Characteristics Summary

FIGHTER (INTERCEPTOR) ......... F-89J

"SCORPION"
NORTHROP

Wing Area (excludes tip tanks) ... 506 sq ft  Length ....................... 53.7 ft
Span (includes tip tanks) .......... 59.7 ft  Height ....................... 17.5 ft

AVAILABILITY

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

STATUS

1. The F-89J aircraft are F.89D's modified to incorporate the MB-1 rockets, GAR-2A missiles and the MG-12 fire control system.
2. First flight (prototype): Apr 56
3. First flight (production): Aug 56
4. First acceptance: Nov 56
5. Production Completed: Feb 58

Navy Equivalent: None

Mfr's Model: N-160

POWER PLANT

(2) J35-A-35

Allison

ENGINE RATINGS

S.L.S.  LB - RPM - MIN
Max: 7200 - 8000 - 5
Mil: 5440 - 8000 - 30
Nor: 4855 - 7680 - Cont

*With afterburner operating

Crew: 2
Pilot
Radar Operator

Alternate configuration consisting of rocket/fuel wing tip pods with (104) FFAR rockets plus (2) MB-1 rockets.

Jettisonable fuel tanks carried in lieu of MB-1 rocket installation.

Low pressure oxygen system MG-12 Fire control system E-11 Auto pilot MB-1 Air-to-air rockets and GAR-2A missiles carried on under wing pylons.

Max fuel capacity: 2963 gal
*With 603 gal tip tanks; 2389 gal with rocket/fuel tip pods.

FEATURES

ARMAMENT

Guns .......................... None
Bombs .......................... None
Rockets ..........................

... 2 MB-1 Air-to-Air

plus 4 x GAR-2A

Alternate Configuration

Rockets ..........................

... 2 MB-1 Air-to-Air

plus 104 x 2.75" FFAR

Black Book

1 OCT 58

CONFIDENTIAL

Addendum No 9

F-89J

OCT 1 5 1958 57SC 4983
### Characteristics Summary: Basic Mission

**F-89J**

<table>
<thead>
<tr>
<th>POINT-INTERCEPT</th>
<th>AREA-INTERCEPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>128.4 min at 35,000 ft</td>
<td>33,800 FT at 27,800 FT</td>
</tr>
</tbody>
</table>

### Performance

**INTERCEPT**

<table>
<thead>
<tr>
<th>POINT</th>
<th>FERRY RANGE</th>
<th>SPEED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Mission Time for Interception at 42,100 ft. Equals 151.2 minutes</td>
<td>1498 naut. mi. with 2963 gal. fuel</td>
<td>POINT</td>
</tr>
<tr>
<td>AREA 435 Nautical Miles at 402 Knots Average in 2.25 hours</td>
<td>at 409 knots avg. in 3.71 hours at 47,688 lb.T.O. wt.</td>
<td>COMBAT 452 knots at 42,100 ft. alt. max.power</td>
</tr>
<tr>
<td>5160 fpm. at S.L. Take-Off Weight, Max. Power</td>
<td>44,700 ft. at 100 fpm, Take-Off Weight, Max. Power</td>
<td>MAX 528 knots at 11,100 ft. alt. max.power</td>
</tr>
<tr>
<td>5850 fpm. at S.L. Combat Wt., Max. Pow.</td>
<td>42,100 ft. at 500 fpm, Combat Weight, Max. Power</td>
<td>BASIC 464 knots at 40,000 ft. alt. max.power</td>
</tr>
</tbody>
</table>

### Climb Ceiling Take-Off

<table>
<thead>
<tr>
<th>POINT</th>
<th>CEILING</th>
<th>TAKE-OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>3950 ft. no assist</td>
<td>POINT</td>
<td></td>
</tr>
<tr>
<td>5700 ft. no assist</td>
<td>POINT</td>
<td></td>
</tr>
</tbody>
</table>

### Load Weights

<table>
<thead>
<tr>
<th>POINT</th>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel 2363 gal.</td>
<td>Empty 26,883 lb.</td>
</tr>
<tr>
<td>protected 0%</td>
<td>Combat 39,879 lb. Point 37,420 lb. Area</td>
</tr>
<tr>
<td>droppable 0%</td>
<td>Take-off 45,575 lb.</td>
</tr>
<tr>
<td>external 51.0%</td>
<td>limited by mission</td>
</tr>
</tbody>
</table>

### Stalling Speed

<table>
<thead>
<tr>
<th>POINT</th>
<th>17.8 Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.L. to 42,100 Ft.</td>
<td>Take-Off Weight, Max. Power</td>
</tr>
</tbody>
</table>

### Notes

1. Performance Basis:
   a. Phase IV Flight Test data
   b. From standing start; includes 1.8 minutes for take-off and acceleration to climb speed.
   c. MB-1 and GAR-2A rockets are carried throughout mission.
2. Below 20,000 ft, limit IAS 450 Kn or M = 0.9, whichever is less. (Airplane is temporarily limited to 400 Kn IAS or M = 0.9, whichever is less, below 20,000 ft).