Characteristics Summary

FIGHTER............... XF-91

REPUBLIC

Wing area .................... 320 sq ft
Length ........................ 43.3 ft
Span ................................ 31.3 ft
Height .......................... 18.1 ft

AVAILABILITY

<table>
<thead>
<tr>
<th>Number available</th>
<th>PROCUREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVE</td>
<td>RESERVE</td>
</tr>
<tr>
<td>Number to be delivered in fiscal years</td>
<td></td>
</tr>
</tbody>
</table>

STATUS

1. Teletype authorization 22 Mar 1945
2. Mock-up Inspection: May 1947
3. Engineering Inspection: Jan 1949
4. First Flight: (1st Art.) 9 May 1949; (2nd Art.) Feb 1951 (est)
5. First flight with afterburner: 17 Oct 1949
   Navy Equivalent: None
   Mfr Model: AP - 31

FEATURES

JET ENGINE
(1) J47-GE-9
General Electric
RATINGS
S.L. Static LB-RPM-MIN
*(Same as Mil.) 5
**5000-7950 30
4250-7370-Cont
*Fluid injection not provided
AFTERBURNING
**Republic Afterburner adds approx. 33% thrust to Max. rating.

ROCKET ENGINE
(1) XLR-27CW-1
(Comprised of 4 rocket chambers)
Curtiss-Wright Prop Div.
RATINGS
Rockets LB ea. - Alt.
2 4000 - S.L.S.
4430 - 25,000
† Special nozzles
DURATION
90 seconds .......... 4 Rockets
50 seconds .......... 2 Rockets
At altitude

POWER PLANT

Crew:
Pressurization
Cooling
Ejection Seat
Variable Incidence Wing
Variable Aileron Boost
AN/AGO-5A Radar
A-1A Gun-Bomb-Rocket Sight
Dive Brakes
Max Fuel Capacity: 1568 gal.

ARMAMENT

Turrets: None
Guns: 4x20mm
Ammunition (tot.) 800 rds
**HIGH ALTITUDE INTERCEPTION**
Total Duration of Mission 25.5 minutes consisting of:
2.5 minutes for climb to 47,500 ft.
15 minutes of cruising at 486 knots
3 minutes of combat 688 knots (average)
5 minutes of descent from 47,500 ft.

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**PERFORMANCE**

<table>
<thead>
<tr>
<th>COMBAT RADIUS</th>
<th>COMBAT RANGE</th>
<th>COMBAT SPEED</th>
</tr>
</thead>
<tbody>
<tr>
<td>(NOT APPLICABLE)</td>
<td>(NOT APPLICABLE)</td>
<td>798(^{(2)}) knots at 35,000 ft alt, max power (A.B. + 2 rockets)</td>
</tr>
</tbody>
</table>

**MAXIMUM SPEED**

<table>
<thead>
<tr>
<th>CLIMB</th>
<th>CEILING</th>
<th>TAKE-OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>40,000 fpm sea level, take-off weight max power (A.B. + 4 rockets)</td>
<td>48,700 ft 100 fpm, take-off weight max power (A.B. + 4 rockets)</td>
<td>5440 ft ground run (with A.B. + 4 rockets)</td>
</tr>
<tr>
<td>13,500 fpm sea level, combat weight maximum power (A.B. only)</td>
<td>47,500 ft 500 fpm, combat weight maximum power (A.B. only)</td>
<td>6000 ft over 50 ft height (with A.B. + 4 rockets)</td>
</tr>
</tbody>
</table>

**LOAD WEIGHTS**

- Ammunition: 800 rds/20mm (3)
- Fuel: 1568 gal protected 31%, droppable 69%, external 69%
- Empty: 14,140 lb
- Combat: 18,600 lb
- Take-off: 28,300 lb

**STALLING SPEED**
120 knots flaps down, take-off weight

**TIME TO CLIMB**
2.5 min.
S.L. Static to 47,500 ft Take-off Wt., Max. Power (with A.B. 4 rockets)

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**NOTES**
1. PERFORMANCE BASIS: Estimated data
2. Instantaneous speeds
3. Includes gasoline for jet engine and ethyl-alcohol/water plus liquid oxygen for rocket engine.
4. REVISION BASIS: To reflect change in security classification.