STANDARD AIRCRAFT CHARACTERISTICS

F9F-8P "COUGAR"

GRUMMAN

30 APRIL 1958
POWER PLANT

NO. & MODEL: J48-P-6A
MFR.: Pratt & Whitney
Type: Centrifugal Compressor
ENGINE LENGTH: 110.0"
ENGINE DIAMETER: 21.0"

RATINGS

LBS. @ RPM @ ALT.
T.O. 7,250 11,000 S.S.L.
M.I. 7,250 11,000 S.S.L.
N.O.M. 5,600 10,400 S.S.L.

SPEC. NO. M-1614D Appendix B

MISSION AND DESCRIPTION

The F9F-8P is a single seat, swept wing, carrier-based photographic airplane. The primary mission of this airplane is photographic reconnaissance at low, medium and high altitudes.

The F9F-8P differs from the F9F-8 in that the nose has been elongated to provide space for 3 camera stations. Most standard Navy cameras can be utilized in the 3 bays with a maximum installation of 7 cameras. The airplane is equipped with an automatic camera control system, image motion compensation for most cameras and a view-finder scanner equipped with a traveling grid for automatic sweep-altitude information. This system enables the F9F-8P to do day or night reconnaissance photography, mapping or strip work.

Longitudinal, lateral, and directional control systems are similar to those of the F9F-8.

DEVELOPMENT

First Flight August 1955
Service Use February 1956

WEIGHTS

LOADING LBS:
EMPTY 12,566
BASIC 12,275
CONTRACT 12,559
MAX. T.O. (Field) 23,697
(Cat.) 22,697
MAX. LANDING 22,697
(Airspeed) 19,547

All weights are actual

FUEL AND OIL

GALL. NO. TANKS LOCATION
847 2 Fuse, C.S.
216 6 Wing Internal
300 2 Wing Droppable

Fuel Grade: JP-4
Fuel Spec: applicable MIL-F-5622

CAPACITY (Gall.) 3.25
GRADE: 110
SPEC: MIL-F-5622

DIMENSIONS

WING
WING AREA: 337 sq. ft.
SPAN: 34' - 6"
M.A.C.: 119.83"
SHERIDAN 6/4": 30" - 35"
LENGTH: 44' - 1 9/16"
WEIGHT: 12' - 3"
THICKNESS: 6" - 3"

ELECTRONICS

UHF: AR/NSC-77A
VHF: AR/MA-25
ADF: AR/AN-6
IF: AR/AEP-48
Radar Altimeter: AR/AEP-22

Provisions for Service Installation of:
TAGAN: AR/30-21
SIF: AR/AIF-69
# PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>(1) CLEAN</th>
<th>(3) HIGH ALTITUDE PHOTO MISSION</th>
<th>(5) LOW ALTITUDE PHOTO MISSION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIGH ALTITUDE</td>
<td>PROTO MISSION</td>
<td>Clean + 2-150 gal.</td>
</tr>
<tr>
<td>TAKE-OFF WEIGHT</td>
<td>lb.</td>
<td>19,947</td>
<td>22,340</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>6930</td>
<td>6930/1950</td>
</tr>
<tr>
<td>Hydrol</td>
<td></td>
<td>735</td>
<td>768</td>
</tr>
<tr>
<td>Wing loading</td>
<td>lb./sq.ft.</td>
<td>59.2</td>
<td>64.4</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>km/hr</td>
<td>114.2</td>
<td>122.4</td>
</tr>
<tr>
<td>Take-off run at 300 ft. - calm</td>
<td>ft.</td>
<td>3950</td>
<td>5200</td>
</tr>
<tr>
<td>Take-off run at 300 ft. - 25 km. wind</td>
<td>ft.</td>
<td>2650</td>
<td>3600</td>
</tr>
<tr>
<td>Take-off to clear 500 ft. - calm</td>
<td>ft.</td>
<td>4800</td>
<td>6300</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>(a)</td>
<td>553/5000</td>
<td>527/5000</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>(a)</td>
<td>4700</td>
<td>3900</td>
</tr>
<tr>
<td>Max.</td>
<td>(a)</td>
<td>4.8</td>
<td>6.3</td>
</tr>
<tr>
<td>Max.</td>
<td>(a)</td>
<td>11.5</td>
<td>11.5</td>
</tr>
<tr>
<td>Service ceiling (100 fps)</td>
<td>(a)</td>
<td>41,500</td>
<td>37,700</td>
</tr>
<tr>
<td>Combat radius</td>
<td>n.mi.</td>
<td>960</td>
<td>1160</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km/hr</td>
<td>630</td>
<td>425</td>
</tr>
<tr>
<td>Cruising altitude</td>
<td>ft.</td>
<td>35,300/44,100</td>
<td>34,000/40,700</td>
</tr>
<tr>
<td>Combat radius</td>
<td>n.mi.</td>
<td>437</td>
<td>437</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km/hr</td>
<td>425</td>
<td>425</td>
</tr>
<tr>
<td>Mission Time</td>
<td>hrs.</td>
<td>1.9</td>
<td>2.5</td>
</tr>
<tr>
<td>IPR Radius/Mission Time</td>
<td>(a) n. mi./hr.</td>
<td>-</td>
<td>920/4.8</td>
</tr>
</tbody>
</table>

## COMBAT LOADING CONDITION

<table>
<thead>
<tr>
<th>COMBAT WEIGHT</th>
<th>(2) CLEAN plus 2 Aero 65A Racks</th>
<th>(4) CLEAN plus 2 Aero 65A Racks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine power</td>
<td>MILITARY</td>
<td>MILITARY</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>17,175</td>
</tr>
<tr>
<td>Combat speed/combat altitude</td>
<td>km./hr</td>
<td>507/35,000</td>
</tr>
<tr>
<td>Rate of climb/Combat altitude</td>
<td>km./hr</td>
<td>2050/35,000</td>
</tr>
<tr>
<td>Combat ceiling (500 fps)</td>
<td>ft.</td>
<td>42,300</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>km.</td>
<td>3600</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>km/hr</td>
<td>591</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>km./hr</td>
<td>555/5000</td>
</tr>
</tbody>
</table>

## LANDING WEIGHT

| LANDING WEIGHT | lb. | 13,411 | 14,559 | 14,559 |
| Fuel | lb. | 184 | 2346 | 1346 |
| Stall speed - power-off | km/hr | 92.8 | 95.5 | 95.5 |
| Stall speed - with approach power | km/hr | 91.7 | 94.7 | 94.7 |

## NOTES

- (a) Military Rated Thrust
- (b) In-flight refueling - outbound only. Transfer 5510 lb. at 598 n. mi. out. Radius is reduced 23 n. mi. and refuel allowance is increased 5 min. for each additional aircraft up to a total of 3 aircraft.
- Performance Basis: Contractor's and NADC Flight test data.
- Range and Radius: Based on contractor and NADC Fuel consumption data increased by 5%.
- External tanks dropped when empty.

F9F-8P

30 APRIL 1958
NOTES

HIGH ALTITUDE PHOTO MISSION (CLEAN)
1. WARM-UP, TAXI, TAKE-OFF: 5 minutes with normal rated thrust at sea level.
2. CRUISE: On course to cruise altitude with military rated thrust.
3. CRUISE OUT: At altitudes and speeds for long range.
4. DESCEND: To 35,000 feet (No fuel used - no distance gained).
5. RUN-IN: 50 nautical miles at maximum speed with military rated thrust.
6. CRUISE: 12 minutes at maximum speed with normal rated thrust. (No distance gained).
7. EVASIVE ACTION: 5 minutes at maximum speed with military rated thrust. (No distance gained).
8. RUN-Out: 50 nautical miles at maximum speed with military rated thrust.
9. CRUISE: To cruise altitude with military rated thrust.
10. CRUISE BACK: At altitudes & speeds for long range.
11. RESERVE FUEL: 20 minutes at speeds for maximum endurance at sea level plus 5% of initial fuel load.

LOW ALTITUDE PHOTO MISSION (CLEAN + 2 DROP TANKS)
1. WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal rated thrust.
2. CRUISE: To cruise altitude with military rated thrust.
3. CRUISE OUT: At altitudes and speeds for long range.
4. DESCEND: To 35,000 feet (No fuel used, no distance gained).
5. RUN-IN: 50 nautical miles at maximum speed with military rated thrust.
6. CRUISE: 8 minutes at maximum speed with normal rated thrust.
7. EVASIVE ACTION: 5 minutes at maximum speed with military rated thrust. (No distance gained).
8. RUN-Out: 50 nautical miles at maximum speed with military rated thrust.
9. CRUISE: To cruise altitude with military rated thrust.
10. CRUISE BACK: At altitudes & speeds for long range.
11. RESERVE FUEL: 20 minutes at speeds for maximum endurance at sea level plus 5% of initial fuel load.

IF JP-5 FUEL IS USED, THE FOLLOWING ARE APPLICABLE:

1. High-altitude photo mission (Clean)  
   320 lb.  
   \( \Delta \) WEIGHT  
   + 70 naut. miles  
   \( \Delta \) RANGE  
   + 35 naut. miles  
   \( \Delta \) MISSION TIME  
   + .16 hr.  

2. High-altitude photo mission (Clean + (2) 150 gal. drop tanks)  
   410 lb.  
   \( \Delta \) WEIGHT  
   + 84 naut. miles  
   \( \Delta \) RANGE  
   + 42 naut. miles  
   \( \Delta \) MISSION TIME  
   + .19 hr.  

3. Low-altitude photo mission (Clean + (2) 150 gal. drop tanks)  
   410 lb.  
   \( \Delta \) WEIGHT  
   + 85 naut. miles  
   \( \Delta \) RANGE  
   + 43 naut. miles  
   \( \Delta \) MISSION TIME  
   + .19 hr.  

LOADING CONDITION COLUMN NUMBER  
F9F-8P  
30 April 1958