STANDARD AIRCRAFT CHARACTERISTICS
F9F-6 "COUGAR"

GRUMMAN

1 JULY 1953
POWER PLANT

NO. & MODEL (1) J48-P-8
ENG. 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 flaperonets. 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

ORDNANCE

GUNS

NO. SIZE LOCATION RDS.
1 20mm Fuselage 760

FIRE CONTROL

APCS ............... No. 6, Mod. 0
RADAR RANGING EQUIPMENT ............ AN/APG-30

DIMENSIONS

WING

AREA ............... 300 Sq. ft.
SPAN ............... 34' 6".
MAC ............... 9' 0"
SWEETBACK (c/4) ............ 35"
LENGTH ............... 40' 11"
HEIGHT ............... 12' 1"
THREAT ............... 8' 3"

WEIGHTS

LOADINGS LBS. T.P.
EMPTY .............. 11,483
BASIC .......... 12,090
DESIGN ............. 15,600
COMBAT ............ 18,240
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-8061A

ELECTRONICS

VHF ............... AN/ARC-27
VHF ............... AN/ARC-11A
(Alternate Prov. for ARC-27)
ALTIMETER, RADIO .......... AN/AFS-1
(First 90 A/C)
A.D.F. ............... AN/ABF-4
VHF HOMING .......... AN/ABF-2A
UHF D.F. ............... AN/ABA-25
RADAR .......... AN/APG-30
IFF ............... AN/AFX-6

(Continued on NOTES page)
## PERFORMANCE SUMMARY

### TAKE-OFF LOADING CONDITION

<table>
<thead>
<tr>
<th>Description</th>
<th>1) Fighter Full Internal Fuel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take-off weight</td>
<td>18,250 lb.</td>
</tr>
<tr>
<td>Fuel (Gasoline)</td>
<td>5,515 lb.</td>
</tr>
<tr>
<td>Payload (Ammunition)</td>
<td>427 lb.</td>
</tr>
<tr>
<td>Wing loading, lb/sq ft.</td>
<td>63.5 lb.</td>
</tr>
<tr>
<td>Stall speed, km</td>
<td>110 km.</td>
</tr>
<tr>
<td>Take-off run at S.L., ft</td>
<td>2,100 ft.</td>
</tr>
<tr>
<td>Take-off run at S.L., 25 km, ft</td>
<td>1,350 ft.</td>
</tr>
<tr>
<td>Take-off to clear 50 ft, ft</td>
<td>-</td>
</tr>
<tr>
<td>Max. speed/altitude, km/ft</td>
<td>530/8 L.</td>
</tr>
<tr>
<td>Rate of climb at S.L., fpm</td>
<td>5,600 fpm</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft., min.</td>
<td>4.0 min.</td>
</tr>
<tr>
<td>Time: S.L. to 30,000 ft., min.</td>
<td>6.8 min.</td>
</tr>
<tr>
<td>Service ceiling (100 fpm), ft</td>
<td>44,500 ft.</td>
</tr>
<tr>
<td>Combat radius</td>
<td>810 n.mi.</td>
</tr>
<tr>
<td>Average cruising speed, km</td>
<td>470 km</td>
</tr>
<tr>
<td>Cruising altitude(s), ft</td>
<td>1,400/45,000 ft.</td>
</tr>
<tr>
<td>Combat radius</td>
<td>295 n.mi.</td>
</tr>
<tr>
<td>Average cruising speed, km</td>
<td>470 km</td>
</tr>
<tr>
<td>Mission time</td>
<td>1.4 hrs.</td>
</tr>
</tbody>
</table>

### COMBAT LOADING CONDITION

<table>
<thead>
<tr>
<th>Description</th>
<th>2) Clean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine power</td>
<td>Military</td>
</tr>
<tr>
<td>Fuel</td>
<td>3,305 lb.</td>
</tr>
<tr>
<td>Combat speed/combat altitude, km/ft</td>
<td>513/35,000 ft.</td>
</tr>
<tr>
<td>Rate of climb/combat altitude, fpm/ft</td>
<td>2,280/35,000 fpm.</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm), ft</td>
<td>45,000 ft.</td>
</tr>
<tr>
<td>Rate of climb at S.L., fpm</td>
<td>6,750 fpm</td>
</tr>
<tr>
<td>Max. speed at S.L., km</td>
<td>568 km</td>
</tr>
<tr>
<td>Max. speed/altitude, km/ft</td>
<td>568/8 L.</td>
</tr>
</tbody>
</table>

### LANDING WEIGHT

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Take-off weight</td>
<td>14,046 lb.</td>
</tr>
<tr>
<td>Fuel</td>
<td>1,111 lb.</td>
</tr>
<tr>
<td>Stall speed, km</td>
<td>96.3 km</td>
</tr>
<tr>
<td>Stall speed, with approach power, km</td>
<td>93.0 km</td>
</tr>
</tbody>
</table>

### NOTES

- (A) Normal Rated Thrust
- (B) Military Rated Thrust

Performance basis: NATASTCHN flight test of the F9F-6 aircraft with the J44-P-6A engine.

Range and radius are based on engine specification; fuel consumption data increased by 3%.

- Radius with JP-4 fuel is approximately 320 nautical miles. (Fuel = 5,974 lbs.)
DECLASSIFIED
DOD DIR 5200.9 SERVICE

SPEED

CLIMB

TAKE-OFF

COMBAT RADIUS

1 JULY 1953

LOADING CONDITION COLUMN NUMBER

F9F-6P (J 48-P-8)
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

45,000 FT.

43,620 FT.

42,000 FT.

35,000 FT.

41,200 FT.

COMBAT RADIUS

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)

SELECTIVE IDENTIFICATION
FEATURE
AN/ARQ-21 (will replace AN/ARQ-6 and AN/ARQ-2A)

LOADING CONDITION COLUMN NUMBER

F9F-6,6P (J48-P-8) 1 JULY 1953
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 NATO flight test.