports coming from industry to ensure that all required information is included in the report.

(5) Editorial corrections will be made to the reports as necessary. Words and sentences that are not appropriate and necessary for a complete explanation of the difficulty will be eliminated from the report.

(6) In the case of an interchange agreement, the operator is responsible for submitting the report under his name. The text of the report should indicate that the occurrence involved an interchange aircraft, by including the air carrier letter symbols of the aircraft owner.

(7) If the airworthiness/avionics inspector has additional information concerning the particular malfunction, failure, or defect being reported by industry that he feels may be useful to FAA personnel, it will be telephoned through channels to the Air Carrier Division, AFS-200, and Maintenance Analysis Center (MAC) Section, AFS-581. Such remarks or opinions will not be included on FAA Form 8070-1. The SDRs are available to the public; therefore, the reports must not contain opinions, statements related to accident causes, etc.

(8) Reports that are submitted in an open status require prompt action to assure that the report is closed as soon as possible. Airworth-
* iness/avionics inspectors will review the open reports on a 60-day basis to
* determine the action being taken on the cause of the reported condition. The
assigned inspectors will furnish a status report on open reports 10 days after
* the 60-day period ends to their respective regional offices.

(9) Supplemental reports shall be transmitted using the same format and procedures as for the original report. The symbol S/D (Supplemental Data) should immediately precede the supplementary information in the TEXT block. For original "open" or "closed" reports, AFS-580 assigns a control number to the FAA Form 8070-1. In case of a supplemental report, the air carrier inspector should enter the control number originally assigned by AFS-580 and the same date as on the original report.

(10) Recommendations concerning maintenance alert bulletins will be handled in accordance with instructions contained in Order 8340.1A, Maintenance Bulletins. Recommendations for Airworthiness Directive action should be

e. Submitted by. This series of blocks identifies the person/organization initiating the report; also, special computer input coding.

SUBMITTER (Check one)					A	B	C	D	E	F	G	H	I	PSL	ALERT	OPER/DC
					CARRIER	REP STA	OPER	REQD	AIR TAXI	OPS	FAR	OTHER	Summary			
PREC PROC	NATURE	STAGE	STAT	ROLL	FRMSE	SYS	SYS									
ADDITIONAL COMMENTS																

(1) Submitter. The FAA inspector should enter his name and district office symbol (Jim Higgins, AEA-ACD0-31) and check the appropriate block (check one only). If the report is being prepared as a result of FAR requirement, the following guidelines apply:

CHECK BLOCK	IF REQUIRED BY FAR
A.	121.703, 123.27, 127.313, 135.2
F.	21.3, 37.17

SUBMITTER CODE "G" should be checked when the report is initiated by FAA personnel as a result of a condition noted by the inspector and when a report is not required by 121.703, 123.27, 127.313, or 135.2.

(2) P.S.L. A one-character code to indicate if the report included a picture, sketch/drawing or lengthy comment. AFS-580 will code this block:

P	Picture
S	Sketch
L	Lengthy Comment

(3) Alert. A one-character code to indicate that this report was urgent in nature and transmitted to AFS-580 by telephone, or if the report was alerted in the daily summary of SDR's, or both.

This will be coded by AFS-580.

T	Telephone Report.
A	Daily Summary Report.
B	Both of the above.

(4) Oper/DO. This block will be completed by AFS-580. It will contain the three or four letter air carrier symbols as listed in the carrier block when the report is initiated by an air carrier. When the report does not show a carrier symbol, the region and district office of the reviewing inspector will be entered in this block.

(5) Prec. Proc. Precautionary Procedures; enter the code symbol(s) for the precautionary procedure(s) effected by the flightcrew as the result of a technical fault. The coding of these data requires a minimum of one code and permits a maximum of four codes. More than one code letter should be recorded as necessary, to show all events that were involved in the precautionary procedures. (Example: an engine was shutdown, fuel was dumped, and an unscheduled landing was made; enter code AEJ to describe these conditions.)

<u>Code Identifier</u>	<u>Precautionary Procedure Effected</u>	<u>Code Identifier</u>	<u>Precautionary Procedure Effected</u>
A	Unscheduled landing.	H	Deactivate system.
B	Emergency descent.	I	Depressurization.
C	Aborted takeoff.	J	Fuel dumped.
D	Return to blocks.	K	None.
E	Engine shutdown.	L	Aborted approach.
F	Activate fire extinguisher.	O	Other.
G	Oxygen mask deployed.		

(6) Nature. Nature of condition; enter the symbol(s) that best describe the nature of the condition resulting from the reported failure, malfunction, or defect. The coding of these data requires a minimum of one code and permits a maximum of three. These are entered in whatever order best describes observed conditions resulting from the reported component/part malfunction.

Code

A - Flame: visible fire.

* B - Smoke: fumes, odors/sparks

C - Foreign object impact: bird, hail, lightning, ground debris.

D - Inflight separation: inflight loss of any aircraft part.

- E - Vibration/buffet: rough engine, clear air turbulence, flight controls.
- F - Flight controls affected: any malfunction affecting flight controllability.
- G - Multiple failure: multiple failure of like systems or units.
- H - Electrical power source loss exceeding 50 percent: alternators, buss, circuits.
- I - Flight attitude instrument malfunction.
- J - Warning indications.
- K - Fluid loss: any malfunction resulting in loss of fuel, oil, gas, etc.
- L - No test: the malfunction of a system being tested or the test circuit itself.
- M - Over temperature condition: not fire.
- N - False warning.
- O - Other.
- * P - No warning system indication. *
- S - Other systems affected.
- * T - Engine case punctured (turbine engine only). *
- X - Engine flame out.
- Y - Engine stoppage in flight (except flame out) all engines.
- Z - Significant failure reports.

(7) Stage. Enter the stage of flight or ground operation the aircraft was engaged in when the reported failure, malfunction, or defect occurred or was observed.

<u>Code</u>	<u>Stage of Operation</u>	<u>Code</u>	<u>Stage of Operation</u>
IN	- Inspection/maintenance.	DE	- Descent.
TX	- Taxi/ground handling.	AP	- Approach.
TO	- Takeoff.	LD	- Landing.

<u>Code</u>	<u>Stage of Operation</u>	<u>Code</u>	<u>Stage of Operation</u>
CL -	Climb.	HO -	Hovering.
CR -	Cruise.		

(8) Stat. (Status). This is a coded entry to indicate if the report is "open" or "closed"; i.e., is additional information forthcoming? The entry will be made by AFS-580.

(9) Roll. The microfilm roll identification will be entered by AFS-580. All Service Difficulty Reports will be stored on microfilm the first and 16th day of each month.

(10) Frame. The microfilm frame identification of the individual report. The frame number will be assigned by AFS-580.

(11) Sys. (systems) (Sys. subsystems). Affected systems; enter the first three digits of the ATA subsystem which identifies those aircraft functions affected or whose capability has been degraded by the reported malfunction. Example: A windshield leaks water which enters the cockpit and affects electrical components. The affected systems reported may be VHF communications equipment with burned printed circuit boards. The systems reported would be VHF/UHF (232) and the printed circuit board (396). The fourth digit of the ATA subsystem code will not be entered in these blocks. AFS-580 will complete these entries.

(12) Text Summary. AFS-580 is responsible for condensing the text of the report into 115 characters for computer input.

NOTE: See Appendix 3, Figures 1 and 2, for a complete FAA Form 8070-1.

34. SERVICE DIFFICULTY REPORTS, PROCESSING PROCEDURES.

a. The District Office.

(1) The original and one legible copy of FAA Form 8070-1 (Service Difficulty Report) should be mailed to the Safety Data Branch, AFS-580, on the SAME DAY that the information is received in the district office. Prior to forwarding to AFS-580, ensure reports initiated by FAA inspectors and those received from industry include sufficient information to allow analysis.

(2) Do not fold FAA Form 8070-1 for mailing; folding will result in processing difficulties in the Safety Data Branch.

(3) Significant reports that warrant immediate notification of the FAA offices responsible for the failed products should be telephoned to the Maintenance Analysis Center, AFS-580 (see Appendix 1 for telephone numbers) and other interested regions (see paragraph 34a.(6)). The inspector will be provided, if appropriate, a telephone conference with the region holding the type certificate for the product. The information given during

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SECTION 3. THE MALFUNCTION OR DEFECT REPORT

FAA Form 8010-4 (RIS: FS 8330-11) (OMB 04-R0003)

46. GENERAL. The Malfunction or Defect (M or D) Report, FAA Form 8010-4, is to be used for collecting data on general aviation products. (See Appendix 3, Figures 4 and 5.)

47. RESPONSIBILITY. FAA General Aviation/Flight Standards District Office Inspectors are responsible for the completeness and accuracy of M or D Reports submitted to their offices, and for submitting M or D Reports when malfunctions or defects come to their attention through any other means.

48. SOURCES OF INFORMATION.

a. Certificated repair stations are required by FAR 145.63 to submit reports of serious defects and recurring unairworthy conditions on a form and in a manner prescribed by the Administrator. Field inspectors should supply and encourage their use of FAA Form 8010-4.

b. Air taxi operators are required by FAR 135.415 to report the occurrence of or detection of each failure, malfunction, or defect which has (or may) in the operator's opinion, endangered the safe operation of the aircraft, in addition to 16 specifically reportable items. Further, they are required by FAR 135.417 to submit a report (form and manner not specified) for each unscheduled change of aircraft en route, interruption to a flight, unscheduled stop or diversion from a route caused by known or suspected mechanical difficulty or malfunction. These will be reported, by field inspectors, on the M or D Report (FAA Form 8010-4) or the Service Difficulty Report (FAA Form 8070-1) as appropriate when it is confirmed that the cause was a service difficulty.

c. Amateur-built aircraft, Experimental Aircraft Association (EAA). GADO/FSDO inspectors are urged to encourage submission of M or D Reports on this type aircraft and process them as any other M or D Report. The Great Lakes Region has been designated as the controlling region for experimental amateur-built aircraft of EAA members. Insofar as the Service Difficulty Program is concerned, the EAA may function as though they were the manufacturer of the aircraft (i.e., as a focal point through which corrective action information is disseminated).

d. Field inspectors (all specialties) will report on the M or D Report all service difficulties which come to their attention during accident/incident investigations: surveillance of aircraft, agencies, and airmen; or which come to their attention in any other manner.

e. Reportable Service Difficulties. Whenever a system, component, or part of an aircraft, powerplant, propeller, or appliance functions badly or fails to operate in the normal or usual manner, it has malfunctioned and it is reportable. Further, if a system, component, or part has a flaw or

imperfection which impairs or which may impair its future function, it is defective and should be reported. While at first sight it would appear this will generate numerous insignificant reports, the Service Difficulty Program is designed to detect trends and any report can be very constructive in evaluating design or maintenance reliability.

49. M OR D's OF MAJOR SIGNIFICANCE. Inspectors becoming aware of service difficulties of a hazardous nature or of other major significance should call the MAC (see Appendix 1 for telephone numbers). The MAC will make a conference telephone call involving MAC, the inspector, the Regional Service Difficulty Coordinator and, when required, the technical specialist in the region most familiar with the affected item. In addition, the SDR coordinating region of occurrence will be informed of the telephonic report by receiving a copy of the record of the conference call prepared by the MAC specialist. This procedure is particularly applicable to items found during accident/incident investigations. M or D Reports must contain only factual information when initiated as a result of accident investigation and SHOULD NOT INDICATE ACCIDENT CAUSE. (Causal factors in accidents are determined by the National Transportation Safety Board.) If the inspector believes the service difficulty may have been a causal factor and wishes to lend importance to the report or give special alert notice, the information should be transmitted by phone to the Regional Service Difficulty Coordinator.

50. RECOMMENDATIONS. Recommendations for airworthiness directive action should be submitted through the appropriate regional organization with substantiation for further handling to the type certificate controlling region, with a copy to AFS-580 and AFS-800. Substantiation should be in the form of a description of the problem, drawings, photos if possible, information relative to the events of the malfunction, failure, or defect, and the inspector's recommendation concerning the corrective action to be taken.

* 51. RELEASE OF FAILED PARTS. When a failed part is obtained for forwarding with an M or D Report, the instructions as prescribed in Order 8600.1, Chapter 2, Section 6, paragraph 126, shall be followed.

52. INSTRUCTIONS FOR COMPLETING FAA FORM 8010-4. In some cases, it will be difficult for the inspector to obtain all of the needed information. In these cases, the inspector will have to judge whether or not he has enough information for the report to be useful. Sometimes, just the number of happenings is an important factor in taking corrective action, while in others, complete details are needed. Complete details may be available for just one instance, and it is suspected that numerous others, for which data is lacking, were similar. Such circumstances shall be considered by the inspector when processing reports. The inspector should provide full information on reports vitally affecting safety, regardless of effort required, and should endeavor to provide sufficient data for analysis. Data to be entered in each block:

- a. Block 1-Registration Number - Self-explanatory.
- b. Block 2-Aircraft.

- (1) Column A. Make - name of manufacturer.
- (2) Column B. Model - as listed on FAA Type Certificate Data Sheets.
- (3) Column C. Serial Number - manufacturer assigned.

c. Block 3-Powerplant - Enter make, model, and serial number, under Columns A, B, and C, in same manner as for aircraft.

d. Block 4-Propeller - Enter make, model, and serial number in same manner as for aircraft and powerplant. Serial numbers are important for propeller problems; and inspectors should bear in mind that combinations of propellers, engines, and airplanes sometimes cause problems; therefore, requiring complete information in A, B, and C of 2, 3, and 4.

e. Block 5-Appliance/Component - Blocks A, B, C, and D are to be filled out for all reports along with 2, 3, and 4, A, B, and C. If an appliance or component report is being processed for a repair shop and it is not known what aircraft, powerplant, or propeller it was removed from, "component only" should be written across blocks 2, 3, 4, A, B, C. Some problems are brought about by a combination of an appliance/component and an aircraft, powerplant, or propeller. It is important in these cases that all information available be supplied. The above is especially applicable, but not limited to avionic equipment and instruments.

f. Block 6-Specific Part (of component) Causing Trouble. In all cases, the inspector should strive to furnish the information for A, B, C, E, F, and G. It will sometimes be difficult to complete E and F, and possibly B, but the inspector must decide if TIME is an important factor in solving the problem. If it is, he should make every effort to find the information.

- (1) Block A - Name of specific part.
- (2) Block B - Part number of part assigned by the manufacturer.
- (3) Block C - Where on the part the defect is located.
- (4) Block D - ATA Code. AFS-580 will code this, do not use.
- (5) Block E - Total time on part in hours.
- (6) Block F - Time since overhaul on part in hours.
- (7) Block G - Cracked, corroded, broken off, etc.

g. Block 7A-Comments. The information to be entered here is perhaps the most important on the form. It must identify and describe the malfunction, failure, or defect and contain descriptive information concerning the part/component that caused the difficulty. It must enable someone not familiar with the problem to understand the problem and provide information to assist in the development of a fix. Data important to the particular problem; i.e., calendar dates, inspection findings, cycles, etc., that are not included in other blocks on the form should be included. If the malfunction, failure, or defect is the result of, or is related to, a Supplemental Type Certificate (STC), the STC number should be shown. This will enable AFS-580 to send the report to the proper controlling region.

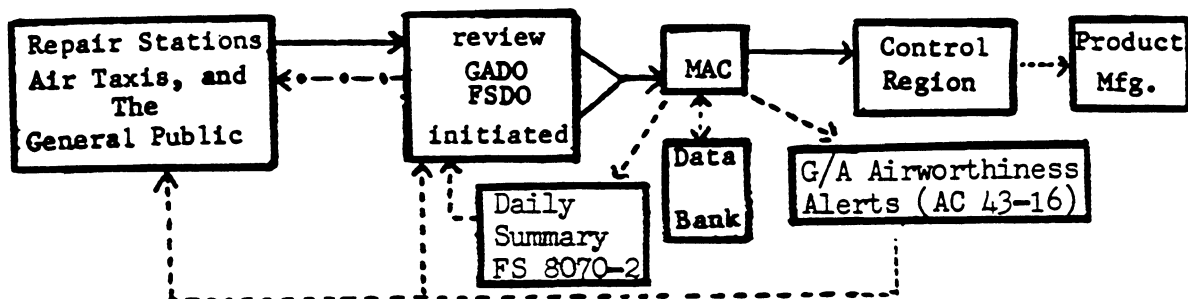
(1) The submitter should use the space headed "7A Comments" first. If additional space is required, half of the reverse side should be used and a separate 8" by 10 1/2" sheet of paper attached if necessary. The submitter should be careful to leave enough space on the franked side of the form so that the pre-stamped General Aviation Flight Standards District Office address can be plainly deciphered.

(2) Submitted by - Except for air taxis, certificated repair stations, and FAA personnel, the identity of the submitter is not required. There have been reports that repair stations have suffered economic reprisals after submitting M or Ds on certain products; therefore, the M or D report has been modified to permit removal of identification data by "tear off." Identification will remain with the M or D report throughout FAA to facilitate followup investigation, if required. Identification will be removed by the region with product certificate management responsibility prior to making the forms or copies available to manufacturers. In cases where the submitter is reluctant, even with the above provisions, the FAA inspector will verify the report and identify himself as the submitter. In all cases, Blocks B, C, D, E, F, G, or H should be filled out.

h. Block 8 Date Submitted - Self-explanatory.

i. Block 9 Control Number - For use of AFS-580. (Do not use for regional control numbers.)

* 53. DISTRIBUTION AND ROUTING OF FAA FORM 8010-4.



SECTION 4. MANUFACTURERS' REPORTS OF FAILURES, MALFUNCTIONS, OR DEFECTS

54. AUTHORITY. FAR Parts 21.3 and 37.17 require that the FAA be notified of certain failures, malfunctions, or defects. These rules apply to the holders of type certificates (including supplemental type certificates) or their licensees, holders of a parts manufacturing approval, or holders of a technical standard order authorization. FAR Parts 21.3(c) and 37.17(c) list the occurrences requiring a report from the above certificate holders. Additional information to assist manufacturers in complying with FAR Parts 21.3 and 37.17 is given in Advisory Circular 21-9, Manufacturers Reporting Failures, Malfunctions, or Defects. Among other things, the advisory circular states the following:

a. The manufacturer should have an established system to identify service difficulties which he is required to report in accordance with the rules.

b. Under certain circumstances, the manufacturer is not required to report a service difficulty resulting in an occurrence listed in FAR Parts 21.3(c) or 37.17(c). These circumstances include a definite determination that the service difficulty has already been reported to the FAA in accordance with other reporting rules, or a determination that the service difficulty was a result of improper maintenance or usage. The applicable requirements are contained in FAR Parts 21.3(d) and 37.17(d).

55. NOTIFICATION OF MANUFACTURERS. Manufacturers should be informed in writing of their responsibilities. The controlling region can do this when issuing certificates or other approval documents. The following, or a similar statement, should be included in the notification letter:

"As recipient of the approval, you are required to report any failure, malfunction, or defect in any product, part, or article manufactured by you that you have determined has resulted, or could result, in any of the occurrences listed in Parts 21.3(c) and/or 37.17(c), whichever is appropriate. The report should be communicated initially by telephone and subsequently in writing to (organizational title of recipient), (routing symbol), (telephone number), (mailing address). The first contact shall take place within 24 hours after it has been determined that a failure required to be reported has occurred."

The Service Difficulty Report, FAA Form 8070-1, or the Malfunction or Defect * Report, FAA Form 8010-4, or any other appropriate format is acceptable for transmitting the required details. In addition to the information requested on the above forms and the requirements of FAR Parts 21.3 and/or 37.17 for the occurrence, the following information may be desirable in the written report:

- a. Description of the investigation of the occurrence and results of that investigation.
- b. Results of any other inspections the manufacturer may have made because of the occurrence.
- c. Number of products in service possibly affected by the defective part, component, etc.
- d. General distribution of times-in-service for similar parts.
- e. Additional actions contemplated by the manufacturer (if any) for products in service.

56. REPORT PROCESSING.

a. FAR Parts 21.3 and 37.17 make allowances for receiving reports during regular working hours. Should the region desire to establish an "all hours" reporting system, it is suggested that procedures for receiving the reports be worked out with manufacturers and the regional Communications Center. A form should be developed containing the desired information, with the form available to both manufacturer's reporting representative, and FAA personnel receiving the reports. The reports should be promptly transmitted to the regional Engineering and Manufacturing Branch/Aircraft Engineering Division.

b. The Engineering and Manufacturing Branch/Aircraft Engineering Division will:

(1) Establish a single office responsibility for the receipt and processing of the manufacturer's reports.

(2) Identify or mark each report to indicate it is a FAR 21.3 or FAR 37.17 required report.

(3) Provide a copy of the report to the regional Service Difficulty Coordinator.

(4) Maintain a file of the manufacturer's report and the actions taken to prevent recurrence of the reported condition. Disposition of the files is controlled by Order 1350.15, Records Organization, Transfer and Destruction Standards.

d. Section a(3) of the DSI report will be published in the next advance copy of the General Aviation Airworthiness Alerts (AC 43-16). This will serve as feedback to field inspectors of the DSI results. *

e. In addition to the summary, AFS-580 will prepare an administratively restricted summary letter of transmittal, which will include conclusions derived from this investigation. This letter should be sent to the region with responsibility for the investigated product, appropriate headquarters divisions, and if the DSI was originated by the SDR, to the SDR.

73. DIRECTED SAFETY INVESTIGATION - FOLLOWUP REVIEW. The controlling region will notify AFS-581 of action taken as a result of the summary report data within 60 days of receipt of that data. The region's statement of action should briefly describe corrective action underway or completed and, if available, the results thereof. AFS-581 will continue to monitor the system input until the SDR submission rate indicates the problem has been resolved or that further action is required. In the event the controlling region does not notify AFS-581 of actions taken within the time allotted, AFS-581 shall advise AFS-830 or AFS-230, as appropriate. *

74.-99. RESERVED.

SECTION 3. REQUEST FOR INFORMATION

120. GENERAL. The Safety Data Branch, AFS-580, maintains the Service Difficulty Program data system, a technical library of most common aviation products, and has access to a great variety of aviation information.

121. SERVICE DIFFICULTY INFORMATION. Personnel of Flight Standards and NTSB may request information from the data system of this program. The request should indicate the type of information needed, the time period over which data should be searched, and the type of report desired (computer listing, summarized report, etc.). It is also important that the AFS-580 specialist * know what use is to be made of the information. He can then assure the user * of the best possible product. Every effort will be made to provide the * information in a time frame that will most benefit the user.

a. Persons requesting service difficulty data need not be concerned with computer sorting formats. They should state, in plain language, the kind of information that is desired; and the Maintenance Analysis Center specialist will select the computer format that will present the information in the most usable manner. For example, if a person wants information concerning failures of retract cylinders on a Beech 99 or Boeing 707, ask for it in that manner (e.g., how many retract cylinder failures reported within the last year?), rather than trying to specify the computer sort. This will provide only that information that is requested rather than the whole computer printout. This saves computer and user time and allows better utilization of the system resources.

b. The request should specify when the information is needed. In high priority situations, such as an accident or serious incident, the Maintenance Analysis Center can provide the information within four hours. Depending upon the situation, other response times are available; e.g., 24 hours, 7 days, 14 days, or 30 days. The user is requested to apply good judgment relative to priorities since computer programs must be interrupted in order to make * the interrogation for requested information. *

c. Technical data requested may be furnished via telephone, telecopier, special printout, or in summary form. (Printouts and summaries are mailed.) * The MAC specialist will make every effort to provide the information to the * individual within the specified response time.

122. OTHER AERONAUTICAL INFORMATION. Personnel of Flight Standards may request technical data other than service difficulty information to assist in identification of problem areas in aircraft and/or a particular fleet. When possible, AFS-580 will research Aeronautical Center data sources and furnish such information.

123. RELEASE OF SERVICE DIFFICULTY REPORTS TO THE PUBLIC. Service difficulty records are releasable to the public under the provisions of the Freedom of Information Act (5 U.S.C. 552), as implemented by Part 7 of the Department of Transportation Regulations. Payment of fees will be in accordance with Section 7.38 of Title 49, Part 7, Department of Transportation Regulations.

* a. Obtaining Service Difficulty Data. Service difficulty information is available for retrieval for a period of 60 months following receipt by AFS-580. All requests for service difficulty information will be handled by the Safety Data Branch, AFS-580. Inquiries should be addressed to:

Department of Transportation
Federal Aviation Administration
Flight Standards National Field Office
Safety Data Branch, AFS-580
P.O. Box 25082
Oklahoma City, Oklahoma 73125

b. Persons Requesting Service Difficulty Information should allow sufficient time between their request and their need for the information to provide adequate search and retrieval time.

(1) Regional offices receiving direct requests for copies of Service Difficulty Reports should acknowledge those requests with a Correspondence Acknowledgement Card, FAA Form 1360-15. The request, along with a statement that FAA Form 1360-15 has been sent to the requester, will be forwarded to AFS-580.

(2) When copying of local region records is necessary, the copies should be made and accompany the request that is forwarded to AFS-580.

(3) AFS-580 will advise requester of the cost for services and respond to all requests.

(4) Requests directed to AFS-580. The Safety Data Branch will attempt to satisfy all requests from the storage/retrieval system at the Aeronautical Center and will call upon the region in those cases where records/reports are only available locally. If the person requesting information concerning a particular problem desires information beyond that available from the storage/retrieval system, AFS-580 will request their inquiries be directed to the controlling region.

124.-129. RESERVED.

CHAPTER 5. PRODUCTS OF THE SERVICE DIFFICULTY PROGRAM

SECTION 1. GENERAL AVIATION AIRWORTHINESS ALERTS--
DEVELOPMENT AND PREPARATION

*130. PURPOSE. The General Aviation Airworthiness Alerts (AC 43-16) provide a common communications channel through which the aviation community can economically interchange service experience and, thereby, cooperate in the improvement of aeronautical product reliability, durability, and safety. *

*131. SELECTION OF ITEMS. The regions having certificate management responsibility for the product involved is primarily responsible for ensuring that the service difficulties reported on the product are reflected in AC 43-16. Regional personnel will develop items for inclusion in AC 43-16 from the Service Difficulty Product Listing (RIS: FS 8070-39) which is provided to them monthly. The original report information should be supplemented, as required, to make the item more useful and informative to the users of AC 43-16. Items, other than those reported to the regions on RIS FS 8070-39, may be developed for publication in AC 43-16; however, the purpose of AC 43-16 must be kept in mind. Items which do not concern a specific aeronautical product, or which may apply to several products, may also be selected as "general information" items.

a. Regions other than the region with certificate management responsibility may develop items for publication in AC 43-16, when they become aware of them; however, they must coordinate the item with the region with certificate management responsibility to preclude duplication and possible conflicting information.

b. Personnel of AFS-580, as a result of analyzing service difficulty data or receiving special notification (Chapter 2, paragraph 34 or 49), shall select items concerning noteworthy or unsafe conditions for publication in AC 43-16. These items will be coordinated with the region with certificate management responsibility provided the timeliness of the item is not adversely affected and manpower and time limitations placed on AFS-580 permits.

c. The Service Difficulty Board or the General Aviation Division, AFS-800, may also develop items for publication in AC 43-16. If these items are other than general in nature, they will be coordinated with the region with certificate management responsibility.

132. REGIONAL COORDINATION. Hazardous or alert type service difficulty items reported under the provisions of paragraphs 110a, b, and c of this order, which by their very nature have a strong possibility of regional corrective action in process, will be withheld from the General Aviation Airworthiness Alerts (AC 43-16) publication for a period of 15 days after the telecon prescribed by paragraph 34a(3). During this time, it is the responsibility of the region with certificate management responsibility to either: *

- a. Advise AFS-580 that the item should be published as an "Alert"; or
- b. Advise AFS-580 that the corrective action instituted by the region
* will be adversely affected by such publication.
- c. In the event that the region does not advise AFS-580 per a or b above, the item will be subject to processing by AFS-580 for publication.

* 133. DEVELOPMENT OF ITEMS FOR AC 43-16. Items developed should be of assistance to maintenance and inspection personnel in the performance of their duties. They should be in brief descriptive language and in a form suitable for publication in order to minimize editing and rewriting. Brevity should not compromise clarity or usefulness. The following is an example of item format. It should be used if the item is adaptable to it.

BEECH	WINDSHIELD	Reports indicate the P/N50-380050-windshield wiper arms are cracking and breaking.
MODEL 99	WIPER	

OR

GRUMMAN	FIRE WARNING	A number of reports indicate shorts in the sensing elements and fire detector unit connector are attributable to the presence of moisture.
MODEL G-159	SYSTEM	

134. SUBMISSION OF ITEMS. Selected items will be forwarded monthly to the FAA, Flight Standards National Field Office, AFS-580, in a report, Summary Report of Safety Items Reviewed (RIS: FS 8330-2), containing a summary of the items selected for publication in AC 43-16. From time-to-time, a region may determine that an item should receive expeditious treatment. These items should be marked "Preferred Handling." AFS-580 personnel will process these items accordingly.

*

SECTION 2. TRANSMISSION OF SERVICE DIFFICULTY
INFORMATION TO FIELD INSPECTORS

135. GENERAL AVIATION SDR INFORMATION will be transmitted to FAA field inspectors as follows. The procedures apply to both general aviation airworthiness and avionics matters, but do not affect procedures utilized by the Air Carrier Division.

a. Flight Standards Service Difficulty Reports (RIS: FS 8070-2). It is intended that this will be the most commonly used method of alerting field inspectors to unsatisfactory or hazardous conditions. It is a new use of this report and requires daily review of the Flight Standards Service Difficulty Reports by field inspectors and prompt compliance with the requirements of Chapter 3, Section 1, paragraph 61b of Order 8010.2, Flight Standards Service Difficulty Program.

(1) The originating region (normally the region with certificate management responsibility) will establish the facts and circumstances surrounding the unsatisfactory condition and then call the General Aviation Airworthiness Branch, AFS-830 (FTS: 426-8203), and provide the information, together with sufficient background and technical information, to facilitate evaluation.

(2) A suggested text will be prepared by the originating region and transmitted to AFS-830 by the most expeditious means.

(3) AFS-830 will review the text, prepare a final draft and, with division approval, forward to the Regulatory Standards and Analysis Branch, AFS-510. Transmittal will be by the most expeditious means. A service difficulty problem which crosses division lines of responsibility will be coordinated and, with AFS-1 approval, forwarded as indicated above.

(4) AFS-580 will include the service difficulty alert information in the earliest possible Flight Standards Service Difficulty Reports (RIS: FS 8070-2) and highlight it with a black border slashed with white.

(5) Field inspectors will respond as directed in Order 8010.2, Chapter 3, Section 1, paragraph 61b.

b. General Aviation Airworthiness Alerts (AC 43-16). This publication, while primarily directed to specific segments of the general aviation public, receives wide circulation within the FAA. Provisions have been made to include alert information in addition to the items regularly included. It should be used to alert field inspectors when 45- to 60-day transmittal time is satisfactory and when the alert information is also appropriate for the public. Procedures for use are the same as described in paragraphs 135a through 135a(5) of this order. In the interest of economy, the most expeditious means of communication need not be used as prescribed in paragraphs 135a through 135a(5).

*

* c. Telegraphic Notices (GENOTS). This method will be used when expeditious dissemination of information is critical to aviation safety. In the interest of economics, it will be used only when it can be demonstrated that another method would be unsatisfactory or less expeditious.

(1) The initiating region will telephone the General Aviation Airworthiness Branch, AFS-830, and provide the circumstances, conditions, background, and technical information related to the alert action. This information should be sufficient to facilitate evaluation.

(2) A suggested text should be prepared which is accurate, concise, brief, and embody sufficient technical and background material to be of real value to other regions and field offices.

(3) The General Aviation Airworthiness Branch, AFS-830, will formulate a message, based on the suggested text and other information provided by the initiating region, and coordinate as required.

(4) The message will be sent as a telegraphic notice via wire service "B." Since field offices are included among the addressees, redistribution by regional offices is not required.

d. Maintenance Bulletins (transmitted as notices) will be issued on a limited basis. They will be used in relation to situations or conditions expected to exist over extended time periods. They will serve as source material for new inspectors and as referenced material for the journeyman. An example of the kind of material appropriate for inclusion would be the inspection techniques and peculiarities related to wooden structures. When initiating a Maintenance Bulletin, a technically accurate text is a must. The text should not require rewrite or further research and should be prepared for distribution as a notice. Maintenance Bulletins are not mandatory on the public and, therefore, mandatory words are to be avoided except where required to convey the manufacturer's recommendations. When so required, they must be clearly identified as those of the manufacturer.

(1) The initiating region will prepare an accurate text and forward it to AFS-510 for processing. The proposed Maintenance Bulletin will be reviewed for grammatical and technical accuracy, be put in final form with all questions resolved as to accuracy by coordination with the originating office, and forwarded to AFS-830 with appropriate record of clearance.

(2) AFS-830 will review, coordinate as appropriate, and initiate printing and distribution.

NOTE: Because of the other means available to alert field inspectors, Maintenance Bulletins should not be issued telegraphically for general aviation.

136.-149. RESERVED

APPENDIX 1. REGIONAL SDR COORDINATORS AND SAFETY DATA BRANCH

<u>Region</u>	<u>Coordinator & Alternate</u>	<u>Phone No.</u>
AAL	Edward Allen (AAL-252)	FTS (8) 907/265-4252
	alt. Dale L. Hanson (GADO-1)	FTS (8) 907/265-4657
* ACE	James A. Schueler (ACE-EMDO-43)	FTS (8) 752-6627 Comm 316/942-7929
AEA	Fred Eichhorn (AEA-AQAFO)	FTS (8) 665-9695
	alt. Paricles Hantis (AEA-AQAFO)	Comm 212/995-3300 *
** AEU		
AGL	Cornelius Biemond (AGL-217)	FTS (8) 384-9460 Comm 312/694-4500/9460
ANE	Robert A. Schilling (ANE-251)	FTS (8) 836-1326/1344
	alt. Edward L. Park (ANE-256)	Comm 617/273-7326/7344
ANW	Marion Shaw (ANW-254)	FTS (8) 396-2773 Comm 206/767-2773
APC	Richard G. Teixeira (APC-240)	FTS (8) 808/546-8652
	alt. Gary K. Nakagawa (APC-210)	FTS (8) 808/546-8650
ASO	Nathaniel Mosby (ASO-217)	FTS (8) 246-7964 Comm 404/763-7964
ARM	Charles R. Taylor (ARM-250)	FTS (8) 327-4188
	alt. Roman B. Mueller (ARM-250)	Comm 303/837-4188
ASW	John P. Donnelly (ASW-257)	FTS (8) 736-9543
* alt.	Thomas P. Germino (ASW-258)	Comm 817/624-4911 *
AWE	Jerry Presba (AWE-104)	FTS (8) 966-6351 Comm 213/536-6351

** No coordinator assigned.

Safety Data Branch, AFS-580

FTS (8) 732-4391
Comm 405/686-4391

Maintenance Analysis Center

FTS (8) 732-4171
Comm 405/686-4171/4351

Data Review Section

FTS (8) 732-4351
Comm 405/686-2542

SECTION 3. MANUFACTURERS' SERVICE DOCUMENTS

*

150. AUTHORITY. Federal Aviation Regulations Part 21.99 provides for issuance of information by the manufacturers for design changes that are required to correct unsafe conditions (in support of Airworthiness Directives), or designed to improve safety or serviceability of the product.

151. PURPOSE. This section provides procedures for the review and coordination of manufacturers' service documents for aeronautical products or components thereof required to be submitted for approval.

152. GENERAL. Responsibility for review, evaluation, and coordination of manufacturers' service information rests with the Engineering and Manufacturing Branch (Aircraft Engineering Division in the Western Region). Service information may be in the form of service bulletins, service letters, notices, etc.

153. PROCEDURES. The following procedures outline the actions to be taken by the controlling region, Flight Standards Division:

a. All manufacturers' service documents will be routed to the appropriate Engineering and Manufacturing Branch (Aircraft Engineering Division in the Western Region) for review, evaluation, coordination, and filing as appropriate.

b. All manufacturers' service documents that require FAA approval will be appropriately marked (e.g., "FAA APPROVED," "FAA DER APPROVED," "DOA APPROVED"), or clearly identified in some other manner. Service documents not so marked are not FAA approved.

c. Technical review shall be made to determine safety implications, regulatory compliance, technical adequacy, and need for followup action.

d. Engineering must ensure that all documents having Operations or Maintenance significance will be coordinated with the appropriate group.

e. The operations and maintenance specialists shall evaluate and determine:

(1) The operational and/or maintenance significance of the service information, with respect to the operators procedures, training manuals, operations manuals, and the issuance of the operations alert and or maintenance bulletins. Copies of all service bulletins that have operational significance should be forwarded to AFS-200/800.

(2) The need for maintenance bulletins or alerts directing other field offices attention to the service information.

FIGURE 3. DAILY SUMMARY OF SERVICE DIFFICULTY REPORTS (AIR CARRIER), RIS: FS 8070-2

AIR CARRIER

**FLIGHT STANDARDS
SERVICE DIFFICULTY REPORTS**



FLIGHT STDS SERVICE RIS: FS 8070-2 Friday, November 11, 1977

AIRFRAME

DATE 102677	STATUS ORIG-CLOSED	CARRIER NWA	ATA 2910	AIRCRAFT TYPE 707-351C	N. 384US	CONTROL NO 11117001
TEXT						
HND - AFTER TAKEOFF LOST UTILITY SYSTEM HYDRAULIC FLUID. RETURNED TO FIELD. FOUND FLUID LOSS OCCURRING AT NR 3 ENGINE DRIVEN PUMP DUE TO PUMP FAILURE. REPLACED NR 2 AND NR 3 ENGINE DRIVEN HYDRAULIC PUMPS. REPLACED FILTERS AND REPLENISHED FLUID SUPPLY. SYSTEM CHECK NORMAL.						
SPECIFIC PART CAUSING PROBLEM						
PART NAME PUMP	MPG PART NUMBER 10-60470	PART CONDITION FAILED	PART/DEFECT LOCATION NR 3 ENGINE			
COMPONENT/APPLIANCE ABOVE PART INSTALLED ON						PART TT PART TSD
COMP/APPL NAME	MANUFACTURER	MPG MODEL/NUMBER	SERIAL NO			

DATE 10 25 77	STATUS Orig-Closed	CARRIER BNF	ATA 2730	AIRCRAFT TYPE 727-2B7	N. 404 BN	CONTROL NO 11117002
TEXT						
DEN During taxi to runway lost 'A' hydraulic quantity and pressure. Towed aircraft to gate. Found cracked cap on bottom of elevator feel computer. Replaced cap and serviced system.						
SPECIFIC PART CAUSING PROBLEM						
PART NAME Feel Comp. Cap	MPG PART NUMBER AN8146DL	PART CONDITION Cracked	PART/DEFECT LOCATION			
COMPONENT/APPLIANCE ABOVE PART INSTALLED ON						PART TT PART TSD
COMP/APPL NAME	MANUFACTURER	MPG MODEL/NUMBER	SERIAL NO			

*

FIGURE 4. MALFUNCTION OR DEFECT REPORT, FAA FORM 8010-4

1. REGISTRATION NO. N-		DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION MALFUNCTION OR DEFECT REPORT			8. DATE SUB.	Form Approved Budget Bureau No. 04-R0003	
2. AIRCRAFT		A. MAKE	B. MODEL	C. SERIAL NO.	Continue on reverse	SUBMITTED BY	
3. POWERPLANT							I.
4. PROPELLER							H. OTHER
5. APPLIANCE/COMPONENT (assy. that includes part)							G. FAA
A. NAME		B. MAKE	C. MODEL	D. SERIAL NO.	F. MFG.		
6. SPECIFIC PART (of component) CAUSING TROUBLE		A. NAME		B. NUMBER	C. PART/DEFECT LOCATION	E. AIR TAXI	
E. PART TT		F. PART TSO	G. PART CONDITION		D. MECH.		
7. ATA CODE					C. OPER.		
					B. REP. STA.		
7A. COMMENTS (Describe the malfunction or defect and the circumstances under which it occurred. State probable cause and recommendations to prevent recurrence.)							

FAA Form 8010-4 (7-78) SUPERSEDES FAA Form 8330-2

FIGURE 5. MALFUNCTION OR DEFECT REPORT (REVERSE),
FAA FORM 8010-4 (GENERAL AVIATION)

USE THIS SPACE FOR
ADDITIONAL COMMENTS IF NEEDED

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20561

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

POSTAGE AND FEES PAID
FEDERAL AVIATION ADMINISTRATION
DOT-616



DO NOT USE THIS SPACE

Local FAA District Office
address should be inserted
on this portion of the form.

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8010.2 CHG 3
Appendix 4

APPENDIX 4. AVAILABILITY OF FORMS

<u>Form Number</u>	<u>Title</u>	<u>NSN</u>	<u>U/I</u>
AC Form 8330-3	Maintenance Difficulty Record	NONE	NONE
FAA Form 1360-15	Correspondence Acknowledgement	0052-00-602-5002	SH
FAA Form 8070-1	Service Difficulty Report	0052-00-600-2002	PD
* FAA Form 8010-4	Malfunction or Defect Report	0052-00-039-1003	BK *
FAA Form 8340-6	Annual or Quarterly Air Carrier Aircraft Utilization Report	NONE	NONE

NOTE: AC Form 8330-3 is normally executed by AFS-581 only.

FAA Form 8340-6 indicates format for automatic data output.

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Appendix 4

APPENDIX 4. AVAILABILITY OF FORMS

<u>Form Number</u>	<u>Title</u>	<u>NSN</u>	<u>U/I</u>
AC Form 8330-3	Maintenance Difficulty Record	NONE	NONE
FAA Form 1360-15	Correspondence Acknowledgement	0052-00-602-5002	SH
FAA Form 8070-1	Service Difficulty Report	0052-00-600-2002	PD
* FAA Form 8010-4	Malfunction or Defect Report	0052-00-039-1003	BK *
FAA Form 8340-6	Annual or Quarterly Air Carrier Aircraft Utilization Report	NONE	NONE

NOTE: AC Form 8330-3 is normally executed by AFS-581 only.

FAA Form 8340-6 indicates format for automatic data output.