STANDARD AIRCRAFT CHARACTERISTICS

F2H-2, 2N "BANSHEE"

McDONNELL

1 NOVEMBER 1949
POWER PLANT

NO. & MODEL............. (2) J34-VL-34
MTR.......................Westinghouse
TFFS........12 Stg. Axial Comp.
2 Stg. Turbine
ENG. LENGTH..............120" 
ENG. DIAMETER..............50"

RATINGS
Lbs. @ Rpm @ Alt.
T. O. 3,250 12,500 S.S.L.
MIL. 3,250 12,500 S.S.L.
NORMAL 2,650 11,800 S.S.L.
SPEC. NO. WAC-2404D-2B

MISSION AND DESCRIPTION

The Model F2H-2 airplane is a single place, two engine, jet propelled, long range fighter incorporating droppable, tip tanks. Designed to be either land or carrier based, the airplane is equipped with an electrically actuated, fully retracted, tricycle landing gear, folding outer panels, an arresting hook with cable extensible mechanism, and conventional catapult equipment.

Stressed metal skin construction is employed throughout with all surfaces being of the full cantilever type. The control system is conventional with the exception of the aileron system which incorporates hydraulic boost. The split flaps, speed brakes, and trim tabs are all electrically actuated. In addition to conventional items, pilot equipment includes an ejection seat and cabin pressurization.

ORDNANCE

GUNS
No. Size Location Rds.
4 20mm M-3 Nose 600

Fire Control
AGUS...............Mk. 6 Mod. 0

Bombs and Rockets
Type Size Location No.
Bombs 100# Wings 8
Bombs 250# Wings 4
Bombs 500# Wings 2
HYAR 5" Wings 8
HYAS 5" Wings 8

3 - Aero 14A Combination Bomb
Racks and Rocket Launchers

MAX. BOMB CAP.......1,540 lbs.

DIMENSIONS

WING AREA...........294 sq. ft.
SPAN...................46 1/2 - 10"
LENGTH................140" - 2"
HEIGHT................14" - 6"
WIND................13" - 2"
M.A.C.................7' - 4"

WEIGHTS

Loadings Lbs. L.F.
EMPTY...............11,146....
BASIC...............11,859....
DESIGN...........15,400 6.4
COMBAT............15,640 6.4
MAX. T.O. (Field) 23,200 4.5
(Cat.) 23,200....
MAX. LAND (Field) 16,500....
(Arrest) 15,300....

All weights are actual.
*Maximum anticipated loading.

FUEL AND OIL

Gals. No. Tanks Location
789 3 Fuel S.S.
86 2 Wing S.S.
400 2 Wing Drop

FUEL GRADE .......... 115/145
FUEL SPEC.......... MIL-F-5572

OIL

CAPACITY (Gals)..............14
GRADE.......................1010
SPEC.................MIL-O-5661

ELECTRONICS

RADIO VHF........AN/ARC-1 or 1A
VHF TRANS. REC........AN/ARO-27
(P.S.I.-Repl for AN/ARC-1)
UHF P.D........AN/AR-25
(Planned Service Install.)
RADIO COMPASS........AN/AR-6
RADIO HOMING........AN/AR-2A
RADIO HOMING........AN/AR-21
(P.S.I.-Repl for AN/AR-2A
and AN/AR-2G)
RADIO ALTIMETER........AN/AF-1
I.F........AN/AF-5
RADAR........AN/AF-20

1 NOVEMBER 1949 (Revised 6/1/52)
### PERFORMANCE SUMMARY

#### TAKE-OFF LOADING CONDITION

<table>
<thead>
<tr>
<th></th>
<th>(1) FIGHTER</th>
<th>(2) FIGHTER</th>
<th>(5) G/RD. SUPPORT</th>
<th>(6) G/RD. SUPPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full Internal</td>
<td>2,000 Gal. Tanks</td>
<td>2,000 Gal. Tanks</td>
<td>8.5&quot; HVAR Rock. L.250+ Bombs</td>
</tr>
<tr>
<td>Take-off Weight</td>
<td>lb.</td>
<td>17,742</td>
<td>20,612</td>
<td>21,852</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>5,262</td>
<td>5,262/2,540</td>
<td>5,262/2,540</td>
</tr>
<tr>
<td>Payload (Ammunition/Rockets, Bomb)</td>
<td>lb.</td>
<td>172</td>
<td>172</td>
<td>172</td>
</tr>
<tr>
<td>Wing loading</td>
<td>lb./sq. ft.</td>
<td>60.3</td>
<td>70.2</td>
<td>74.2</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>kn.</td>
<td>105</td>
<td>111</td>
<td>115</td>
</tr>
<tr>
<td>Take-off run at S.L. - calm</td>
<td>ft.</td>
<td>1,660</td>
<td>2,350</td>
<td>2,700</td>
</tr>
<tr>
<td>Take-off run at S.L. 25 kn. wind</td>
<td>ft.</td>
<td>1,020</td>
<td>1,480</td>
<td>1,740</td>
</tr>
<tr>
<td>Take-off to clear 50 ft. - calm</td>
<td>ft.</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>(A) km./hr.</td>
<td>478/S.L.</td>
<td>468/10,000</td>
<td>417/30,000</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>fpm</td>
<td>6,300</td>
<td>3,030</td>
<td>5,300</td>
</tr>
<tr>
<td>Time to 20,000 ft.</td>
<td>min.</td>
<td>3.2</td>
<td>6.5</td>
<td>4.3</td>
</tr>
<tr>
<td>Time to 30,000 ft.</td>
<td>min.</td>
<td>6.7</td>
<td>11.5</td>
<td>16.6</td>
</tr>
<tr>
<td>Service ceiling (100 fps)</td>
<td>ft.</td>
<td>49,100</td>
<td>44,800</td>
<td>35,200</td>
</tr>
<tr>
<td>Combat range</td>
<td>n.m.</td>
<td>790</td>
<td>1,220</td>
<td>855</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km.</td>
<td>430</td>
<td>430</td>
<td>390</td>
</tr>
<tr>
<td>Cruising altitude</td>
<td>ft.</td>
<td>40,000</td>
<td>40,000</td>
<td>30,000/35,000</td>
</tr>
<tr>
<td>Combat radius</td>
<td>n.m.</td>
<td>235</td>
<td>230</td>
<td>225</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km.</td>
<td>430</td>
<td>430</td>
<td>405</td>
</tr>
</tbody>
</table>

#### COMBAT LOADING CONDITION

<table>
<thead>
<tr>
<th></th>
<th>(2) CLEAN</th>
<th>(4) CLEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combat Weight</td>
<td>lb.</td>
<td>15,680</td>
</tr>
<tr>
<td>Engines power</td>
<td>Military</td>
<td>Military</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>3,157</td>
</tr>
<tr>
<td>Combat speed/combat altitude</td>
<td>km./hr.</td>
<td>468/35,000</td>
</tr>
<tr>
<td>Rate of climb/combat altitude</td>
<td>fpm</td>
<td>3,200/35,000</td>
</tr>
<tr>
<td>Combat ceiling (500 fps)</td>
<td>ft.</td>
<td>49,500</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>fpm</td>
<td>7,300</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>km.</td>
<td>506</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>km./hr.</td>
<td>506/S.L.</td>
</tr>
</tbody>
</table>

#### LANDING WEIGHT

<table>
<thead>
<tr>
<th></th>
<th>lb.</th>
<th>11,683</th>
<th>13,871</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>1,201</td>
<td>1,325</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>kn.</td>
<td>91</td>
<td>91</td>
</tr>
<tr>
<td>Stall speed - with approach power</td>
<td>kn.</td>
<td>86</td>
<td>86</td>
</tr>
</tbody>
</table>

### NOTES

(A) Normal Power  
(B) Military Power

Performance is based on NATC flight test of the F2H-2 airplane.  
Radius and range are based on flight test fuel consumption increased by 5%.  
Spotting: 200 ft. length is required to spot 27 airplanes (wings folded) on the 96 ft. wide deck immediately aft of the forward ramp on the CV-9 class carrier.

F2H-2 2-2N  
1 November 1949 (Revised 6/1/52)
NOTES

GENERAL PURPOSE AND ESCORT FIGHTER COMBAT RADIUS PROBLEM (GAS TURBINE)

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.
CLIMB: To 40,000 feet at military power.
CRUISE-OUT: At V for long range at 40,000 feet. External tanks dropped when empty.
DESCEND: To 35,000 feet. (No fuel used, no distance gained.)
COMBAT: At 35,000 feet for 20 minutes at military power. (Assume combat concluded at cruise-back altitude)
CRUISE-BACK: At V for long range at 40,000 feet.
RESERVE: 20 minutes at V for maximum endurance at sea level plus 5% of initial fuel load.

\[
\text{COMBAT RADIUS} = \text{CLIMB} / \text{CRUISE-OUT} = \text{CRUISE-BACK}
\]

GROUND SUPPORT FIGHTER COMBAT RADIUS PROBLEM (GAS TURBINE)

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.
CLIMB: To altitude for maximum radius (30,000 feet) at normal power.
CRUISE-OUT: At V for long range at 30,000 feet. External tanks dropped when empty.
DESCEND: To sea level (No fuel used, no distance gained.)
LOITER: 10 minutes at V for maximum endurance at sea level.
DROP BOMBS AND FIRE EXTERNAL ROCKETS
COMBAT: At sea level for 10 minutes at military power.
CLIMB: To altitude for maximum radius (35,000 feet) at nor.pr.
CRUISE-BACK: At V for long range at 35,000 feet.
RESERVE: 20 minutes at V for maximum endurance at sea level plus 5% of initial fuel load.

The night fighter version of this airplane is the F2H-2N. It has an elongated nose with same gun installation as F2H-2; additional electronic equipment, auto-pilot, and 82 pounds of ballast replaces armament fire control, oxygen equipment, instruments, and pneumatic controls. Weight and performance are same as those of the F2H-2.

F2H-2, 2N
1 November 1949 (Revised 6/1/52)
NOTES

F2H-2N ELECTRONICS

VHF RELAY SYSTEM ....................... AN/ARC-26
VHF TRANS. - REG ....................... AN/ARC-27
(P.S.I. Repl. for AN/ARC-26)
UHF D. F ....................... AN/ARA-25
(Planned Service Installation)
RADIO COMPASS ....................... AN/ABN-6
RADIO HOMING ....................... AN/ABN-21
(P.S.I. Repl. for AN/ABN-2A & AN/ABN-6)
RADIO ALTIMETER ....................... AN/APX-1
HOMING ....................... AN/APR-2A
IFF ....................... AN/APX-5
IFF (I+R UNIT) ....................... AN/APX-17
RADAR ....................... AN/APR-19A
(or RADAR) ....................... AN/APG-36A

GUNS

No. Size Location Rds.
4 20mm M-3 Nose 600

FIREF CONTROL

Illuminated Sight. Mk. 20 Mod. 0

The photographic version of this airplane is the F2H-2P. It has an elongated nose in which cameras are carried; no guns are installed; no ballast is carried; basic weight is 10 pounds greater than F2H-2. Performance is same as that of F2H-2.

F2H-2P ELECTRONICS

RADIO VHF ....................... AN/ARC-1 or AN/ARC-1A
VHF TRANS. - REG ....................... AN/ARC-27
(P.S.I. Repl. for AN/ARC-1 or AN/ARC-1A)
RADIO COMPASS ....................... AN/ABN-6
HOMING ....................... AN/APR-2A
RADIO HOMING ....................... AN/APR-21
(P.S.I. Repl. for AN/ABN-2A or AN/ABN-6)
RADIO ALTIMETER ....................... AN/APX-1
IFF ....................... AN/APX-5
UHF D. F ....................... AN/ARA-25
(Planned Service Installation)

F2H-2P CAMERAS

5 17-17 Body Camera
1 17-15 Body Camera
1 AN/5A Gun Camera
5 17-17 Camera Cone
3 12-17 Camera Cone
1 21-17 Camera Cone
1 24-18 Camera Cone
1 36-18 Camera Cone
1 75-75 Camera Cone
1 Series 30 Scanner

This chart supersedes previously issued charts for F2H-2 and F2H-2N dated 1 November 1949.
Reason for reissue: Flight test data available.

1 NOVEMBER 1949 (Revised 6/1/52)
SUPPLEMENTAL

CARRIER SUITABILITY

MINIMUM WIND OVER DECK REQUIRED FOR CATAPULTING
VS. GROSS WEIGHT

Based on minimum safe take-off speed
Service capacity pressure = 4,000 PSI

MINIMUM WIND OVER DECK REQUIRED FOR LANDING
VS. GROSS WEIGHT

Based on approach speed of 1.2 power-off stall speed

NOTES

(a) These curves should be used for planning purposes only. Actual catapult and arresting gear operation
should be in accordance with applicable Aircraft Technical Orders, and Catapult and Arresting Gear Bulletins.

(b) Based on NACO Flight Test.

F2H-2N

1 NOVEMBER 1949 (Revised 6/1/52)