

CONFIDENTIAL  
TACTICAL COMBAT SECTION  
PROOF DEPARTMENT  
ARMY AIR FORCES PROVING GROUND COMMAND  
Eglin Field, Florida

SUBJECT: Program for Test of Tactical Suitability of P-51.

TO: Commanding Officer, Army Air Forces Proving Ground Group,  
Eglin Field, Florida.

1. GENERAL:

a. Three (3) standard type P-51 aircraft will be used in this test.

b. This is a FIRST PRIORITY Tactical Suitability Service test.

c. Captain George Walker has been assigned Group Project Officer for this test.

d. This test was requested in a letter from Headquarters Army Air Forces, dated July 13, 1942 to Commanding General, Army Air Forces Proving Ground, subject: "Test of P-51 Airplanes."

e. Captain L. B. Meng is designated as the Tactical Combat Section Project Officer for this test.

f. It is requested that the name of the Army Air Forces Proving Ground Group officer appointed to monitor this test be forwarded to the Chief of the Tactical Combat Section, Proof Department, for recordation and coordination.

g. At the conclusion of this test which should be completed in a period of twenty (20) days, the Commanding Officer of the Army Air Forces Proving Ground Group will be informed by the Chief of the Proof Department as to the disposition of the test articles.

2. OBJECT:

To test subject aircraft for tactical suitability and to recommend changes to improve tactical operational. Also to report on maintenance difficulties and to recommend corrections to be made.



3. METHOD OF CONDUCTING TEST:a. First Phase:

- (1) Calibration speed runs will be flown with each of the subject aircraft over the speed range at a minimum of six (6) different speeds.
- (2) Trial speed runs will be made with each of the subject aircraft at maximum cruising power, normal rated power, and the maximum power obtainable at each five-thousand (5,000) foot (pressure altitude) level, from sea level to the service ceiling of the subject aircraft.
- (3) Trial climbs will be made with each of the subject aircraft from the start of the take-off run and the time taken on each five-thousand (5,000) foot level (pressure altitude) up to the service ceiling of the subject aircraft.
- (4) A trial climb will be made as in paragraph (3) above, with a three-ship formation of the subject aircraft, the airplanes to take-off individually from the same runway and join formation in the air.
- (5) The subject aircraft will be flown in mock combat against all available contemporary fighter types to determine their comparative turning and combat characteristics.
- (6) The rate of acceleration in dives will be studied by comparison with contemporary types.
- (7) Trial flights will be made to determine the range of the subject aircraft at normal rated power.
- (8) Trial flights will be made to determine the range of the subject aircraft at maximum cruising power.
- (9) Trial flights will be made to determine the maximum range of the subject aircraft and how it is obtained.
- (10) Trial flights will be made for the purpose of studying the stability of the subject aircraft while firing the guns or cannon.
- (11) Night flights will be made to determine the suitability of the subject aircraft for night flying.
- (12) All pilots engaged in the flight tests of the subject aircraft will submit their flight data cards to the test officer and report on the following subjects.
  - (a) Flying characteristics of the subject aircraft during take-off, climb, level flight, acrobatics, dives, and landings.



- CONFIDENTIAL
- (a) Ease, speed, and adequacy of trimming devices.
  - (c) Suitability of the subject aircraft for instrument flight.
  - (d) The visibility and field of view from the cockpit.
  - (e) The simplicity of the cockpit arrangement.
  - (f) The adequacy of the oxygen supply.
  - (g) The adequacy and arrangement of the instruments.
  - (h) Pilot comfort under all simulated combat conditions.

b. Second Phase:

The subject aircraft will be studied carefully on the ground to determine:

- (1) The adequacy of its armament.
- (2) The adequacy of the armor plate protection for the pilot.
- (3) The protection of vulnerability of vital installations.
- (4) The means and size of the emergency exit.
- (5) The accessibility of the oxygen supply.
- (6) The accessibility of the radio.
- (7) Time and number of men required to completely service the subject aircraft with fuel, oil, coolant, oxygen, and ammunition.

c. Third Phase:

When the test has been completed and a draft of the final report has been prepared, all the officers involved in the test will meet in the office of the Tactical Combat Section, Proof Department, to discuss and approve the final report.

4. RECORDS:

a. A table will be kept which will describe all maintenance difficulties encountered during the test, corrective action taken, and the approximate time required to complete the corrective actions. This table will also contain the man hours required to complete the routine twenty-five (25) hour and fifty (50) hour inspections, and any particular part or accessory that consistently malfunctions will be noted.

b. All flight test data reports will be collected by the test officer and turned over to the project officer as soon as practicable.



5. REPORTS:

a. A final report covering all phases of the test, with conclusions and recommendations, will be submitted by the project officer to the Chief of the Proof Department, through the Chiefs of the Testing Branch and Tactical Combat Section as soon as possible after the conclusion of the test.

b. Any consistent failures or malfunctions of any equipment will be reported to the Chief of the Testing Branch as soon as possible after they are discovered.

By Command of Brigadier General GARDNER.

DUDLEY W. WATKINS,  
Colonel, Air Corps,  
Chief, Proof Department.

Prepared by: /s/ L. B. Meng

L. B. MENG,  
Captain, Air Corps,  
Project Officer.

Approved by: /s/ J. O. Guthrie,

J. O. GUTHRIE,  
Lt. Colonel, Air Corps,  
Chief, Testing Branch.

Approved by: /s/ L. B. Coats,

L. B. COATS,  
Lt. Colonel, Air Corps,  
Chief, Tactical Combat Section.

www.aircraftperformance.org