

Standard Aircraft Characteristics MAYAER 1335A (REV. 1-49)

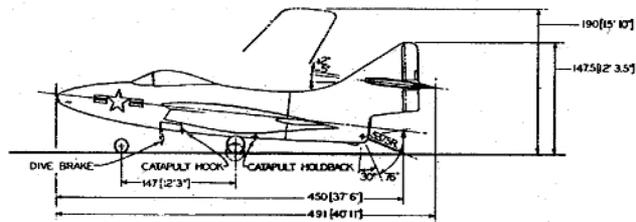
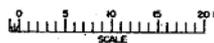
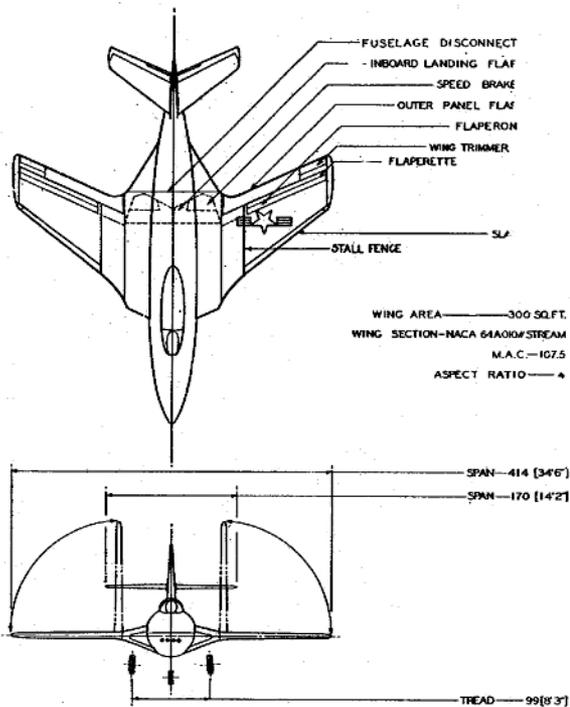
STANDARD AIRCRAFT CHARACTERISTICS

F9F-6 "COUGAR"

GRUMMAN

SERVICE

BUREAU OF AERONAUTICS
NAVY DEPARTMENT



DESCRIPTIVE ARRANGEMENT

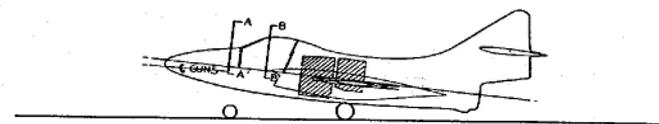
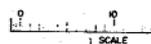
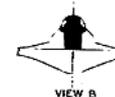
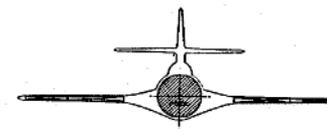
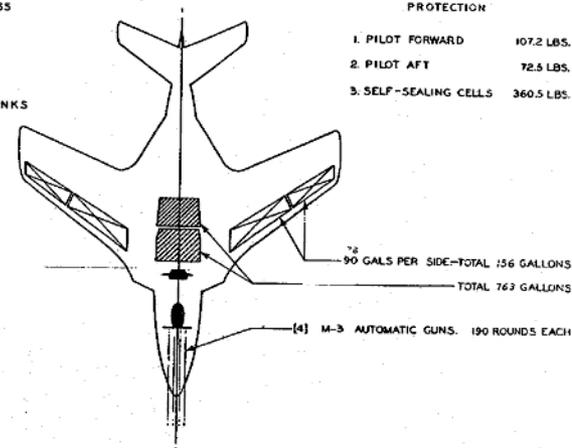
BUREAU OF AERONAUTICS
NAVY DEPARTMENT

MODEL F9F-6

- BULLET RESISTANT GLASS ARMOR PLATE
- SELF-SEALING TANKS
- NON SELF-SEALING TANKS

PROTECTION

1. PILOT FORWARD 107.2 LBS.
2. PILOT AFT 72.5 LBS.
3. SELF-SEALING CELLS 360.5 LBS.



ARMAMENT & TANKAGE

F9F-6, 6P (J48-P-8)

1 JULY 1953

POWER PLANT

NO. & MODEL(1) J48-P-8
 MFRPratt & Whitney
 TYPE..Centrifugal Compressor
 ENG. LENGTH.....110.5"
 ENG. DIAMETER.....50.6"

RATINGS

	LBS	@ RPM	@ ALT.
T.O.	7,250	11,000	S.S.L.
MIL.	7,250	11,000	S.S.L.
NORMAL	5,600	10,450	S.S.L.

Spec. No. N-1614-D

MISSION AND DESCRIPTION

The F9F-6 is a swept wing, single place, carrier based airplane whose primary mission is the destruction of enemy aircraft.

This version of the F9F-6 has the Pratt and Whitney J48-P-8 engine.

Leading edge slats, under-fuselage split flaps, wing slotted flaps and wing stall fences are fitted. A pressurized cabin with temperature control and Grumman ejection seat are installed. The guns and radio are accessible through a forward sliding nose. The engine is serviced by removal of tail fuselage section. The engine is not equipped with water injection.

Lateral control is provided by hydraulically actuated flaperons and flapperettes. Longitudinal trimming is accomplished by means of an electrically actuated stabilizer. Dive brakes are located under the fuselage.

DEVELOPMENT

First flight.....April 1952
 Service use.....December 1952

DIMENSIONS

WING
 AREA.....300 Sq. ft.
 SPAN.....34' -6"
 MAC.....9' -0"
 SWEEPBACK(c/4).....35°
 LENGTH.....40' -11"
 HEIGHT.....12' -4"
 TREAD.....8' -3"

WEIGHTS

LOADINGS	LBS.	L.F.
EMPTY.....	11,483.....	
BASIC.....	12,090.....	
DESIGN.....	15,800.....	7.5
COMBAT.....	16,244.....	
MAX.T.O.(Field)	21,000*	5.5
	(Cat.)	20,000.....
MAX.LAND(Field)	16,000.....	
	(Arrest)	14,000.....

All weights are actual.
 *Maximum Anticipated Loading

FUEL AND OIL

GAL.	NO. TANKS	LOCATION
763	2	Fuse., S.S.
156	2	Wing

FUEL GRADE...80 or higher
 FUEL SPEC.....MIL-F-5572

OIL

CAPACITY(Gals).....3.25
 GRADE.....1010
 SPEC.....MIL-O-6081A

ORDNANCE**GUNS**

NO.	SIZE	LOCATION	RDS.
4	20mm	Fuselage	760

FIRE CONTROL

AFCS.....Mc. 6, Mod. 0
 RADAR RANGING
 EQUIPMENT.....AN/APG-30

ELECTRONICS

VHF.....AN/ARC-27
 VHF.....AN/ARC-1,1A
 (Alternate Prov. for ARC-27)
 ALTIMETER, RADIO....AN/APN-1
 (First 90 A/C)
 A.D.F.....AN/ARN-6
 VHF HOMING.....AN/ARR-2A
 UHF D.F.....AN/ARA-25
 RADAR.....AN/APG-30
 IFF.....AN/APX-6

(Continued on NOTES page)

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) Fighter Full Internal Fuel			
TAKE OFF WEIGHT	lb.	18,450			
Fuel (Gasoline)	lb.	5,515			
Payload (Ammunition)	lb.	427			
Wing loading	lb./sq.ft.	61.5			
Stall speed - power-off	kn.	111.0			
Take-off run at S.L. - calm	ft.	2,100			
Take-off run at S.L. 25 kn. wind	ft.	1,360			
Take-off to clear 50 ft. - calm	ft.	--			
Max. speed/altitude (A)	kn./ft.	530/S.L.			
Rate of climb at S.L. (B)	fpm	5,600			
Time: S.L. to 20,000 ft. (B)	min.	4.0			
Time: S.L. to 30,000 ft. (B)	min.	6.8			
Service ceiling (100 fpm) (B)	ft.	44,500			
Combat range	n.mi.	810			
Average cruising speed	kn.	470			
Cruising altitude(s)	ft.	41,200/45,000			
Combat radius	n.mi.	255			
Average cruising speed	kn.	470			
Mission time	hrs.	1.4			
COMBAT LOADING CONDITION		(2) Clean			
COMBAT WEIGHT	lb.	16,244			
Engine power		Military			
Fuel	lb.	3,308			
Combat speed/combat altitude	kn./ft.	513/35,000			
Rate of climb/combat altitude	fpm/ft.	2,280/35,000			
Combat ceiling (500 fpm)	ft.	45,000			
Rate of climb at S.L.	fpm	6,750			
Max. speed at S.L.	kn.	568			
Max. speed/altitude	kn./ft.	568/S.L.			
LANDING WEIGHT	lb.	14,046			
Fuel	lb.	1,111			
Stall speed - power-off	kn.	96.3			
Stall speed - with approach power	kn.	93.0			

NOTES

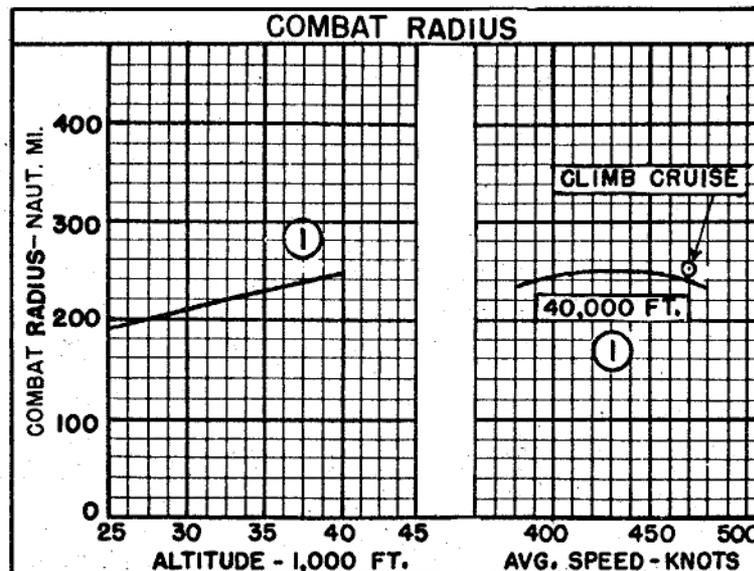
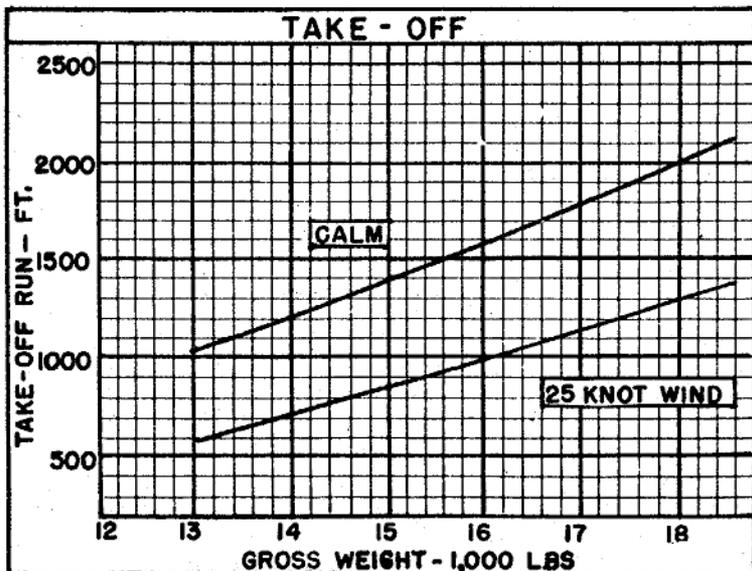
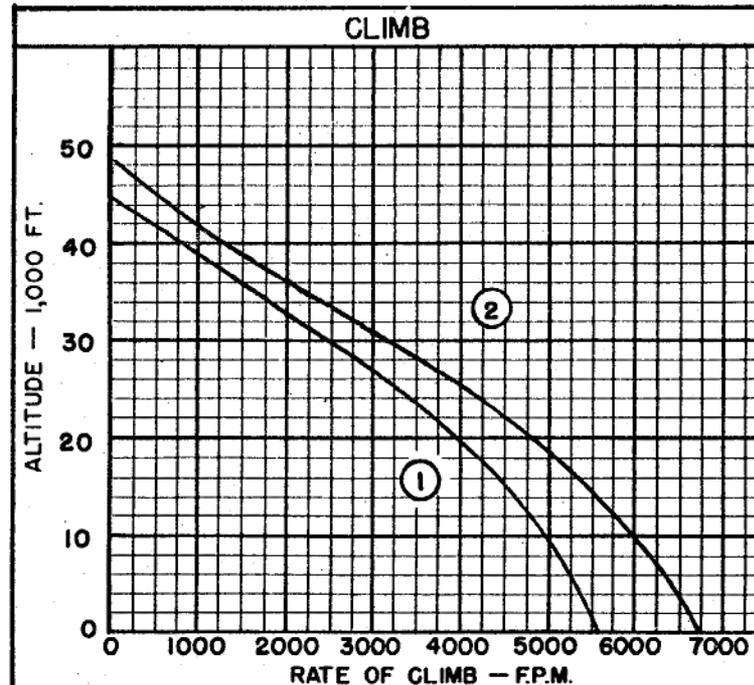
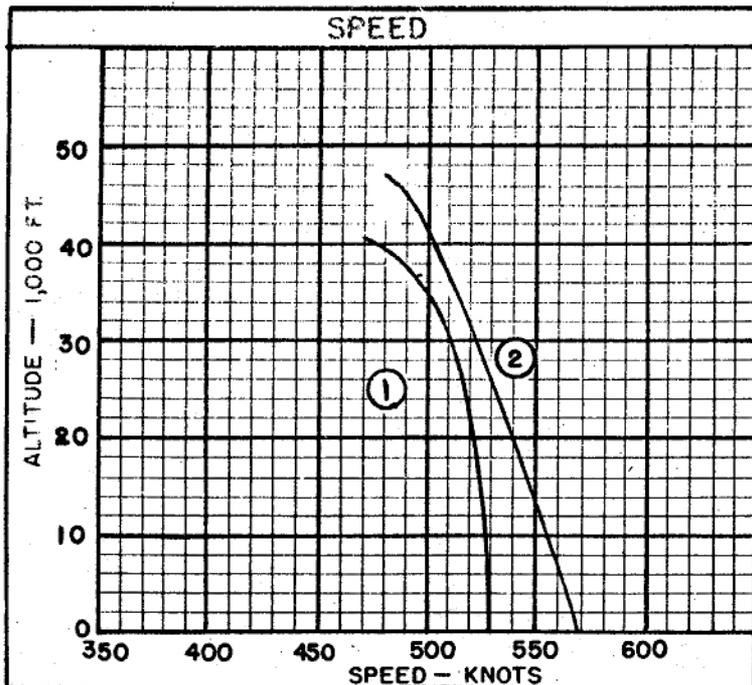
(A) Normal Rated Thrust

(B) Military Rated Thrust

Performance basis: NATESTGEN flight test of the F9F-6 airplane with the J48-P-6A engine.

Range and radius are based on engine specification fuel consumption data increased by 5%.

* Radius with JP-4 fuel is approximately 320 nautical miles. (Fuel = 5,974 lbs.)



○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics: F-96 NAVAL (REV. 2-50)

NOTES

SPOTTING: 30 airplanes (wings folded) can be spotted in a rectangular area 200 ft. by 96 ft.

COMBAT RADIUS PROBLEM - GENERAL PURPOSE FIGHTER (GAS TURBINE)

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

CLIMB: To cruising ceiling at military power.

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

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

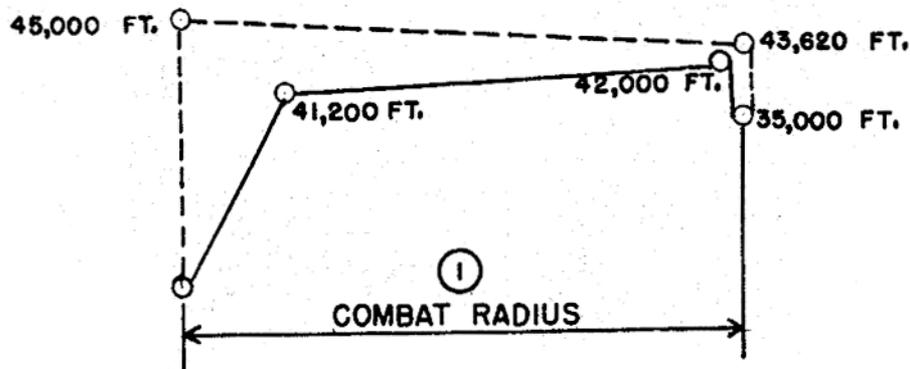
COMBAT: At 35,000 ft. for 20 minutes at military power (assume combat concluded at initial cruise-back altitude).

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

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

COMBAT RADIUS = CLIMB + CRUISE-OUT + CRUISE BACK

MISSION TIME INCLUDES CLIMB + CRUISE-OUT + COMBAT + CRUISE BACK



Radius is reduced approximately 7.5 nautical miles for each additional minute of combat.

F9F-6P

The photograph version of this airplane is the F9F-6P. It differs from the F9F-6 in that the guns have been replaced by camera equipment and ballast, resulting in a 250 pound decrease in weight. Performance of the F9F-6P will be slightly improved over that of the F9F-6 due to weight difference.

ELECTRONICS (Cont'd)

PLANNED SERVICE INSTALLATION:

HOMING.....AN/ARN-21 (will re-
place AN/ARN-6 and AN/ARR-2A)

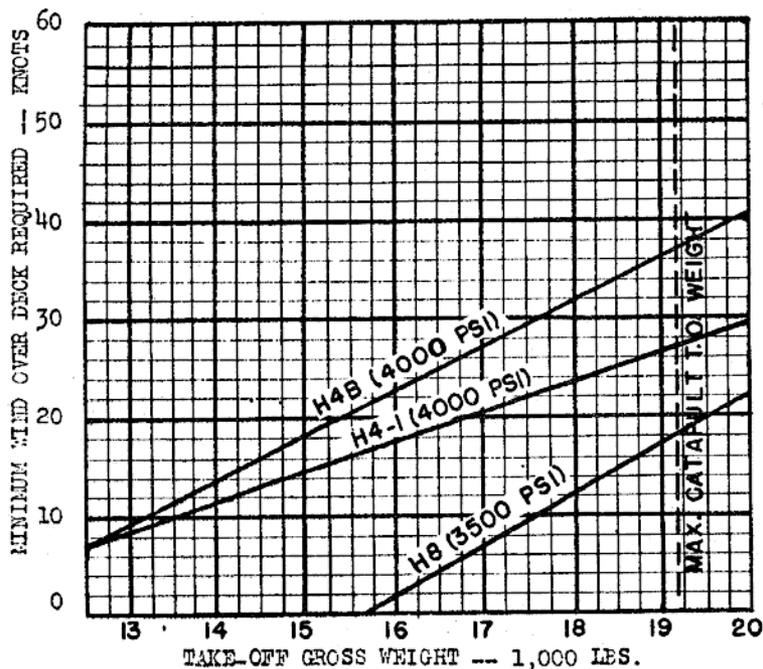
SELECTIVE IDENTIFICATION

FEATUREAN/APA-89

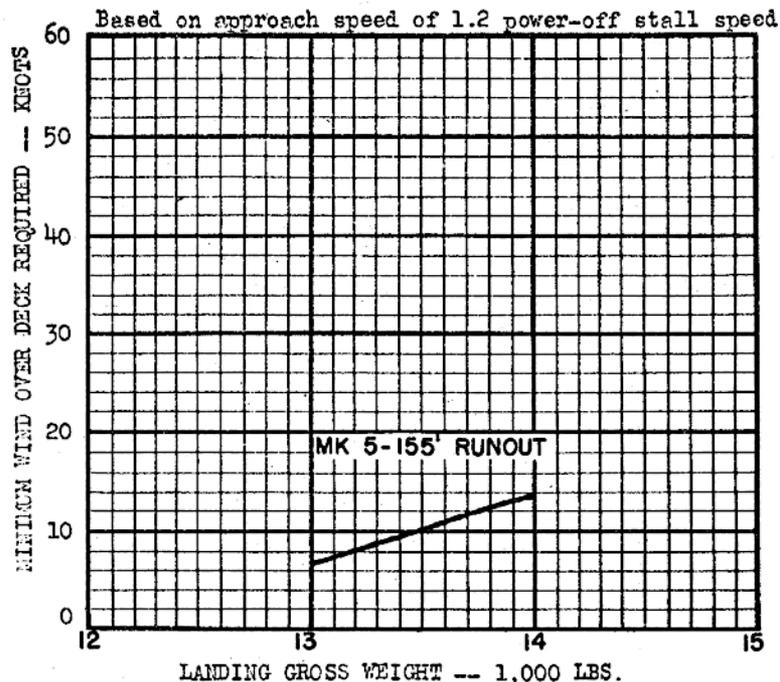
○ LOADING CONDITION COLUMN NUMBER

CARRIER SUITABILITY

MINIMUM WIND OVER DECK REQUIRED FOR CATAPULTING
VS. GROSS WEIGHT



MINIMUM WIND OVER DECK REQUIRED FOR LANDING
VS. GROSS WEIGHT



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.

NAVAER-13351 (New 5-52)