

STANDARD AIRCRAFT CHARACTERISTICS
F-9E PANTHER

POWER PLANT

NO. & MODEL(1) J48-P-8A
 MFR. Pratt & Whitney
 TYPE.....Centrifugal Compressor
 ENGINE LENGTH.....110"
 ENGINE DIA.51"

RATINGS

	<u>LBS.</u>	<u>@</u>	<u>RPM</u>	<u>@</u>	<u>ALT.</u>
T.O.	7,250		11,000		S.S.L.
MIL.	7,250		11,000		S.S.L.
NORM.	5,600		10,400		S.S.L.

Spec. P&W No. N161-4D Appendix B

ORDNANCEGUNS

4 - 20mm M-3 Fuselage, 760 Rds.

FIRE CONTROL

ACS Aero 5D-1
 AFCS Mk. 6 Mod. 3
 Radar AN/APC-30A
 Labs Aero 18C

EXTERNAL STORES PROVISIONS

<u>WING STA.</u>	<u>RACK</u>	<u>CAPABILITY</u>
71	Aero	150 Fuel Tank
	65A	
71	Aero	Mk. 12 Bomb
(R.H.)	22A	

MISSION AND DESCRIPTION

The F9F-8B is a single seat, swept wing, carrier based airplane whose primary purpose is carry special weapon stores. This airplane is the development of the F9F-6. Improvements are increased wing area, flap area, fuel capacity and a cambered leading edge. A pressurized cabin with temperature control and an ejection seat, is installed. The guns and radar are accessible by sliding the nose forward. A nose boom is installed for inflight refueling.

The airplane is controlled longitudinally and laterally by hydraulically operated surfaces and directionally by a mechanically operated surface. Lateral control is provided by means of flaperons and lateral trim by a wing tip trimmer flap. Longitudinal control is provided by an all movable stabilizer and the conventional manual elevator which is used for flaps down and emergency flight conditions. Longitudinal trim is accomplished by moving the entire stabilizer.

DEVELOPMENT

First Production..... January 1954
 Service Use..... October 1954

WEIGHTS

<u>LOADINGS</u>	<u>LBS.</u>	<u>L.F.</u>
EMPTY.....	11,866#
BASIC.....	12,474#
DESIGN.....	16,7807.0
COMBAT.....	17,3457.0
MAX.T.O. (Field).....	24,763
(Cat.).....	24,763
MAX. LDG. (Field).....	24,763
(Arrest.).....	17,613

All Weights are Actual.

FUEL AND OIL

<u>GALS.</u>	<u>NO. TANKS</u>	<u>LOCATION</u>
847.....	2	Fuselage
216.....	6	Wing
300.....	2	Wing Droppable
FUEL GRADE.....		JP4
FUEL SPEC.....		Applicable MIL-F-5624

OIL

CAPACITY (GALS).....	3.25
GRADE.....	1010
SPEC.....	Applicable MIL-O-6081

DIMENSIONS

WING
 AREA.....337 Sq. Ft.
 SPAN.....34' - 6"
 MAC.....10' - 0"
 SWEEPBACK C/4.....35°

LENGTH.....41' - 9"
 HEIGHT.....12' - 3"
 TREAD.....8' - 3"

ELECTRONICS

UHF COMM.....AN/ARC-27A
 UHF ADF.....AN/ARA-25
 LF ADF.....AN/ARN-6
 IFF.....AN/APX-6B
 RANGE RADAR.....AN/APC-30A

PROVISIONS FOR SERVICE INSTALLATION
 OF:

TACAN.....AN/ARN-21
 (Alternate to ARN-6)
 SIF CODER.....AN/APA-89

PERFORMANCE SUMMARY					
TAKE-OFF LOADING CONDITION		(1) FIGHTER 2 - 120 Gal. Tip Tanks	(3) GRD. SUPPORT 6-5" HVAR Rock. 2 - 120 Gal. Tip Tanks		
TAKE-OFF WEIGHT	lb.	17,766	18,721		
Fuel (Internal/Fixed Tip)	lb.	4,578/1,440	4,578/1,440		
Payload (Ammunition/Rockets)	lb.	471/-	471/840		
Wing loading	lb./sq.ft.	71.1	74.9		
Stall speed - power-off	(C) kn.	114.2	118.5		
Take-off run at S.L. - calm	(G) ft.	(Dry) 2,257	(Dry) 2,490		
Take-off run at S.L. 25 kn. wind	(G) ft.	(Dry) 1,435	(Dry) 1,562		
Take-off to clear 50 ft. - calm	ft.	---	---		
Max. speed/altitude	(A) kn./ft.	503/5,000	438/10,000		
Rate of climb at S.L.	(B) fpm	5,090	4,000		
Time: S.L. to 20,000 ft.	(B) min.	4.8	6.9		
Time: S.L. to 30,000 ft.	(B) min.	8.7	15.0		
Service ceiling (100 fpm)	(B) ft.	42,800	32,300		
Combat range	n.mi.	1,130	770		
Average cruising speed	kn.	418	353		
Cruising altitude(s)	ft.	41,000/46,000	30,600/34,800		
Combat radius	n.mi.	420	130		
Average cruising speed	kn.	418	342		
COMBAT LOADING CONDITION		(2) TIP TANKS	(4) TIP TANKS 6-14A Launchers		
COMBAT WEIGHT	lb.	15,359	15,474		
Engine power		Military	Military		
Fuel	lb.	3,611	3,611		
Combat speed/combat altitude	kn./ft.	472/35,000	517/S.L.		
Rate of climb/combat altitude	fpm/ft.	1,850/35,000	5,700/S.L.		
Combat ceiling (500 fpm)	ft.	42,500	41,500		
Rate of climb at S.L.	fpm	6,000	5,700		
Max. speed at S.L.	kn.	525	517		
Max. speed/altitude	kn./ft.	525/S.L.	517/S.L.		
LANDING WEIGHT	lb.	12,819			
Fuel	lb.	1,071			
Stall speed - power-off	kn.	96.9			
Stall speed - with approach power	kn.	94			

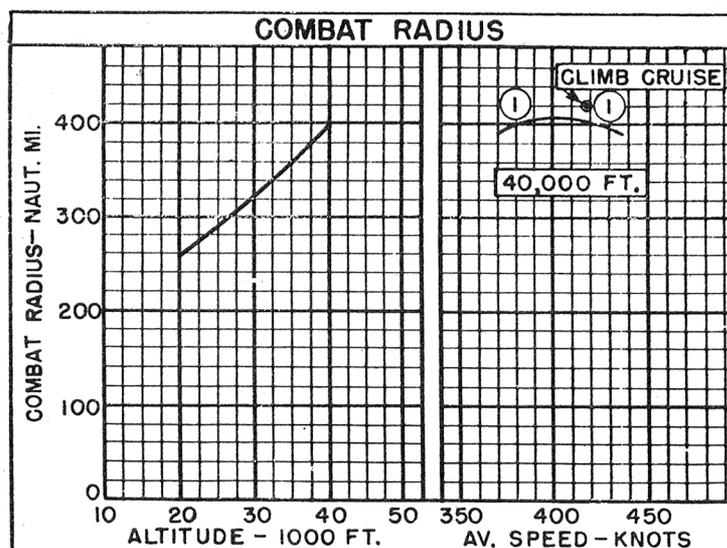
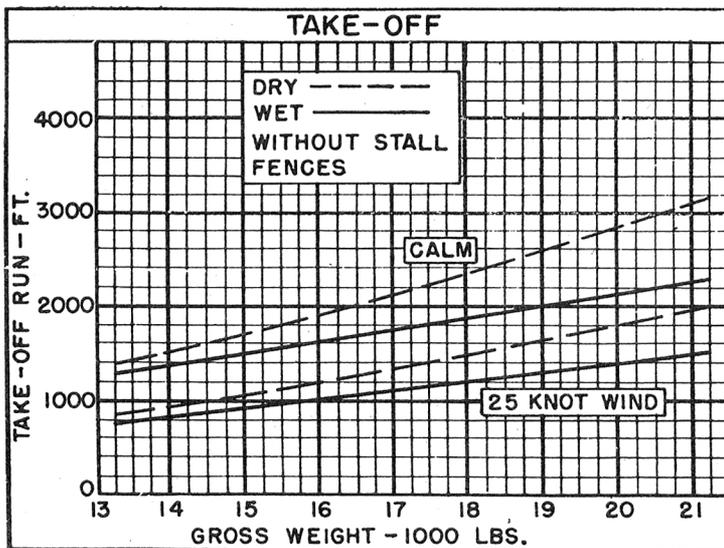
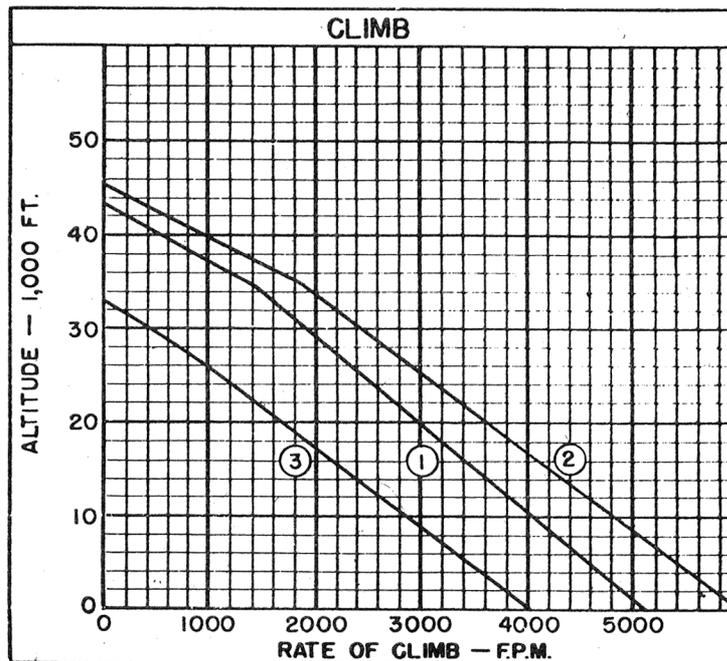
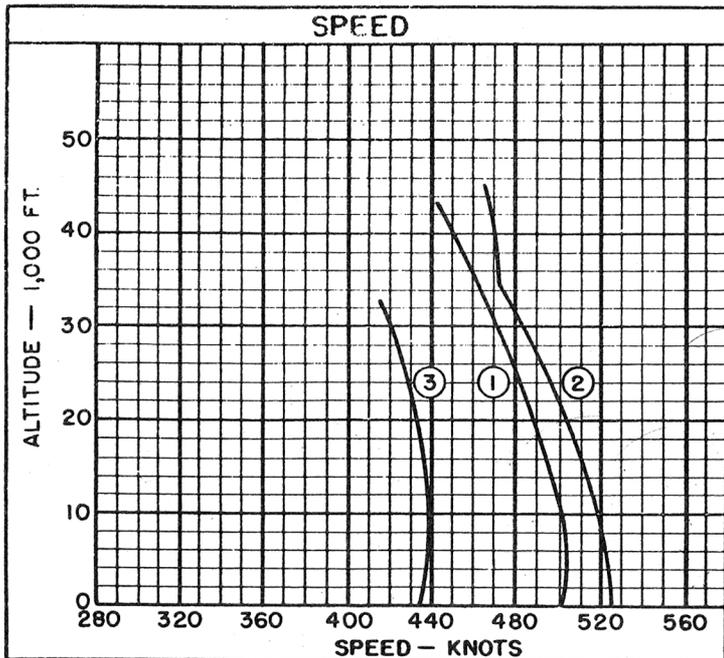
NOTES

- (A) Normal Power
 (B) Military Power
 (C) Without Stall Fences

 Performance is based on NATC flight test of the F9F-5 airplane.

Range and radius are based on flight test fuel consumption increased by 5%.

Spotting: 200 ft. length is required to spot 28 airplanes (wings folded) on the 96 ft. wide deck immediately aft of the forward ramp on CV-9 class carriers.



○ LOADING CONDITION COLUMN NUMBER

NOTES

GENERAL PURPOSE AND ESCORT FIGHTER COMBAT RADIUS PROBLEM (GAS TURBINE)

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.

CLIMB: To cruising ceiling at military power. (Cruising ceiling = altitude for 300 ft./min. rate of climb at normal power.)

CRUISE-OUT: At V for long range at cruising ceiling.

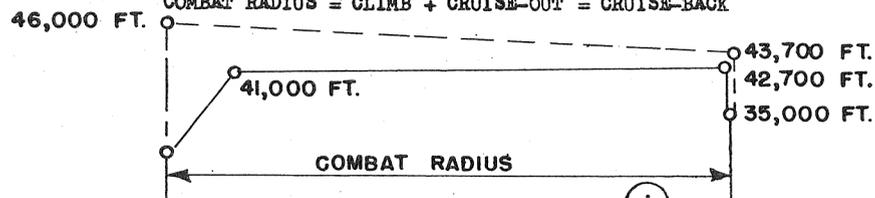
DESCEND: To 35,000 feet. (No fuel used, no distance gained.)

COMBAT: At 35,000 feet for 20 minutes at military power. (Assume combat concluded at initial cruise-back altitude.)

CRUISE-BACK: At V for long range at cruising ceiling.

RESERVE: 20 minutes at V for maximum endurance at sea level plus 5% of initial fuel load.

COMBAT RADIUS = CLIMB + CRUISE-OUT = CRUISE-BACK



Based on F-5 problem, combat radius would increase to 500 nautical miles.

Based on reserve fuel allowance of F-5 problem (10% of initial fuel load), range would increase to 1,290 nautical miles.

Radius is reduced approximately 6.5 nautical miles for each additional minute of combat.

GROUND SUPPORT FIGHTER COMBAT RADIUS PROBLEM (GAS TURBINE)

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.

CLIMB: To altitude for maximum radius (25,000 feet) at military power.

CRUISE-OUT: At V for long range at 25,000 feet.

DESCEND: To sea level. (No fuel used, no distance gained.)

LOITER: 10 minutes at airspeeds for maximum endurance at sea level.

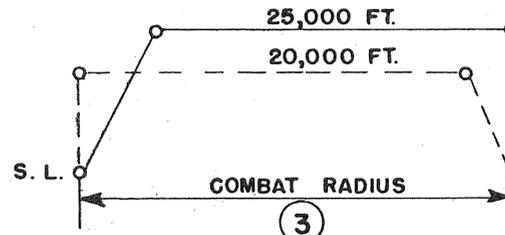
DROP BOMBS AND FIRE EXTERNAL ROCKETS

COMBAT: At sea level for 10 minutes at military power.

CLIMB: To altitude for maximum radius (20,000 feet) at military power.

CRUISE-BACK: At velocity for long range at 20,000 feet.

RESERVE: 20 minutes at velocity for maximum endurance at sea level plus 5% of initial fuel load.

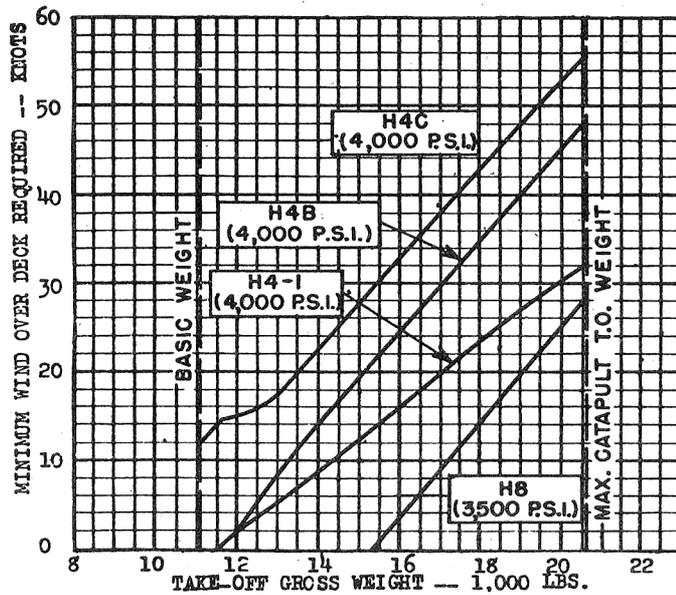


The photographic version of this airplane is the F9F-5P. It differs from the F9F-5 in that the guns have been replaced by camera equipment and 118 pounds of ballast, resulting in a 103 pound decrease in weight. Performance of the F9F-5P will be very slightly improved over that of the F9F-5 due to weight difference.

This chart supersedes previously issued chart dated 1 February 1950. Reason for reissue: Flight test data available.

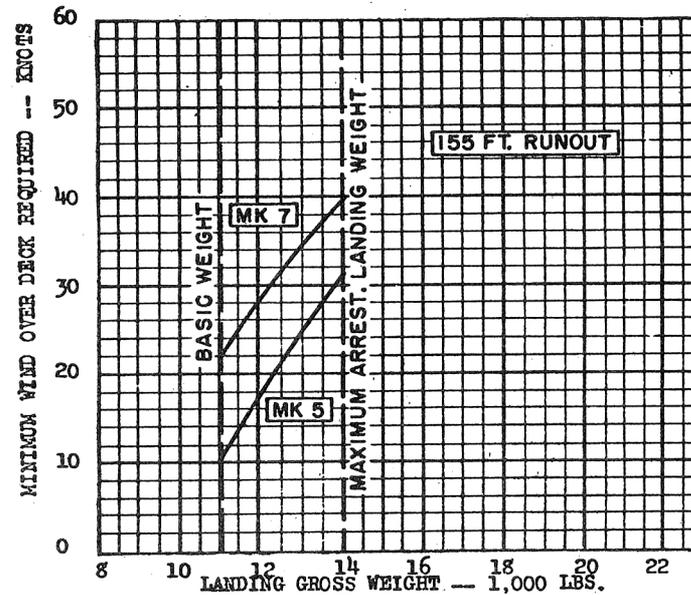
CARRIER SUITABILITY

MINIMUM WIND OVER DECK REQUIRED FOR CATAPULTING
VS. GROSS WEIGHT



MINIMUM WIND OVER DECK REQUIRED FOR LANDING
VS. GROSS WEIGHT

Based on approach speed of 1.2 power-off stall speed



NOTES

- (a) These curves should be used for planning purposes only. Actual catapult and arresting gear operation should be in accordance with applicable Aircraft Technical Orders, and Catapult and Arresting Gear Bulletins.
- (b) Based on NATC Flight Test.