STANDARD AIRCRAFT CHARACTERISTICS

F7U-3P "CUTLASS"

CHANGE VOUGHT

15 MAY 1955
POWER PLANT

NO. & MODEL...............(2) J66-M5-11B
MFR..................................Westinghouse
AFTERSCOOP........................Integral
TURBINE................................12 Stage Axial Compr.
2 Stage Turbine
LENGTH................................200"
DIAMETER................................29"

RATINGS

LBS # RPM # ALT.
MAXIMUM 5,725 10,100 S.S.L.
MILITARY 4,620 10,100 S.S.L.
NORMAL 3,620 10,100 S.S.L.

SPEC. NO. W47-24/10-14.

MISSION AND DESCRIPTION

The F7U-3P is a carrier-based, single-place photographic airplane. Its primary mission is reconnaissance.

Longitudinal and lateral control is provided by alligators which combine the functions of elevators and ailerons. Full-span retractable ailerons on the leading edge of the wing are used in take-off and landing. Split- flap type speed brakes are located on the center section trailing edge of the wing. The main gear and nose gear retract into the fin stubs and fuselage, respectively. The cockpit is pressurized and is equipped with a pilot ejection seat.

Each of the two wing center section pylons has provisions for carrying a 150 gallon drop tank. A 220 gallon fuel pod may be carried on the fuselage centerline.

DEVELOPMENT

First flight........September 1954

WEIGHTS

LOADING LBS Lb.
EMPTY..............18,698
BASIC..............19,365
DESIGN..............24,668
COMBAT..............25,787
MAX. TAKED-OFF*..35,000
MAX. LANDING
(Armored)........23,500

All weights are estimated.
* Maximum Anticipated Weight.

FUEL AND OIL

No. Tanks Tot. Gal. Location
3 708 Fuselage, S.S.
1 414 Wing, S.S.
9 703 Wing, Bladder
2 300 Wing, Drop
1 220 Fuselage, Ped

FUEL GRADE..............J-4
FUEL SPEC. MIL-F-5624

CAPACITY (Gals.).............6.5
SPEC. MIL-F-7808

DIMENSIONS

WING

AREA..................535 sq. ft.
SPAN..................39' 9"
WING ..................13' 6"
MACCHI (g chord).....350
LENGTH..................35' 6"
BASE..................14' 7"
THICKNESS.............18' 6"

ELECTRONICS

USF CONS. AS/AIR-27A
U.S. NAVIGATOR AS/AIR-39
NAVIGATION RADIO AS/AIR-30
NAVIGATION RADIO AS/AIR-31
IPF..................AS/AIR-26
COMBINATION AS/AIR-26
AS/AIR-21 to replace AS/AIR-26 when available.
## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>(1) BASIC AIRL~</th>
<th>(4) BASIC AIRL~ + TWO 150 GAL DAS TANKS</th>
<th>(7) 220 GAL FUEL FOD + TWO 150 GAL DAS TANKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAKE-OFF WEIGHT</td>
<td>lb.</td>
<td>29,828</td>
<td>32,334</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>10,153</td>
<td>12,103</td>
</tr>
<tr>
<td>Fuel Load</td>
<td>lb.</td>
<td>608</td>
<td>608</td>
</tr>
<tr>
<td>Wing Loading</td>
<td>lb./sq.ft.</td>
<td>55.8</td>
<td>60.4</td>
</tr>
<tr>
<td>Stall speed – power-off</td>
<td>km/h</td>
<td>115</td>
<td>133</td>
</tr>
<tr>
<td>Take-off run at S.L. – calm</td>
<td>ft.</td>
<td>2,750</td>
<td>3,300</td>
</tr>
<tr>
<td>Take-off run at S.L. 25 knots</td>
<td>ft.</td>
<td>1,850</td>
<td>2,200</td>
</tr>
<tr>
<td>Take-off to clear 50 ft. – calm</td>
<td>ft.</td>
<td>3,800</td>
<td>4,450</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>km/h</td>
<td>479/170,000</td>
<td>418/150,000</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>km/h</td>
<td>3,500</td>
<td>4,850</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft.</td>
<td>(b)</td>
<td>7.5</td>
<td>10.4</td>
</tr>
<tr>
<td>Time: S.L. to 30,000 ft.</td>
<td>(b)</td>
<td>15.2</td>
<td>22.4</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>ft.</td>
<td>34,600</td>
<td>29,200</td>
</tr>
<tr>
<td>Combat range</td>
<td>n.m.</td>
<td>775</td>
<td>920</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km/h</td>
<td>450</td>
<td>450</td>
</tr>
<tr>
<td>Cruising altitude(s)</td>
<td>ft.</td>
<td>30,300-36,450</td>
<td>24,200-30,700</td>
</tr>
<tr>
<td>Combat radius</td>
<td>n.m.</td>
<td>200</td>
<td>280</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km/h</td>
<td>450</td>
<td>450</td>
</tr>
</tbody>
</table>

## COMBAT LOADING CONDITION

<table>
<thead>
<tr>
<th>COMBAT WEIGHT</th>
<th>(2) COMBAT</th>
<th>(3) COMBAT</th>
<th>(5) COMBAT</th>
<th>(6) COMBAT</th>
<th>(8) COMBAT</th>
<th>(9) COMBAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>lb.</td>
<td>25,767</td>
<td>25,767</td>
<td>27,239</td>
<td>27,239</td>
<td>28,397</td>
<td>28,397</td>
</tr>
<tr>
<td>Engine power</td>
<td>Military</td>
<td>Combat</td>
<td>Military</td>
<td>Combat</td>
<td>Military</td>
<td>Combat</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>7,262</td>
<td>7,262</td>
<td>7,262</td>
<td>7,262</td>
<td>8,130</td>
</tr>
<tr>
<td>Combat speed/comb altitude</td>
<td>km/h</td>
<td>490/32,000</td>
<td>530/32,000</td>
<td>488/30,000</td>
<td>534/30,000</td>
<td>488/30,000</td>
</tr>
<tr>
<td>Rate of climb/comb altitude</td>
<td>km/h</td>
<td>4,400/32,000</td>
<td>750/30,000</td>
<td>4,600/30,000</td>
<td>700/30,000</td>
<td>4,440/30,000</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm)</td>
<td>ft.</td>
<td>34,700</td>
<td>45,800</td>
<td>32,500</td>
<td>44,600</td>
<td>31,000</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>km/h</td>
<td>4,259</td>
<td>10,900</td>
<td>3,490</td>
<td>3,670</td>
<td>9,300</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>km/h</td>
<td>594</td>
<td>594</td>
<td>594</td>
<td>594</td>
<td>594</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>km/h</td>
<td>515/15,000</td>
<td>589/5,100</td>
<td>511/15,000</td>
<td>585/5,100</td>
<td>511/15,000</td>
</tr>
</tbody>
</table>

## LANDING WEIGHT

| lb. | 22,563 | 22,563 | 22,592 | 22,592 |
| Fuel | lb. | 1,405 | 1,405 | 1,405 | 1,405 |
| Stall speed – power-off | km/h | 104 | 104 | 104 | 104 |
| Stall speed – with approach power | km/h | 99 | 100 | 101 | 101 |

### NOTES

- (A) Normal Rated Thrust
- (B) Military Rated Thrust
- (C) Combat Rated Thrust
- (D) Tanks dropped when empty
- Performance based on Contractor's flight test
- Range and radius are based on engine specification fuel consumption increased by 5%
NOTES

RADIUS PROBLEM

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal thrust plus 1 minute at combat thrust.
CRUISE: To cruise ceiling at military thrust (cruising ceiling = altitude for 300 ft./min. rate of climb at normal thrust).
CRUISE-OUT: At \( V \) for long range at cruising ceiling.
DISCERN: To 15,000 ft., no fuel used, no distance gained.
CRUISE: At 15,000 ft. for 20 minutes at military thrust (no distance gained).
Climb: To cruise ceiling at military thrust.
CRUISE-OUT: At \( V \) for long range at cruise ceiling.
RESERVE: 5% of initial fuel plus fuel required for 2 engines for 20 minutes at \( V \) for maximum endurance at sea level.