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AUTHORITY

Air Force Materiel Command ltr dtd 19 Feb 2002

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The U.S. Government is absolved from any litigation which may ensue from any infringement on domestic or foreign patent rights which may be involved.
Contractual flight test requirements for the F-86 turbojet fighter are presented. The program consists of the following steps: Preliminary tests, ground tests, initial flights, shakedown flights, preliminary functional checks, general handling characteristics and preliminary structural demonstrations; final compliance tests in the demonstration of the contractor's model specification; and ground and functional flight test procedure for production of F-86 airplanes.
I'M IAIN
NORTH AMERICAN AVIATION, INC.
INGLEWOOD, CALIF.
ENGINEERING DEPARTMENT

FLIGHT TEST PROGRAM
FOR
MODEL P-86 AIRPLANE
CLASS - JET PROPELLED FIGHTER

CONTRACT W33-038 ac-16013

PREPARED BY
Engineering Flight Test

APPROVED BY
L. L. Waite
Chief Technical Engineer

REVISIONS

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FLIGHT TEST PROGRAM
FOR MODEL P-86 AIRPLANE

INTRODUCTION:

This report presents contractual flight test requirements for the P-86 airplane.

Prior to the flight test program, the airplane must be inspected and approved for flight by the Air Material Command.
FLIGHT TEST PROGRAM
FOR MODEL P-86 AIRPLANE

PART I: PRELIMINARY TESTS

A. Ground Tests:

1. Power plant installation tests (engine controls, critical cooling temperatures, fuel system operation, emergency fuel system operation, cockpit conditioning, thrust calibration, etc.)

2. Hydraulic, electrical, and radio system checks

3. Taxi tests:
   a. Brake and steering mechanism check
   b. General ground handling

B. Initial Flights:

Preliminary stall tests, general handling qualities at medium speeds, check of critical temperatures and general power plant and power plant installation tests.
FLIGHT TEST PROGRAM
FOR MODEL P-86 AIRPLANE

PART II: SHADED OVER FLIGHTS

A. Preliminary Functional Checks

1. Preliminary functional checks of all controls and equipment essential for flight

2. Airspeed position error calibrations

3. Determination of stalling speeds and maximum lift coefficients

B. General Handling Characteristics and Preliminary Structural Demonstration:

1. Sufficient longitudinal stability data to establish unaccelerated and accelerated flight neutral C.G. positions

2. Sufficient data to establish directional stability and control characteristics in sideslips

3. Lateral control and aileron effectiveness tests at several speeds

4. Trim tab and horizontal stabilizer effectiveness tests

5. Take off and landing characteristics

6. Brief qualitative stability and control checks not covered above (dynamic stability, spiral stability, etc.)

7. Spin test demonstration

8. Dives and accelerations at design gross weight condition (13,311#) provided they are not limited by stability and control characteristics or excessive stresses. Airplanes in minimum drag configuration for parts a, b, and c, and with dive brakes open at the start of the dives for parts d and e.

   a. Dive to the highest Mach number attainable with satisfactory stability and control, but not to exceed a Mach
FLIGHT TEST PROGRAM
FOR MODEL P-86 AIRPLANE

PART II: (Cont'd)

B. 8. a. number of .93 at an equivalent air-speed optional with the contractor

b. Dive to an equivalent airspeed 
\((V_T \times \sqrt{\frac{1}{2}})\) of 575 mph, at a Mach number optional with the contractor

c. At a speed not in excess of maximum level flight speed, at 10,000 ft., obtain accelerations in steady turns at 2, 4, and 6 load factors and in pull-ups and push-overs to +6.0 to -0.5 load factors.

d. Dive to the highest Mach number attainable with satisfactory stability and control, but not to exceed a Mach number of .90, at an equivalent airspeed optional with the contractor

e. Dive to an equivalent airspeed 
\((V_T \times \sqrt{\frac{1}{2}})\) of 550 mph, at a Mach number optional with the contractor

9. Flight tests required by contractor to correct deficiencies uncovered in above flights
FLIGHT TEST PROGRAM
FOR MODEL P-86 AIRPLANE

PART III: FINAL COMPLIANCE TESTS IN THE DEMONSTRATION OF THE CONTRACTOR'S MODEL SPECIFICATION

A. Stability and Control Characteristics:

Final stability and control evaluations in compliance with R-1815-A Specification

B. Final performance tests on high speed at various altitudes and rate of climb

C. Final compliance tests, structural demonstration flight:

Demonstrations in accordance with MR. Serial No. ENG-51-4515-1, Add. 1a, except that the dive angle shall be the maximum attainable with satisfactory stability and control, but not to exceed 50°, and provided that the structural design loads are not exceeded

D. Heating, ventilating, and carbon monoxide tests
PART IV: GROUND AND FUNCTIONAL FLIGHT TEST PROCEDURE FOR PRODUCTION P-86 AIRPLANES:

The procedure for ground and functional flight tests shall be in accordance with Specification R-1290-F, Amendment No. 5, dated 28 May 1945, except for the following paragraphs: F-1ld(1)(c), F-1ld(1)(d), and F-1la. These paragraphs do not apply to jet engines. F-13 - the initial and acceptance test flights shall be considered as one flight, and shall not exceed one hour's duration. This shortened duration is considered desirable in order to save engine operation.
MEMORANDUM FOR DTIC/OCQ (ZENA ROGERS)
8725 JOHN J. KINGMAN ROAD, SUITE 0944
FORT BELVOIR VA 22060-6218

FROM: AFMC CSO/SCOC
4225 Logistics Avenue, Room S132
Wright-Patterson AFB OH 45433-5714

SUBJECT: Technical Reports Cleared for Public Release

References: (a) HQ AFMC/PAX Memo, 26 Nov 01, Security and Policy Review,
AFMC 01-242 (Atch 1)
(b) HQ AFMC/PAX Memo, 19 Dec 01, Security and Policy Review,
AFMC 01-275 (Atch 2)
(c) HQ AFMC/PAX Memo, 17 Jan 02, Security and Policy Review,
AFMC 02-005 (Atch 3)

1. Technical reports submitted in the attached references listed above are cleared for public
release in accordance with AFI 35-101, 26 Jul 01, Public Affairs Policies and Procedures,
Chapter 15 (Cases AFMC 01-242, AFMC 01-275, & AFMC 02-005).

2. Please direct further questions to Lezora U. Nobles, AFMC CSO/SCOC, DSN 787-8583.

LEZORA U. NOBLES
AFMC STINFO Assistant
Directorate of Communications and Information

Attachments:
1. HQ AFMC/PAX Memo, 26 Nov 01
2. HQ AFMC/PAX Memo, 19 Dec 01
3. HQ AFMC/PAX Memo, 17 Jan 02

cc:
HQ AFMC/HO (Dr. William Elliott)
MEMORANDUM FOR HQ AFMC/HO

FROM: HQ AFMC/PAX

SUBJECT: Security and Policy Review, AFMC 02-005

1. The reports listed in your attached letter were submitted for security and policy review IAW AFI 35-101, Chapter 15. They have been cleared for public release.

2. If you have any questions, please call me at 77828. Thanks.

JAMES A. MORROW
Security and Policy Review
Office of Public Affairs

Attachment:
Your Ltr 14 January 2002
MEMORANDUM FOR: HQ AFMC/PAX
Attn: Jim Morrow

FROM: HQ AFMC/HO

SUBJECT: Releasability Reviews

1. Please conduct public releasability reviews for the following attached Defense Technical Information Center (DTIC) reports:


   c. *Phase IV Performance Test of the F-86F-40 Airplane Equipped with 6x3-inch Leading Edge Slats and 12-inch Extensions on the Wing Tips*, May 1956; DTIC No. AD-096 084.


   h. *Operational Suitability Test of the F-86F Airplane*, 4 May 1953; DTIC No. AD-017 568.


2. These attachments have been requested by Dr. Kenneth P. Werrell, a private researcher.

3. The AFMC/HO point of contact for these reviews is Dr. William Elliott, who may be reached at extension 77476.

10 Attachments:

a. DTIC No. AD-B804 069
b. DTIC No. AD- 020 375
c. DTIC No. AD- 096 084
d. DTIC No. AD- 118 703
e. DTIC No. AD- 118 707
f. DTIC No. AD- 223 596
g. DTIC No. AD- 095 757
h. DTIC No. AD- 017 568
i. DTIC No. AD- 069 271
j. DTIC No. AD- 019 725

JOHN D. WEBER
Command Historian
Contractual flight test requirements for the F-86 turbojet fighter are presented. The program consists of the following steps: Preliminary tests, ground tests, initial flights, shake-down flights, preliminary functional checks, general handling characteristics and preliminary structural demonstrations; final compliance tests in the demonstration of the contractor's model specification; and ground and functional flight test procedure for production of F-86 airplanes.