Standard Aircraft Characteristics

F-86F -1 thru -20

Sabre
North American

By Authority of the Secretary of the Air Force

One J47-GE-27
General Electric

1 Oct 56

Unclassified
POWER PLANT

Nr. & Model ........ (1) J47-GE-27
Mfr ................ General Electric
Engine Spec Nr. .... E-594a
Type ................ Axial
Length .............. 148, 0"
Diameter ............ 30, 5"
Weight (dry) ........ 2607 lb
Tail Pipe Nozzle .... Fixed Area

ENGINE RATINGS

S. L. Static  LB  RPM  MIN
Max:  5910  7950  5
Min:  5910  7950  30
Nor:  5270  7630  Cont

Note: Ratings are with inlet screens retracted

DIMENSIONS

Wing
Span .................. 37, 1"
Incidence (root) .... 1°
(ipt) .................. 1°
Dihedral ............... 3°
Sweepback (25% chord) . 35°/13°
Length ............... 37, 5"
Height ................ 14, 7"
Tread .................. 8, 3"

BOMBS

Nr.  Class (lb)
2  ....... Wf Hf (Box Fin)  1000
2  ....... 500
2  ....... 250
Interim (Convair Fin)
2  ....... 1000
2  ....... 500
2 ......... 250
New Series
1  ......... 750
Max Bomb Load .... 2000 lb

GUNS

No.  Type Size Rds ea Loc
6  ...... M-3, .50 cal., 267*, Fus. fwd
*Space provisions for 300 rd/gun

Gun Camera .......... (1) AN-N6

ROCKETS

No.  Size Type Location
8*  ...... 5"  HVAR, . Wings
*Provisions for 18 rockets

WEIGHTS

Loading Lb  L. F.
Empty ............... 10, 840 (A)
Basic ............... 11, 303 (A)
Design ............... 13, 285  7.23
Combat .............. 14, 857  7.00
Max T. O. ........... 117, 797  2.00
Max in Flt ........... 117, 797  3.00
Max Land ............ 117, 797  2.00

(A) Actual (F-86F-10, see page 6)
* For Basic Mission
† Limited by space
Pilot's Handbook limitations:
7.0g clean, 5.0g ext. config.

FUEL

Location Nr. Tanks Gal
Wgs* ............ 3 ........ 207
Fuel ............. 2 .......... 228
Wgs, drop .......... 2 .......... 850
Total ........... 835

Grade ............ JP-4
Specification ...... MIL-F-5624
TF-80F-1 carries 240 gal

OIL

Faseelage ........... 1 (tot) 3.4
Grade ............. 1005
Specification ...... MIL-L-6081A
* Self-Sealing

ELECTRONICS

VHF Command ......... AN/ARC-3
UHF Command .......... *AN/ARC-33
IFF ..................... AN/APX-6
Radio Compass ........ AN/ARN-2
Radar Range Equip.  . AN/APG-30

* On F-86F-20 only
## Loading and Performance—Typical Mission

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Basic Mission</th>
<th>Design</th>
<th>Interception</th>
<th>Ferry Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Take-off Weight</strong></td>
<td>(lb)</td>
<td>(lb)</td>
<td>(lb)</td>
<td>(lb)</td>
</tr>
<tr>
<td>Fuel at 6.5 lb/gal (grade JP-4)</td>
<td>17,797</td>
<td>17,797</td>
<td>16,962</td>
<td>17,617</td>
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<tr>
<td>Payload (Ammunition)</td>
<td>5429</td>
<td>5429</td>
<td>2829</td>
<td>5429</td>
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<tr>
<td>Payload (lbs)</td>
<td>480</td>
<td>480</td>
<td>480</td>
<td>None</td>
</tr>
<tr>
<td>Wing loading (lb/sq ft)</td>
<td>61.8</td>
<td>61.8</td>
<td>58.8</td>
<td>61.2</td>
</tr>
<tr>
<td>Stall speed (power off)</td>
<td>111</td>
<td>111</td>
<td>109</td>
<td>111</td>
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<tr>
<td>Take-off ground run at SL</td>
<td>2625</td>
<td>2625</td>
<td>2375</td>
<td>2575</td>
</tr>
<tr>
<td>Rate of climb at SL</td>
<td>6200</td>
<td>6200</td>
<td>5980</td>
<td>6300</td>
</tr>
<tr>
<td>Time: SL to 30,000 ft</td>
<td>4.5</td>
<td>4.5</td>
<td>4.8</td>
<td>4.5</td>
</tr>
<tr>
<td>Time: SL to 30,000 ft</td>
<td>3.8</td>
<td>3.8</td>
<td>9.7</td>
<td>8.6</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>40,000</td>
<td>40,000</td>
<td>39,500</td>
<td>40,100</td>
</tr>
<tr>
<td><strong>Combat Range</strong></td>
<td></td>
<td></td>
<td></td>
<td>1144</td>
</tr>
<tr>
<td>Average cruise speed</td>
<td>446</td>
<td>447</td>
<td>335</td>
<td>454</td>
</tr>
<tr>
<td>Initial cruising altitude</td>
<td>34,800</td>
<td>34,800</td>
<td>10,000</td>
<td>35,000</td>
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<tr>
<td>Final cruising altitude</td>
<td>44,200</td>
<td>44,800</td>
<td>10,000</td>
<td>44,500</td>
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<tr>
<td>Total mission time</td>
<td>2.16</td>
<td>2.68</td>
<td>0.33</td>
<td>2.55</td>
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<tr>
<td><strong>Combat Weight</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combat altitude (ft)</td>
<td>36,300</td>
<td>35,000</td>
<td>SL</td>
<td>44,500</td>
</tr>
<tr>
<td>Combat speed (km)</td>
<td>499,524</td>
<td>525</td>
<td>595</td>
<td>518</td>
</tr>
<tr>
<td>Combat climb (fpm)</td>
<td>(1100)2020</td>
<td>2380</td>
<td>9600</td>
<td>1150</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>(43,500)48,000</td>
<td>48,300</td>
<td>49,400</td>
<td>50,700</td>
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<tr>
<td>Max rate of climb at SL</td>
<td>(7530)9300</td>
<td>9550</td>
<td>9600</td>
<td>11,150</td>
</tr>
<tr>
<td>Max speed at SL</td>
<td>(557)598</td>
<td>598</td>
<td>595</td>
<td>599</td>
</tr>
<tr>
<td>Max speed at 35,000 ft</td>
<td>(502)525</td>
<td>525</td>
<td>595/SL</td>
<td>528</td>
</tr>
<tr>
<td><strong>Landing Weight</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground roll at SL</td>
<td>2090</td>
<td>2650</td>
<td>2080</td>
<td>2060</td>
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<tr>
<td>Total from 50 ft</td>
<td>3190</td>
<td>3140</td>
<td>3180</td>
<td>3150</td>
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</table>

### Notes
1. Max power
2. Detailed descriptions of Radius and Range missions are given on page 6
3.Includes 300 lb of ballast
4. 2x1000 lb bombs (box fin)
5. Combat is initiated with external tanks aboard; values in parenthesis are with tanks on.
6. Allows for weight reduction during ground operation and climb

### Performance Basis:
(a) Data source: Contractor's flight test
(b) Performance is based on powers shown on page 6
(c) Above data for the F-86F-10 airplanes

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**F-86F-1 thru -20**

4 (SLATTED L.E.)

1 OCT 56
NOTES

FORMULA: RADIUS MISSION I

Take-off, climb on course to cruise altitude with maximum power, cruise out at long range speeds at cruise altitude to target, combat for 20 minutes dropping external tanks when empty, cruise back to base at long range speeds at cruise altitude. Range free allowances include 5 minutes at normal power at sea level for starting engine and take-off, fuel for 20 minutes combat at maximum power with fuel flow based on 35,000 ft, and a reserve of 20 minutes loiter at sea level at speeds for maximum endurance plus 5% of initial fuel load.

FORMULA: RADIUS MISSION II

Take-off, climb on course to cruise altitude with maximum power, cruise out at long range speeds to cruise altitude to target dropping external fuel tanks when empty, combat for 20 minutes, cruise back to base at long range speeds at cruise altitude. Range free allowances include 5 minutes at normal power at sea level for starting engine and take-off, fuel for 20 minutes combat at maximum power with fuel flow based on combat altitude, plus 10% of initial fuel for reserve.

FORMULA: RADIUS MISSION III

Take-off, climb on course to 10,000 ft with maximum power, cruise out at long range speeds at 10,000 ft to target, descend to sea level and expend external ordnance, combat for 5 minutes, climb on return course to 10,000 ft with maximum power, cruise back to base at long range speeds at 10,000 ft. Range free allowances include 5 minutes at normal power at sea level for starting engine and take-off, fuel for 5 minutes combat at sea level with maximum power, and a reserve of 20 minutes loiter at sea level at speeds for maximum endurance plus 5% of initial fuel load.

FORMULA: RANGE MISSION IV

Take-off, climb on course to cruise altitude with maximum power, cruise out at long range speeds at cruise ceiling to remote base, drop external fuel tanks when empty. Range free allowances include 5 minutes at normal power at sea level for starting engine and take-off, and a reserve of 20 minutes loiter at sea level at speeds for maximum endurance plus 5% of initial fuel load.

GENERAL DATA:

(a) Engine ratings shown on page 3 are manufacturer's guaranteed ratings. Power values used in performance calculations are as follows:

<table>
<thead>
<tr>
<th>(1) J47-GE-27</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. L. STATIC</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

(b) For detailed planning refer to Technical Order 1 F-86F-1 and other applicable technical orders.

WEIGHT COMPARISON:

<table>
<thead>
<tr>
<th>Model</th>
<th>F-86F-1 (NA-172)</th>
<th>F-86-5 (NA-172)</th>
<th>F-86-10 (NA-172)</th>
<th>F-86-15 (NA-172)</th>
<th>F-86-20 (NA-176)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty Weight (lb)</td>
<td>10,760</td>
<td>10,815</td>
<td>10,840</td>
<td>10,829</td>
<td>10,853</td>
</tr>
<tr>
<td>Take-off Weight:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean (lb)</td>
<td>14,776</td>
<td>14,822</td>
<td>14,847</td>
<td>14,836</td>
<td>14,861</td>
</tr>
<tr>
<td>2x120 gal tanks</td>
<td>16,846</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2x200 gal tanks</td>
<td>17,772</td>
<td>17,797</td>
<td>17,786</td>
<td>17,811</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Above weights represent last article of each airplane's block number.

PERFORMANCE REFERENCE:


REVISION BASIS:

Data recoordinated this date.