Standard Aircraft Characteristics

NAVY MODEL

F-1C

AIRCRAFT

(TITLE UNCLASSIFIED)

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1 JULY 1967
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STANDARD AIRCRAFT CHARACTERISTICS
F-1C FURY
NORTH AMERICAN
POWER PLANT

NO. AND MODEL: (1) J05-4-2
MANUFACTURER: Wright Aeronautical Corp.
TYPE: Axial Flow
LENGTH: 128 in.
DIAMETER: 39 in.
AUGMENTATION: None

RATINGS

LBS @ RPM @ ALT.
TAKE OFF: 7,220 @ 3,300 @ 8,000
MILITARY: 7,220 @ 5,300 @ 8,000
NORMAL: 6,400 @ 2,000 @ 8,000

SPEC: NO. W.A.D. N879-14

MISSION AND DESCRIPTION

The X-3 is a single place, jet propelled fighter designed for land or 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, MACA 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 EAS 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

WEIGHTS

LOADING
EMPTY: 12,780
BASIC: 13,790
DESIGN: 15,482
COMBAT: 16,600
MAX.T.O. (Field): 19,350
MAX, LAND. (Field): 19,350
MAX, Arrest.: 15,000

All weights are estimated.
* Max. anticipated value.

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-5622

OIL

CAPACITY (Gals): 326
GRABS: 1010
SPEC: MIL-O-5681J

ELECTRONICS

UHF TRANSPOR... AN/ARC-27A
UHF A.D.: AN/ARX-55
LTV: AN/ARX-9A
RADIO COM... AN/ARC-6
RADAR: AN/APG-30
VOR: AN/ARX-11E (with alternate provisions for AN/ARX-21)

Service Installation:
SINGLE IDENTIFICATION
PREFIX: AN/APG-59
(Provisions will be installed in 169th and subsequent aircraft.)
# Performance Summary

## Take-Off Loading Condition (1) Fighter

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Take-Off Weight</strong></td>
<td>19,360 lbs</td>
</tr>
<tr>
<td>Fuel (Gasoline)</td>
<td>2,610/3,600 lbs</td>
</tr>
<tr>
<td>Payload</td>
<td>-</td>
</tr>
<tr>
<td>Wing Loading</td>
<td>67.2 lbs/sq.ft.</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>111.5 km/h</td>
</tr>
<tr>
<td>Take-off run at S.L. - calm</td>
<td>2,050 ft</td>
</tr>
<tr>
<td>Take-off run at S.L. 25 km wind</td>
<td>1,380 ft</td>
</tr>
<tr>
<td>Take-off to clear 90 ft. - calm</td>
<td>-</td>
</tr>
<tr>
<td>Max. speed/altitude (A)</td>
<td>533/11,000 km/ft.</td>
</tr>
<tr>
<td>Rate of climb at S.L. (A)</td>
<td>6.750 fpm</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft. (B)</td>
<td>3.9 min.</td>
</tr>
<tr>
<td>Time: S.L. to 30,000 ft. (B)</td>
<td>7.3 min.</td>
</tr>
<tr>
<td>Service ceiling (100 fpm) (B)</td>
<td>44,200 ft</td>
</tr>
<tr>
<td>Combat range</td>
<td>900 n.m.</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>370 km/h</td>
</tr>
<tr>
<td>Cruising altitude(s)</td>
<td>41,300/46,400 ft</td>
</tr>
<tr>
<td>Combat radius</td>
<td>320 n.m.</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>170 km/h</td>
</tr>
<tr>
<td>Mission time</td>
<td>1.7 hrs.</td>
</tr>
</tbody>
</table>

## Combat Loading Condition (2) Clean

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Combat Weight</strong></td>
<td>15,600 lbs</td>
</tr>
<tr>
<td>Engine power</td>
<td>Military</td>
</tr>
<tr>
<td>Fuel</td>
<td>2,610 lbs</td>
</tr>
<tr>
<td>Combat speed/combat altitude</td>
<td>530/35,000 km/ft</td>
</tr>
<tr>
<td>Rate of climb/combat altitude</td>
<td>3,330/35,000 fpm/ft</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm)</td>
<td>47,000 ft</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>9.360</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>499 km/h</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>599/4.5 L</td>
</tr>
</tbody>
</table>

## Landing Weight

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>8.2 lbs</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>97.4 km/h</td>
</tr>
<tr>
<td>Stall speed - with approach power</td>
<td>94.4 km/h</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 15%.
- *Radius is 385 nautical miles when JP-4 fuel is used. (Fuel = 2,627/2,600 lbs.)
NOTES

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

CONFLICT RADIUS PROBLEM - GENERAL PURPOSE FIGHTER (GAS TURBINE)

WARING 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.
DESIGNED: 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.

CONFLICT RADIUS = CLIMB + CRUISE-OUT + CRUISE BACK

MISSION TIME INCLUDES CLIMB + CRUISE-OUT + COMBAT + CRUISE BACK

Radius is reduced approximately 6.5 nautical miles for each additional minute of combat.

PAYLOAD CONDITION COLUMN NUMBER