



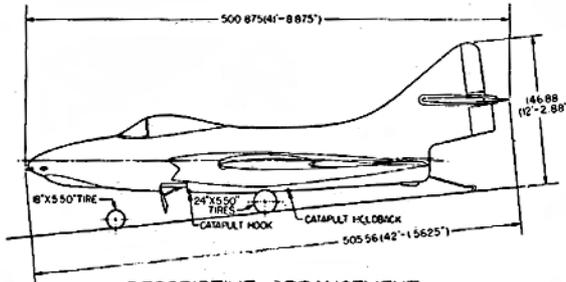
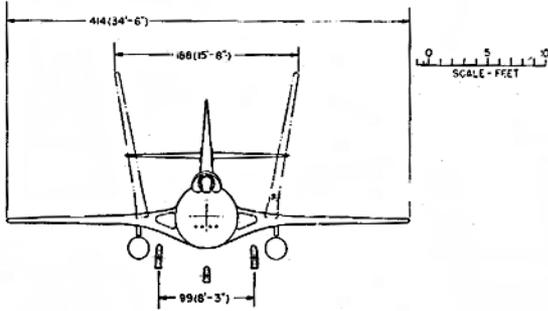
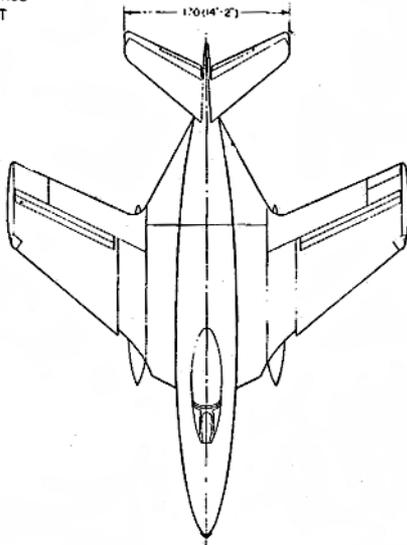
STANDARD AIRCRAFT CHARACTERISTICS

F9F-8B "COUGAR"

GRUMMAN

Standard Aircraft Characteristics NAVAR 1335A (REV. 1-55)

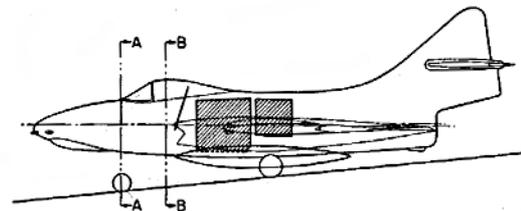
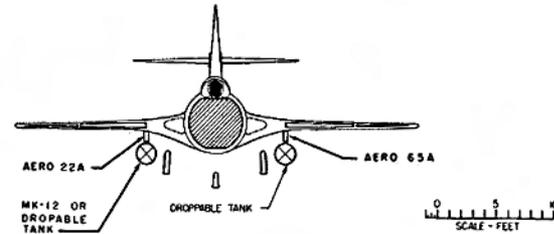
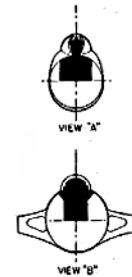
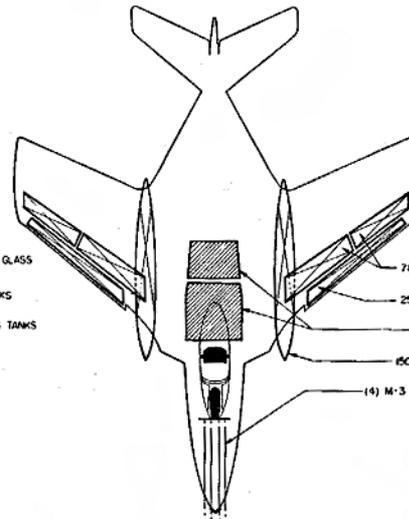
BUREAU OF AERONAUTICS
NAVY DEPARTMENT



DESCRIPTIVE ARRANGEMENT
F9F-8B

F9F-8B

BUREAU OF AERONAUTICS
NAVY DEPARTMENT



ARMAMENT & TANKAGE
F9F-8B

15 OCTOBER 1957 (REV. 4/15/57)

Standard Aircraft Characteristics NAVAR 1395B (Rev. 1-55)

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

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.....	16,780	7.0
COMBAT.....	17,345	7.0
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

ORDNANCE

GUNS

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

FIRE CONTROL

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

EXTERNAL STORES PROVISIONS

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

DIMENSIONS

<u>WING</u>	
AREA.....	337 Sq. Ft.
SPAN.....	34' - 6"
MAC.....	10' - 0"
SWEEPBACK C/4.....	35°
<u>LENGTH</u>41' - 9"	
<u>HEIGHT</u>12' - 3"	
<u>TREAD</u>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/APG-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) SPECIAL STORE sea level delivery 1,125 lb store + 1 150 gal. drop tank + guns	(4) SPECIAL STORE 15,000 ft. delivery 1,125 lb. store + 1 - 150 gal. drop tank + guns	(7) SPECIAL STORE sea level delivery inflight refuel 1,125 lb. store + 1 150 gal. drop tank + guns	
TAKE-OFF WEIGHT	lb.	22,575	22,575	22,575	
Fuel	lb.	6,930/975	6,930/975	6,930/975	
Fayload	lb.	1,596	1,596	1,596	
Wing loading	lb./sq.ft.	66.9	66.9	66.9	
Stall speed - power-off	kn.	123.2	123.2	123.2	
Take-off run at S.L. - calm	ft.	5,330	5,330	5,330	
Take-off run at S.L. 25 kn. wind	ft.	3,690	3,690	3,690	
Take-off to clear 50 ft. - calm	ft.	6,450	6,450	6,450	
Max. speed/altitude (A)	kn./ft.	520/10,000	520/10,000	520/10,000	
Rate of climb at S.L. (A)	fpm.	3,640	3,640	3,640	
Time: S.L. to 20,000 ft. (A)	min.	6.5	6.5	6.5	
Time: S.L. to 30,000 ft. (A)	min.	12.0	12.0	12.0	
Service ceiling (100 fpm) (A)	ft.	36,600	36,600	36,600	
Combat range	n.mi.	915	915	1,433	
Average cruising speed	kn.	413	413	413	
Cruising altitude(s)	ft.	32,900/41,500	32,900/41,500	32,400/41,500	
Combat radius	n.mi.	295	450	(B) 600	
Average cruising speed	kn.	419	427	428	
Mission time	hrs.	1.4	2.2	3.1	
Fuel added in flight at distance out	lbs./n.mi.	--		4,370/373	
COMBAT LOADING CONDITION		(2) CLEAN + 2 Racks	(3) CLEAN + Mk-12 Store + 1 Rack	(5) CLEAN + 2 Racks	(6) CLEAN + Mk-12 Store + 1 Rack
COMBAT WEIGHT	lb.	18,035	19,160	18,035	19,160
Engine power		Military	Military	Military	Military
Fuel	lb.	4,743	4,743	4,743	4,743
Combat speed/combat altitude	kn./ft.	554/S.L.	512/S.L.	548/15,000	528/15,000
Rate of climb/combat altitude	fpm/ft.	5,410/S.L.	4,600/S.L.	4,500/15,000	3,800/15,000
Combat ceiling (500 fpm)	ft.	41,700	38,500	41,700	38,500
Rate of climb at S.L.	fpm.	5,410	4,600	5,410	4,600
Max. speed at S.L.	kn.	554	512	554	512
Max. speed/altitude	kn./ft.	556/5,000	532/10,000	556/5,000	532/10,000
LANDING WEIGHT	lb.	14,790	15,915		
Fuel	lb.	1,362	1,362		
Stall speed - power-off	kn.	95.9	100.0		
Stall speed - with approach power	kn.	95.0	99.1		

NOTES

(A) Military Power.

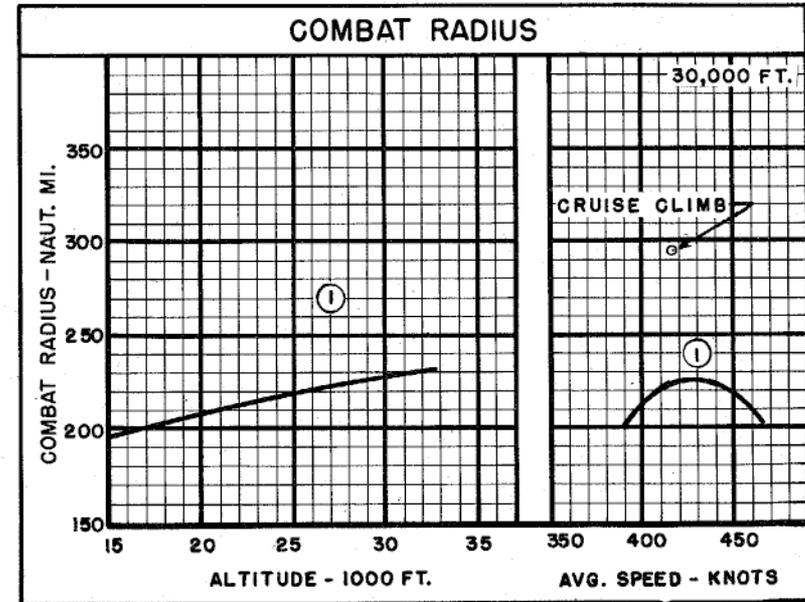
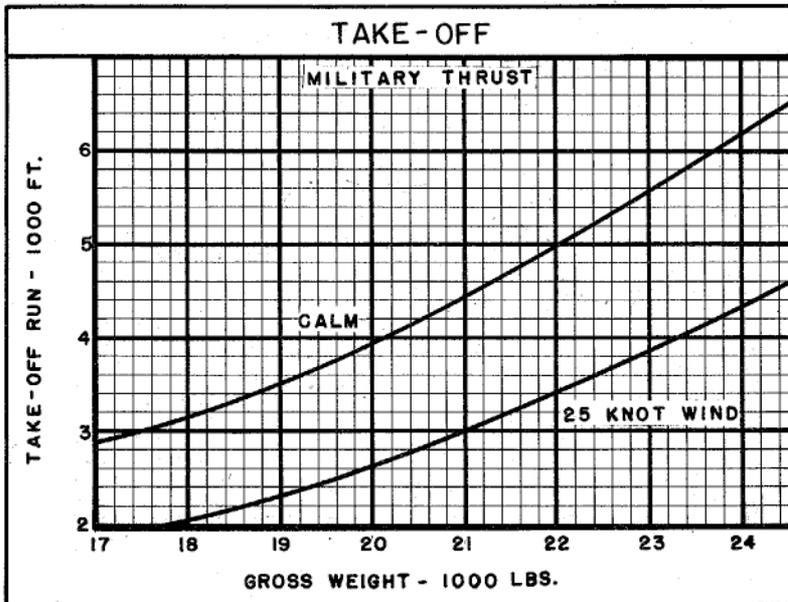
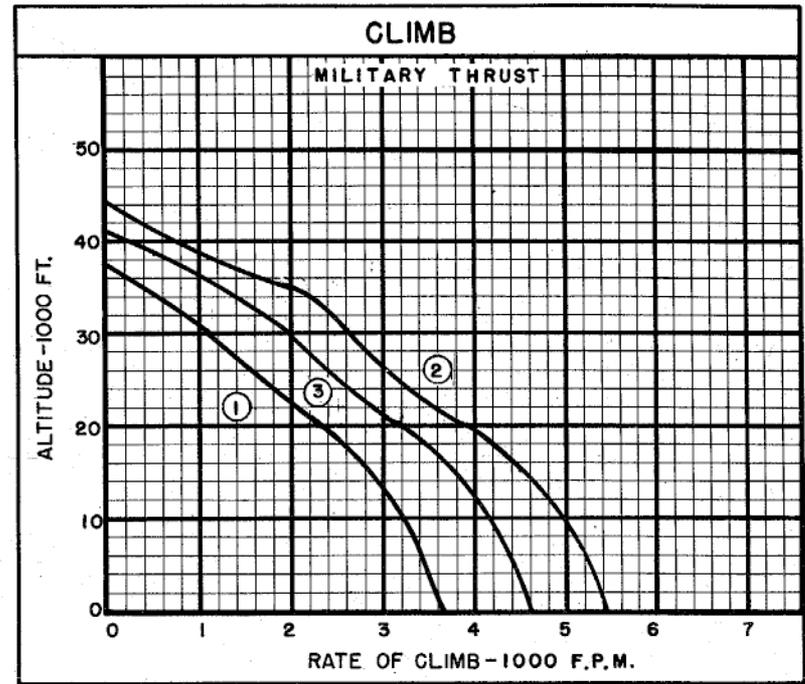
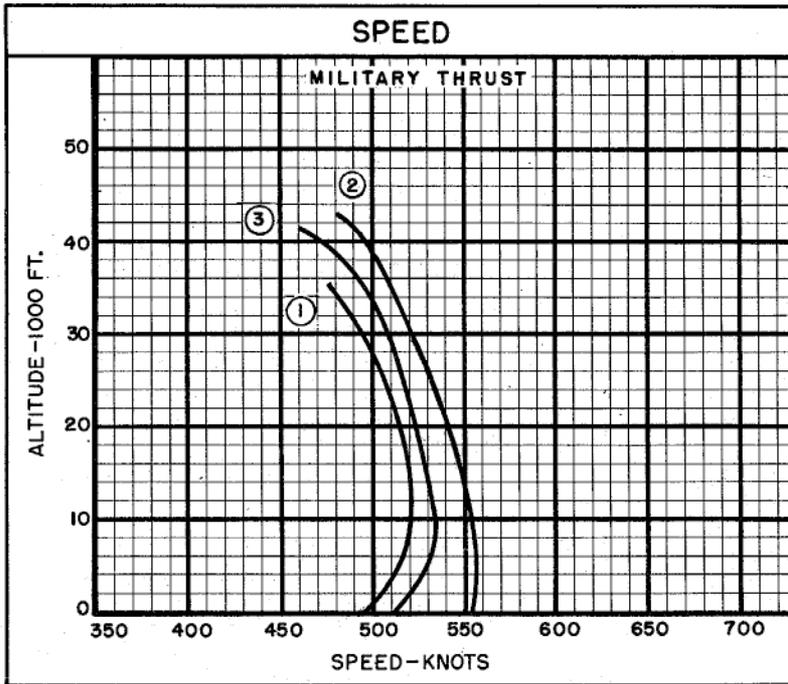
(B) Radius is reduced approximately 17 N. Mi. and refuel allowance is increased 5 minutes for each additional aircraft up to a total of 4 aircraft.

PERFORMANCE BASIS: NATC and contractor's flight tests of the F9F-8 clean airplane. Store data based on contractor's estimates.

RANGE AND RADIUS are based on engine specification fuel consumption increased 5%.

MISSION TIME: Any time where fuel is used and distance gained including combat and refuel allowance time.

Standard Aircraft Characteristics NAVAER 1335E (Rev. 1-55)



○ LOADING CONDITION COLUMN NUMBER

NOTES

SPOTTING: A total of 103 airplanes can be accommodated in a landing spot on the flight and hangar decks of a CVA-19 class angled deck carrier.

SPECIAL STORE PROBLEM
SEA LEVEL ALTITUDE STORE DELIVERY

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal thrust at sea level.
 CLIMB: On course to optimum cruise altitudes with military thrust.
 CRUISE-OUT: At maximum range airspeeds at optimum cruise altitudes.
 DESCEND TO SEA LEVEL: No fuel used, no distance gained.
 RUN-IN TO TARGET: At sea level, 50 N. Mi. at maximum speed with military thrust.
 DROP STORE
 COMBAT FUEL ALLOWANCE: 2 minutes at maximum speed with military thrust at sea level.
 ESCAPE: At sea level, 50 N. Mi. toward base at maximum speed with military thrust.
 CLIMB: On course to optimum cruise altitudes with military thrust.
 CRUISE BACK: At maximum range airspeeds at optimum cruise altitudes.
 RESERVE: 20 minutes at speeds for maximum endurance at sea level plus 5% of initial fuel load.
 COMBAT RADIUS = CLIMB + CRUISE-OUT + RUN-IN = ESCAPE + CLIMB + CRUISE-BACK

SPECIAL STORE PROBLEM
15,000 FEET ALTITUDE STORE DELIVERY

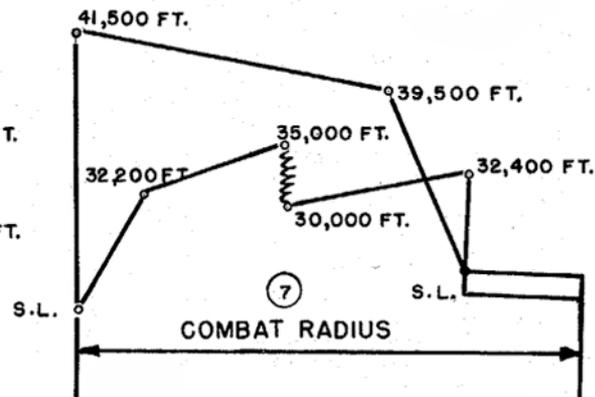
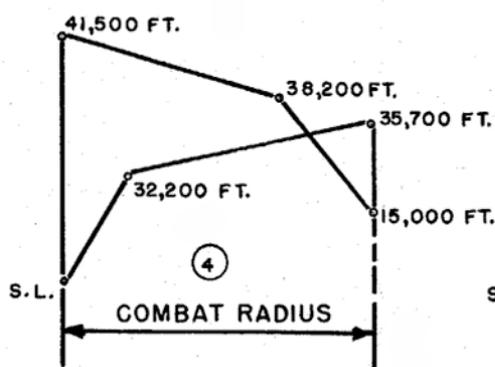
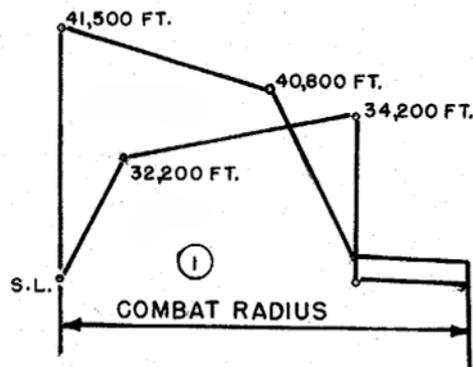
WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal thrust at sea level.
 CLIMB: On course to optimum cruise altitudes with military thrust.
 CRUISE-OUT: At maximum range airspeeds at optimum cruise altitudes.
 DESCEND TO 15,000 FEET: Release store. No fuel used, no distance gained.
 COMBAT FUEL ALLOWANCE: 3 minutes at maximum speed with military thrust at 15,000 feet.
 CRUISE BACK: At maximum range airspeeds at optimum cruise altitudes.
 RESERVE: 20 minutes at speeds for maximum endurance at sea level plus 5% of initial fuel load.
 COMBAT RADIUS = CLIMB + CRUISE-OUT = CLIMB + CRUISE-BACK

SPECIAL STORE PROBLEM
SEA LEVEL ALTITUDE STORE DELIVERY
WITH INFLIGHT REFUELING

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal thrust at sea level.
 CLIMB: On course to optimum cruise altitudes with military thrust.
 CRUISE-OUT: At maximum range airspeeds at optimum cruise altitudes.
 DESCEND TO 35,000 FEET REFUELING ALTITUDE: No fuel used, no distance gained.
 ALLOWANCE FOR RENDEZVOUS, HOOK-UP, AND FLIGHT CONTINGENCIES: 15 minutes at maximum endurance airspeed. (No fuel used or distance gained during fuel transfer).
 CLIMB: On course to optimum cruise altitude with military thrust.
 CRUISE OUT: At maximum-range airspeeds at optimum cruise altitudes.
 DESCEND TO SEA LEVEL: No fuel used, no distance gained.

The remainder of the problem is the same as the Special Store Problem of loading condition column number ①.

COMBAT RADIUS = CLIMB + PRIMARY CRUISE-OUT + SECONDARY CRUISE-OUT + RUN-IN = ESCAPE + CLIMB + CRUISE-BACK



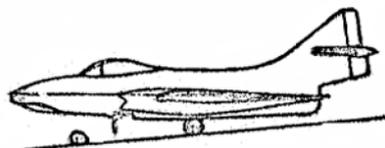
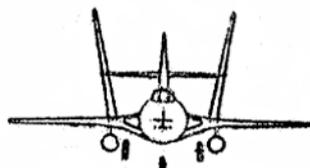
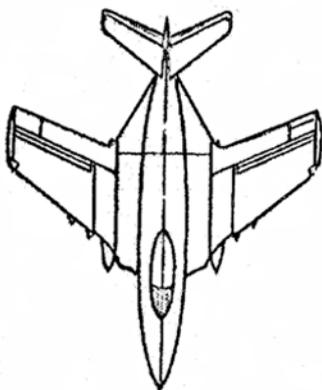
① LOADING CONDITION COLUMN NUMBER

CHARACTERISTICS SUMMARY

SPECIAL STORE DELIVERY

F9F-8B

GRUMMAN



WING AREA 337 Sq. Ft.
WING SPAN 34' - 6"

LENGTH 41' - 9"
HEIGHT 12' - 3"

AVAILABILITY			PROCUREMENT			
NUMBER AVAILABLE			NUMBER DELIVERED			
			IN FISCAL YEARS			
ACTIVE	RESERVE	TOTAL				

STATUS

First ProductionJanuary 1954
Service UseOctober 1954

ENGINES			
1 P&W J-48-P-8A			
T.O.	<u>LBS</u>	<u>RPM</u>	<u>ALT</u>
T.O.	7250	11000	SSL
MIL.	7250	11000	SSL
NORM.	5600	10400	SSL

FEATURES
CREW - 1
Cambered L. E. Wing
Ejection Seat
All Moveable Stabilizer

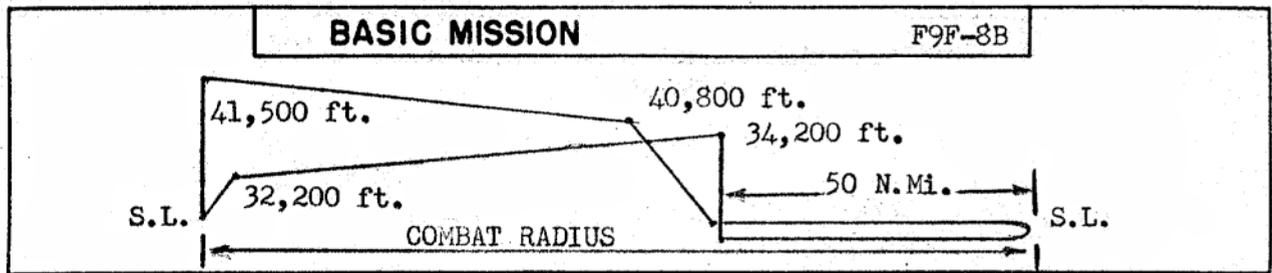
Max Store Cap 4,000#

1 External Tank - 150 gals.

ARMAMENT
<u>GUNS</u>
4 - 20mm - Fuse - 760 rds.
<u>BOMBS</u>
1125 lb. Store

NAVAER 1519 A (REV. 1-49)

CHARACTERISTICS SUMMARY



PERFORMANCE		
COMBAT RADIUS	COMBAT RANGE	SPEED
295 naut. mi. 419 knots avg. 1.4 hrs. Mission Time SPECIAL STORE PROBLEM SEA LEVEL DELIVERY 1,125 lb. Store	915 naut. mi. 413 knots avg. -- hours	554 knots at S.L. ft. 556 knots at 5,000 ft. 532 knots at 10,000 ft. Combat Weight Military Power
CLIMB	CEILING	TAKE OFF
3,640 ft./min. Sea Level, T. O. wt. Military Power	36,600 ft. 100 ft./min., T. O. wt. Military Power	5,330 ft. Calm No Assist
5,410 Ft/min S.L. Combat Weight Military Power	41,700 ft. 500 ft/min Combat weight Military Power	3,690 ft. 25 kt wind No Assist
LOAD	WEIGHTS	STALLING SPEED
Fuel 1,215 gal. fixed 1,065 drop 150 JP-4 Max. Cap. 1,363 gals.	Empty 11,866 lbs. *Combat 18,035 lbs. Take-off 22,575 lbs. *Store expended	123.2 knots Power Off Flaps down, T. O. wt. TIME TO CLIMB 30,000 ft. in 12.0 min. T.O. Wt., Mil. Power

NOTES

PERFORMANCE BASIS: Contractor and NATC flight test of clean F9F-8 airplane.

Store data based on estimated calculations.

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