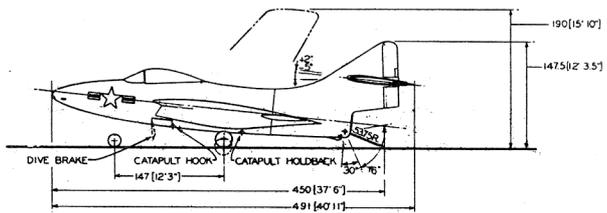
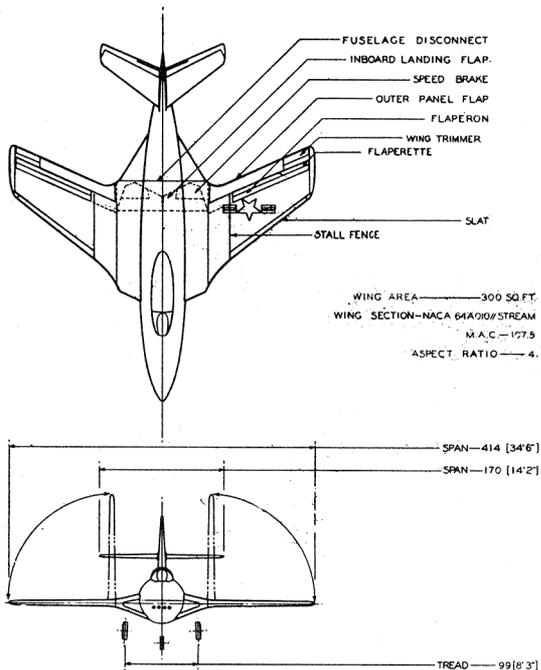


# STANDARD AIRCRAFT CHARACTERISTICS

F-9H COUGAR

GRUMMAN

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT



DESCRIPTIVE ARRANGEMENT

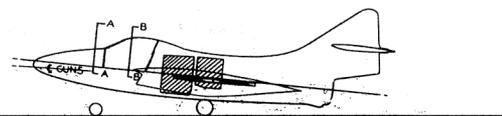
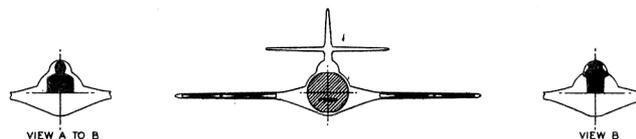
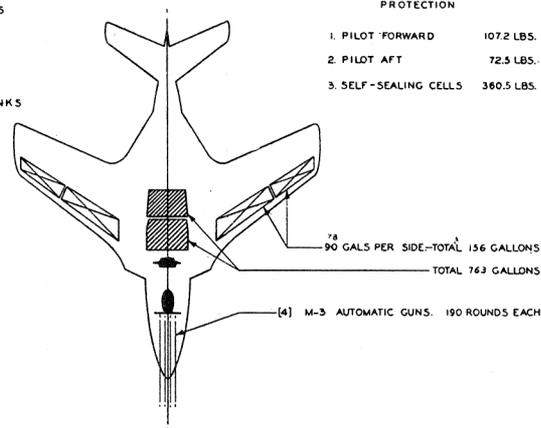
BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

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

819619

## POWER PLANT

NO. & MODEL.....(1)J-33-A-16  
 MFGR.....Allison  
 TYPE.....Centrifugal Compressor  
 ENG. LENGTH.....99.5"  
 ENG. DIAMETER.....49.7"

## RATINGS

|        | <u>LBS.</u> | <u>@</u> | <u>RPM</u> | <u>@</u> | <u>ALT.</u> |
|--------|-------------|----------|------------|----------|-------------|
| T.O.   | 6,250       |          | 11,800     |          | S.S.L.      |
| MIL.   | 6,250       |          | 11,800     |          | S.S.L.      |
| NORMAL | 5,125       |          | 11,200     |          | S.S.L.      |

SPEC. NO. 285-E

## MISSION AND DESCRIPTION

The F9F-7 is a swept wing, single place, carrier based airplane whose primary mission is the destruction of enemy aircraft.

The major difference from the F9F-6 airplane is a change from the Pratt & Whitney J-48-P-6A engine to the Allison J33-A-16 turbo-jet 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 flap-erons and flapperettes. Longitudinal trimming is accomplished by means of an electrically actuated stabilizer. Dive brakes are located under the fuselage.

## DEVELOPMENT

First flight.....March 1953  
 Service use.....July 1953

## WEIGHTS

| <u>LOADINGS</u>       | <u>LBS</u> | <u>L.F.</u> |
|-----------------------|------------|-------------|
| 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

| <u>GAL.</u> | <u>NO. TANKS</u> | <u>LOCATION</u> |
|-------------|------------------|-----------------|
| 763         | 2                | Fuse., SS.      |
| 156         | 2                | Wing            |

FUEL GRADE.....JP-4  
 FUEL SPEC.....MIL-F-5624A

## OIL

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

## ORDNANCE

## GUNS

| <u>NO.</u> | <u>SIZE</u> | <u>LOCATION</u> | <u>RDS.</u> |
|------------|-------------|-----------------|-------------|
| 4          | 20mm        | Fuselage        | 760         |

## FIRE CONTROL

A.F.C.S.....Mk. 6, Mod 0  
 Radar Ranging Equipment.....AN/APG-30

## 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"

## 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  
 PLANNED SERVICE INSTALLATION:  
 HOMING.....AN/ARN-21  
 (Will replace AN/ARN-6 and AN/ARR-2A)  
 SELECTIVE IDENTIFICATION  
 FEATURE.....AN/APA-89

## PERFORMANCE SUMMARY

| TAKE-OFF LOADING CONDITION        |            | (1) General Purpose Fighter |  |  |  |
|-----------------------------------|------------|-----------------------------|--|--|--|
| TAKE-OFF WEIGHT                   | lb.        | 18,905                      |  |  |  |
| Fuel                              | lb.        | 5,970                       |  |  |  |
| Payload (Ammunition)              | lb.        | 427                         |  |  |  |
| Wing loading                      | lb./sq.ft. | 63.0                        |  |  |  |
| Stall speed - power-off           | kn.        | 113.2                       |  |  |  |
| Take-off run at S.L. - calm       | ft.        | 3,350                       |  |  |  |
| Take-off run at S.L. 25 kn. wind  | ft.        | 2,200                       |  |  |  |
| Take-off to clear 50 ft. - calm   | ft.        | -                           |  |  |  |
| Max. speed/altitude (A)           | kn./ft.    | 543/S.L.                    |  |  |  |
| Rate of climb at S.L. (A)         | fpm.       | 4,300                       |  |  |  |
| Time: S.L. to 20,000 ft. (A)      | min.       | 6.2                         |  |  |  |
| Time: S.L. to 30,000 ft. (A)      | min.       | 11.6                        |  |  |  |
| Service ceiling (100 fpm)         | ft.        | 40,200                      |  |  |  |
| Combat range                      | n.mi.      | 1,005                       |  |  |  |
| Average cruising speed            | kn.        | 442                         |  |  |  |
| Cruising altitude(s)              | ft.        | 34,300/39,000               |  |  |  |
| Combat radius                     | n.mi.      | 390                         |  |  |  |
| Average cruising speed            | kn.        | 442                         |  |  |  |
| Mission Time                      | hrs.       | 2.12                        |  |  |  |
| COMBAT LOADING CONDITION          |            | (2)                         |  |  |  |
| COMBAT WEIGHT                     | lb.        | 16,517                      |  |  |  |
| Engine power                      |            | Military                    |  |  |  |
| Fuel                              | lb.        | 3,582                       |  |  |  |
| Combat speed/combat altitude      | kn./ft.    | 486/35,000                  |  |  |  |
| Rate of climb/combat altitude     | fpm/ft.    | 1,100/35,000                |  |  |  |
| Combat ceiling (500 fpm)          | ft.        | 39,000                      |  |  |  |
| Rate of climb at S.L.             | fpm.       | 5,100                       |  |  |  |
| Max. speed at S.L.                | kn.        | 545                         |  |  |  |
| Max. speed/altitude               | kn./ft.    | 545/S.L.                    |  |  |  |
| LANDING WEIGHT                    | lb.        | 13,942                      |  |  |  |
| Fuel                              | lb.        | 1,007                       |  |  |  |
| Stall speed - power-off           | kn.        | 96.0                        |  |  |  |
| Stall speed - with approach power | kn.        | 92.7                        |  |  |  |

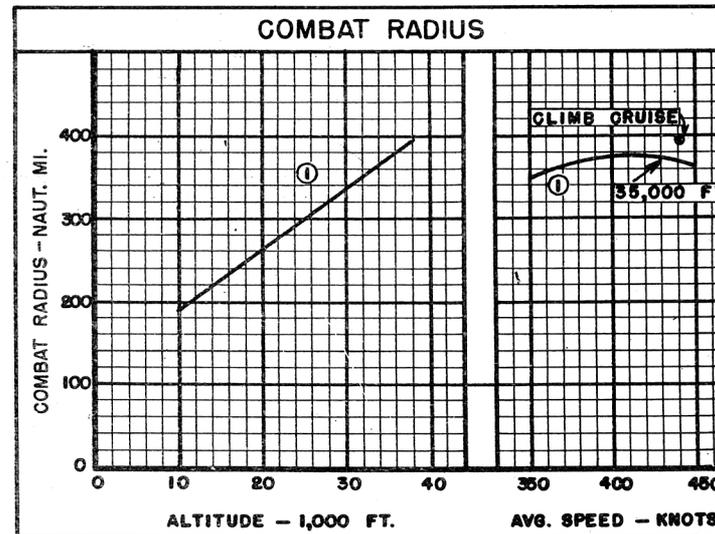
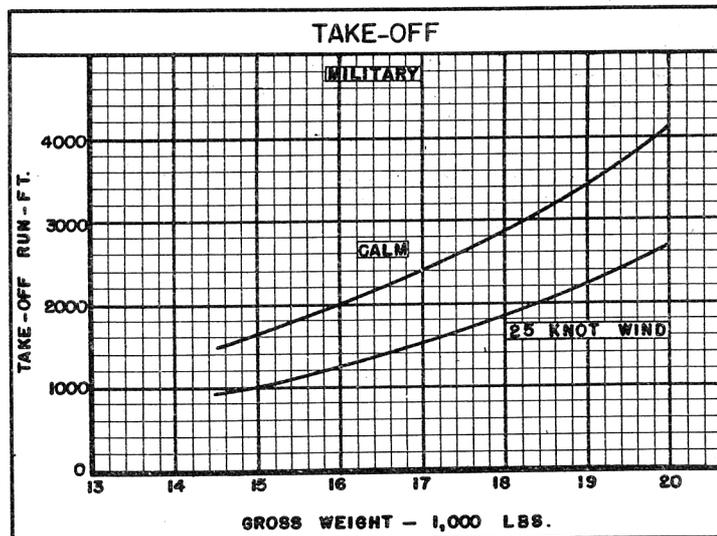
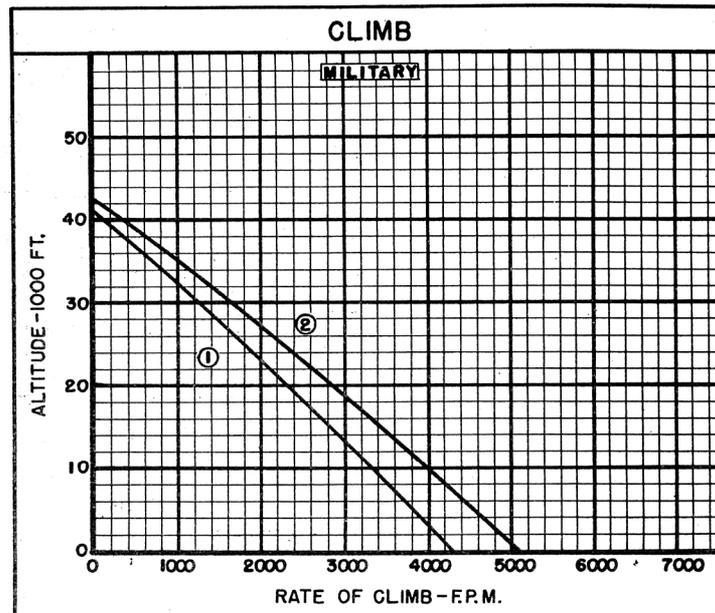
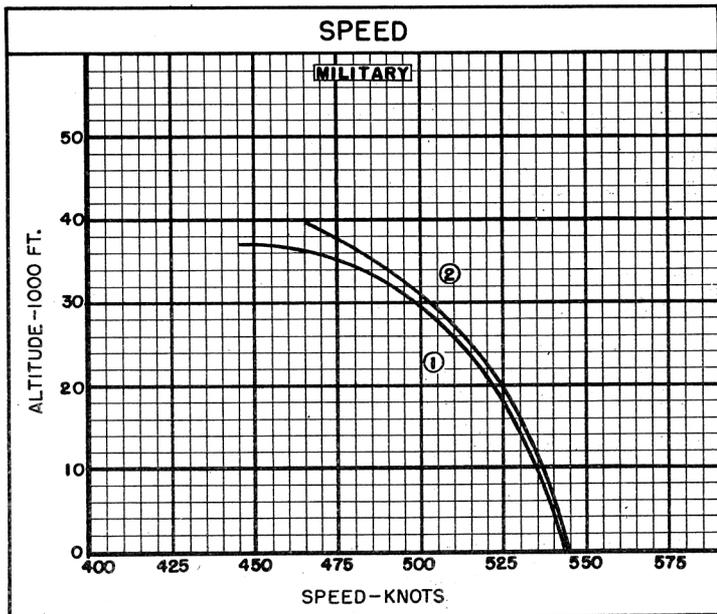
## NOTES

(A) Military Rated Thrust

Performance basis: NATC flight test of the F9F-7 airplanes.

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

Reason for reissue: Change from gasoline to JP-4 and final NATC flight test performance data on the F9F-7 airplanes.



○ LOADING CONDITION COLUMN NUMBER

# NOTES

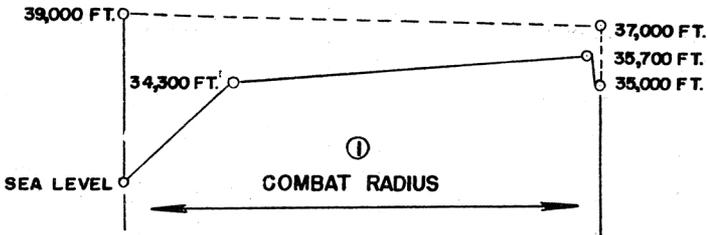
SPOTTING: 30 airplanes (wings folded) can be spotted in a rectangular area 200 ft. by 96 ft.

COMBAT RADIUS PROBLEM - GENERAL PURPOSE FIGHTER (GAS TURBINE)

- WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal thrust.
- CLIMB: To cruising ceiling at military thrust.
- CRUISE-OUT: At velocity 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 thrust. (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.

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

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



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Radius is reduced approximately 6.0 nautical miles for each additional minute of combat.  
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○ LOADING CONDITION COLUMN NUMBER