STANDARD AIRCRAFT CHARACTERISTICS

FJ-3 "FURY"

NORTH AMERICAN

1 JULY 1953
**POWER PLANT**

NO. AND MODEL... (1) J65-W-2  
MFR., Wright Aeronautical Corp.  
TIPS... Axial Flow  
LENGTH... 124 in.  
DIAMETER... 39 in.  
AUGMENTATION... none

**RATINGS**

LBS @ RPM @ ALT.  
TAKE OFF 7,220  8,300  S.S.  
MILITARY 7,220  8,300  S.S.  
NORMAL 6,000  6,000  S.S.  

SPEED, No. W.A.D. 5579-14

**MISSION AND DESCRIPTION**

The FJ-3 is a single place, jet propelled fighter designed for land and carrier operations. The primary mission of the airplane is the destruction of enemy aircraft.

Features of this airplane include swept-back wing and tail, hydraulic speed brakes, aerodynamically actuated wing slats, NACA slotted flaps, hydraulic power-operated irreversible controls with artificial feel for the all-moving horizontal tail and ailerons.

The cockpit is provided with differential pressurization, adequate heating and cooling, a jettisonable canopy, an ejection-type seat, and anti-G suit provisions.

Design maximum dive speed is 590 knots M.A.S. at 5,000 feet.

Design maximum Mach No. is 1.18 at 25,000 feet.

**DEVELOPMENT**

First flight... July 3, 1953  
Service use... March 1954

**DIMENSIONS**

WING

AREA... 228 sq. ft.  
SPAN... 37'-1"  
W.A.C... 8'-1"  
SWEETBACK... 35 Deg.  
LENGTH... 36'-7"  
HEIGHT... 13'-8"  
WHEEL... 5.0 ft.

**WEIGHTS**

LOADING... LBS. L.F.  
EMPTY... 12,784  
BASIC... 13,790  
DESIGN... 16,422  
COMBAT... 16,000  
MAX. T.O. (Field)... 19,360  
MAX. L. (Field)... 19,360  
MAX. L. ( Arrest)... 15,000

All weights are estimated.  
* Max. anticipated weight.

**FUEL AND OIL**

GALS.  No. TANKS  LOCATION  
213  3  Wing  
222  2  Fuselage  
400.0  2(Drop) Wing  

FUEL GRADE... 80 or higher  
FUEL SPEC... MIL-F-5572

CAPACITY(Gals)... 3.26  
GRADE... 1010  
SPEC... MIL-O-6081A

**ELECTRONICS**

HF TRNTR-RCVR... AN/ARC-27A  
UHF A.D.R... AN/ARA-25  
IFF... AN/APX-58  
RADIO COMPASS... AN/ARN-6  
RADAR... AN/APQ-30  
VOR... AN/ARN-118 (with alternate provisions for AN/ARN-21)  
Service Installation:  
SELECTIVE IDENTIFICATION FEATURES... AN/ARA-89  
(Provisions will be installed in 185th and subsequent aircraft.)
## PERFORMANCE SUMMARY

### TAKE-OFF LOADING CONDITION

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit/Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take-off Weight</td>
<td>lb.</td>
<td>19,350</td>
</tr>
<tr>
<td>Fuel (Gasoline)</td>
<td>lb.</td>
<td>2,610/2,400</td>
</tr>
<tr>
<td>Payload</td>
<td>lb.</td>
<td>-</td>
</tr>
<tr>
<td>Wing loading</td>
<td>lb./sq.ft.</td>
<td>67.2</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>km.</td>
<td>111.5</td>
</tr>
<tr>
<td>Take-off run at S.L. - calm</td>
<td>ft.</td>
<td>2,050</td>
</tr>
<tr>
<td>Take-off run at S.L., 25 km, wind</td>
<td>ft.</td>
<td>1,350</td>
</tr>
<tr>
<td>Take-off to clear 90 ft. - calm</td>
<td>ft.</td>
<td>-</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>(A) km./ft.</td>
<td>533/11,000</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>(B) fpm</td>
<td>6,750</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft.</td>
<td>(C) min.</td>
<td>3.9</td>
</tr>
<tr>
<td>Time: S.L. to 30,000 ft.</td>
<td>(D) min.</td>
<td>7.3</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>(E) ft.</td>
<td>43,200</td>
</tr>
<tr>
<td>Combat range</td>
<td>n.mi.</td>
<td>995</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km.</td>
<td>470</td>
</tr>
<tr>
<td>Cruising altitude(s)</td>
<td>ft.</td>
<td>21,300/46,200</td>
</tr>
<tr>
<td>Combat radius</td>
<td>n.mi.</td>
<td>320</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km.</td>
<td>470</td>
</tr>
<tr>
<td>Mission time</td>
<td>hrs.</td>
<td>1.7</td>
</tr>
</tbody>
</table>

### COMBAT LOADING CONDITION

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit/Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combat Weight</td>
<td>lb.</td>
<td>16,600</td>
</tr>
<tr>
<td>Engine power</td>
<td>Military</td>
<td></td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>2,610</td>
</tr>
<tr>
<td>Combat speed/combat altitude</td>
<td>km./ft.</td>
<td>530/35,000</td>
</tr>
<tr>
<td>Rate of climb/combat altitude</td>
<td>fpm/ft.</td>
<td>3,030/35,000</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm)</td>
<td>ft.</td>
<td>47,000</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>fpm</td>
<td>9,400</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>km.</td>
<td>599</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>km./ft.</td>
<td>599/81.2</td>
</tr>
</tbody>
</table>

### LANDING WEIGHT

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit/Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stall speed - power-off</td>
<td>km.</td>
<td>97.4</td>
</tr>
<tr>
<td>Stall speed - with approach power</td>
<td>km.</td>
<td>94.4</td>
</tr>
</tbody>
</table>

### NOTES

(A) Normal Rated Thrust

(B) Military Rated Thrust

- Performance Basis: Calculations
- Range and radius are based on engine specification fuel consumption data increased by 5%.
- Radius is 385 nautical miles when JP-4 fuel is used. (Fuel = 2,627/2,600 lbs.)

FJ-3 (J65-W-2) 1 JULY 1953
NOTES

SPOTTING: 25 airplanes (wings folded) can be spotted in a rectangular area 200 ft. long and 96 ft. wide.

COMBAT RADIUS PROBLEM - GENERAL PURPOSE FIGHTER (GAS TURBINE)

WARM UP, TAXI, ACCELERATION: 5 minutes at normal power.
CLimb: To altitude for best cruise at military power.
CRUISE OUT: At speed for long range at altitude for best cruise.
DESCEND: To 35,000 ft. (No fuel used, no distance gained).
COMBAT: Fuel allowance for 20 minutes operation with military power at 35,000 ft. (External tanks dropped when empty). (Assume combat concluded at initial cruise back altitude).
CRUISE BACK: At speed for long range at altitude for best cruise.
RESERVE: 20 minutes at speed 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

Radius is reduced approximately 0.5 nautical miles for each additional minute of combat.

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CONFIDENTIAL
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