

Listed: 3rd Ed; Add Nr 16; 15 Sep 54  
 Deleted; Not listed: 4th Ed; 1 Oct 54

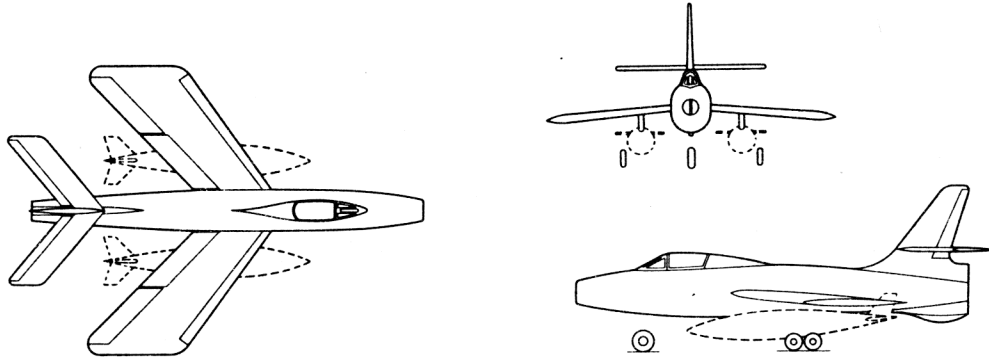
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A-1  
 (X) F-91 / char  
 EXPERIMENTAL.

MX-809

# Characteristics Summary

FIGHTER ..... XF-91



REPUBLIC

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

AVAILABILITY			PROCUREMENT			
Number available			Number to be delivered in fiscal years			
ACTIVE	RESERVE	TOTAL				

## STATUS

- Teletype authorization 22 Mar 1946
- Mock-up Inspection: May 1947
- Engineering Inspection: Jan 1949
- First Flight: (1st Art.) 9 May 1949; (2nd Art.) Feb 1951 (est)
- First flight with afterburner: 17 Oct 1949  
 Navy Equivalent ; None  
 Mfr Model: AP - 31

## FEATURES

<p><b>JET ENGINE</b>          (1) J47-GE-9          General Electric</p> <p><b>RATINGS</b>          S.L. Static LB-RPM-MIN          *(Same as Mil.) 5          **5000-7950 30          4250-7370-Cont          *Fluid injection not provided</p> <p><b>AFTERBURNING</b>          **Republic Afterburner adds          approx. 33% thrust to Max.          rating.</p>	<p><b>ROCKET ENGINE</b>          (1) XLR-27CW-1          (Comprised of 4 rocket cham-          bers)          Curtiss-Wright Prop Div.</p> <p><b>RATINGS</b>          Rockets LB ea. - Alt.          2 ..... 4000 - S.L.S.          2 ..... †3820 - S.L.S.                            †4430 - 25,000</p> <p>† Special nozzles  <b>DURATION</b>          90 seconds ..... 4 Rockets          50 seconds ..... 2 Rockets          At altitude</p>
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## POWER PLANT

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

## ARMAMENT

Turrets: None  
 Guns: 4x20mm  
 Ammunition (tot.): 800 rds

Classification cancelled  
 or changed to  
 AUTH: WADCR 205-3A  
 By: [Signature]  
 Signature and Grade  
 15 Dec 1966  
 500 DIT 5700.10  
 Deleted; Not listed: 4th Ed; 1 Oct 54  
 MX-809  
 CONFIDENTIAL  
 Classification cancelled  
 or changed to  
 AUTH: [Signature]  
 By: [Signature]  
 Signature and Grade  
 15 Dec 1966  
 500 DIT 5700.10  
 Deleted; Not listed: 4th Ed; 1 Oct 54  
 MX-809

10 NOVEMBER 1950

~~SECRET~~

XF-91

2nd Ed  
 3rd Ed  
 4th Ed

1 March 1951  
 13 March 1953

537C-12000

*Characteristics Summary Basic Mission* .....XF-91

**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.

<b>P E R F O R M A N C E</b>		
<b>COMBAT RADIUS</b>	<b>COMBAT RANGE</b>	<b>COMBAT SPEED</b>
(NOT APPLICABLE)	(NOT APPLICABLE)	<b>798<sup>(2)</sup></b> knots at 35,000 ft alt, max power (A.B. + 2 rockets)
		<b>MAXIMUM SPEED</b>
		<b>855<sup>(2)</sup></b> knots at 47,500 ft alt, max power (A.B. + 2 rockets)
<b>C L I M B</b>	<b>C E I L I N G</b>	<b>T A K E - O F F</b>
<b>40,000</b> fpm sea level, take-off weight max power (A.B. + 4 rockets)	<b>48,700</b> ft 100 fpm, take-off weight max power (A.B. + 4 rockets)	ground run <b>5 4 4 0</b> ft (with A.B. + 4 rockets)
<b>13,500</b> fpm sea level, combat weight maximum power (A.B. only)	<b>47,500</b> ft 500 fpm, combat weight maximum power (A.B. only)	over 50 ft height <b>6 0 0 0</b> ft (with A.B. + 4 rockets)
<b>L O A D</b>	<b>W E I G H T S</b>	<b>S T A L L I N G S P E E D</b>
Ammunition: 800 rds/20mm  Fuel: <b>(3)</b> protected     31 % droppable     69 % external       69 %	Empty..... 14,140 lb Combat... 18,600 lb Take - off 28,300 lb  limited by	<b>1 2 0</b> knots flaps down, take-off weight  <b>TIME TO CLIMB</b> 2.5 min. S.L. Static to 47,500 ft Take-off Wt., Max. Power (with A.B. 4 rockets)

- N O T E S**
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.