POWER PLANT

NO. & MODEL...........(1) J48-P-6A
MFR..............Pratt and Whitney
TYPE........Centrifugal Compressor
ENG. LENGTH........107.5"
ENG. DIAMETER........50.1"

RATINGS

LBS x RPM x ALT
T.O. 6,250 11,000 S.S.L.
MIL. 6,250 11,000 S.S.L.
NORMAL 5,000 10,450 S.S.L.
SPEC. NO. N-1614-B

MISSION AND DESCRIPTION

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

The F9F-6 is a swept wing modification of the F9F-5 with new outer wing panels. 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 (prototype) Sept. 1951
Service Use..............Oct. 1952

WEIGHTS

LOADINGS LBS. L.F.
EMPTY...........11,453....
BASIC..............12,900....
DESIGN...........15,800....7.5
COMBAT............16,204.....
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
753 2 Fuse, S.S.
156 2 Wing

FUEL GRADE........80 or higher
FUEL SPEC........MIL-F-5672

OIL

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

DIMENSIONS

WING
AREA.............300 sq.ft
SPAN...............34' - 6"
MAC..............9' - 0"
SWEETBACK (c/4)......35°
LENGTH..............10' - 11"
HEIGHT..............12' - 4"
THICK..............8' - 3"

ELECTRONICS

VHF.............AN/ARC-27
(Alternate Prov. for ARC-27)
VHF.............AN/ARC-1,1A
(First 90 A/0)
ALTITUDE, RADIO...AN/APE-1
A.D.F.............AN/ARE-6
VHF HOMING........AN/ARE-2A
ULF D.F............AN/ARA-25
RADAR.............AN/ARQ-30
IFF..............AN/APE-6

(Continued on NOTED 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>16,340 lb.</td>
</tr>
<tr>
<td>Fuel (Gasoline)</td>
<td>6,515 lb.</td>
</tr>
<tr>
<td>Payload (Ammunition)</td>
<td>427 lb.</td>
</tr>
<tr>
<td>Wing loading 1lb./sq.ft.</td>
<td>61.5</td>
</tr>
<tr>
<td>Stall speed - power-off km/h</td>
<td>111.0</td>
</tr>
<tr>
<td>Take-off run at S.L. - calm ft.</td>
<td>2,600</td>
</tr>
<tr>
<td>Take-off run at S.L. 25 km/h wind ft.</td>
<td>1,650</td>
</tr>
<tr>
<td>Take-off to clear 50 ft. - calm ft.</td>
<td></td>
</tr>
<tr>
<td>Max speed/altitude (A) km/ft.</td>
<td>515/15,000</td>
</tr>
<tr>
<td>Rate of climb at S.L. (B) m/min.</td>
<td>460 m/min.</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft. (C) min.</td>
<td>5.4 min.</td>
</tr>
<tr>
<td>Time: S.L. to 30,000 ft. (D) min.</td>
<td>10.2 min.</td>
</tr>
<tr>
<td>Service ceiling (100 fpm) (E) ft.</td>
<td>41,000</td>
</tr>
<tr>
<td>Combat range n.mi.</td>
<td>730 n.mi.</td>
</tr>
<tr>
<td>Average cruising speed km/h</td>
<td>442</td>
</tr>
<tr>
<td>Cruising altitude(s) ft.</td>
<td>35,000/39,000</td>
</tr>
<tr>
<td>Combat radius n.mi.</td>
<td>260 n.mi.</td>
</tr>
<tr>
<td>Average cruising speed km/h</td>
<td>442</td>
</tr>
<tr>
<td>Mission time hrs.</td>
<td>1.5 hrs.</td>
</tr>
</tbody>
</table>

## Combat Loading Condition

<table>
<thead>
<tr>
<th>Description</th>
<th>(2) Clean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combat Weight</td>
<td>16,284 lb.</td>
</tr>
<tr>
<td>Engine powerMilitary</td>
<td></td>
</tr>
<tr>
<td>Fuel</td>
<td>3,309 lb.</td>
</tr>
<tr>
<td>Combat speed/combat altitude km/ft.</td>
<td>505/35,000</td>
</tr>
<tr>
<td>Rate of climb/combat altitude fpm/ft.</td>
<td>520/35,000</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm) ft.</td>
<td>41,500</td>
</tr>
<tr>
<td>Rate of climb at S.L. fpm</td>
<td>5,300</td>
</tr>
<tr>
<td>Max speed at S.L. km/h</td>
<td>561</td>
</tr>
<tr>
<td>Max speed/altitude km/ft.</td>
<td>561/500</td>
</tr>
</tbody>
</table>

## Landing Weight

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>984</td>
</tr>
<tr>
<td>Stall speed - power-off km/h</td>
<td>96.3</td>
</tr>
<tr>
<td>Stall speed - with approach power km/h</td>
<td>93.0</td>
</tr>
</tbody>
</table>

## Notes

- **Normal Rated Thrust**
- **Military Rated Thrust**
- Performance basis: NATESTORN flight test of the F9F-6 airplane.
- Range and radius are based on NATESTORN Flight test fuel consumption data increased by 5%.
- Radius with JF-4 fuel is approximately 325 Nautical Miles. (Fuel = 5,374 lbs.)
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

Radius is reduced approximately 0.6 nautical miles for each additional minute of combat.

ELECTRONICS (Cont'd)

PLANNED SERVICE INSTALLATION:
HOMING................AN/ARM-21
(will replace AN/ARN-6 and AN/ARN-2A
SELECTIVE IDENTIFICATION
FEATURE...............AN/APA-69

LOADING CONDITION COLUMN NUMBER

F9F-6 (J48-P-6A) 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

Based on approach speed of 1.2 power-off stall speed

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.