POWER PLANT

NO. & MODEL..............(1) J79-7-2
MFR....................Allison
TYP..................Axial Flow
LENGTH (WITH AIR)........287"  
DIAMETER..................139"
AUGMENTATION...............Afterburner

RATINGS

LBS  BPS  ALT
MAXIMUM...........24,500 6,100 S.S.L.
MILITARY...........10,200 6,100 S.S.L.
NORMAL...............6,600 6,000 S.S.L.

* With A.B. Augmentation

Spec. No. 361-3

ORDNANCE

GUNS
No.  Size  Location  Rd.
4  .30mm  Fuselage  600  

FIRE CONTROL
  AOD AERO 10H

EXTERNAL LOAD

Racks  No.  Location  Max. Load
HK 51-13  2  Fuselage  20000 lbs.

MAX LOAD CAPACITY.................0000 LBS.

SPECIAL ORDNANCE

Special Kits: 1 x 31 mm (ICCE Action)
1  MR 51-11 Bomb Rack
1  Aero 1A Bomb Rack Adaptor
1  Aero 1A6 Tube
1  Aero 7A Rack, bomb (jettison)

MISSION AND DESCRIPTION

The McDonnell F3H-2M airplane is a single place, swept-wing, jet-propelled fighter and is designed for either land or carrier based operations.

The F3H-2M is equipped with the Sparrow I weapon system which consists of provisions for carrying four supersonic air to air guided missiles and special electronic guidance equipment. Further armament consists of four forward firing 20 mm guns. Provision are included for two heavy duty pylons on the underside of the fuselage for carrying various external stores.

The F3H-2M is provided with tricycle landing gear, catapult and arresting gear, and folding wing panels. Equipment includes an automatic pilot, ejection seat, and pressurized cockpit. An auxiliary power unit may be carried externally to provide for engine starting when operating from advanced bases.

Power actuated leading edge slats and trailing edge flaps increase lift for landing and take-off, and fuselage mounted speed brakes provide drag control in flight. The primary control system incorporates power actuation with artificial feel forces. Provisions are included for obtaining moderate control forces during emergency operation.

DEVELOPMENT

First flight............September 1955
Service use.............April 1956

DIMENSIONS

WING

AREA.................519 sq. ft.
SPAN................35'-4"
MAC..................35'-4"
CROSSWIND (g chord).........45'-41"
LENGTH................58'-11"
HEIGHT................14'-7"
TRAIL................15'-10"

WEIGHTS

LOADING

HMIT..................20,322
BASIC..................20,979
DESIGN..................26,000
COMBAT..............27,859  7,5
M.A.X. (field)........33,112  5,9
  (cat)..............30,000
MAX. LANDING................24,823
  (arrest)........23,560

All weights are estimated.

FUEL AND OIL

No. Tanks  Tot. Gal.  Location
1  336  Fuselage, fwd.
1  502  Fuselage, mid.
1  342  Fuselage, aft
2  166  Wing, inboard
2  460  Wing, outboard

FUEL GRADE........HIL-F-562L
FUEL GUP................HIL-F-562L

OIL

Integral with engine

SPECS................HIL-L-7808

ELECTRONICS

UHF COMM..................AN/ARC-27A
UHF HOMER................AN/ARA-25
RADIO CONFOG................AN/ARH-6
RADIO ALTIMETER...........AN/ARH-52
TFF......................AN/ARH-6
MISSILE RADAR............AN/ARH-51
TACAN....................AN/ARH-41
  (Alternate for AN/ARH-6)

CONFIDENTIAL  15 MAY 1955  F3H-2M
<table>
<thead>
<tr>
<th>PERFORMANCE SUMMARY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TAKE-OFF LOADING CONDITION</strong></td>
</tr>
<tr>
<td><strong>TAKE-OFF WEIGHT</strong></td>
</tr>
<tr>
<td><strong>Fuel</strong></td>
</tr>
<tr>
<td><strong>Wing loading</strong></td>
</tr>
<tr>
<td><strong>Stall speed - power-off</strong></td>
</tr>
<tr>
<td><strong>Take-off run at S.L. - calm (g)/g</strong></td>
</tr>
<tr>
<td><strong>Take-off run at S.L. 25 kn. wind (g)/g</strong></td>
</tr>
<tr>
<td><strong>Take-off to clear 50 ft. - calm</strong></td>
</tr>
<tr>
<td><strong>Max. speed/altitude</strong></td>
</tr>
<tr>
<td><strong>Rate of climb at S.L.</strong></td>
</tr>
<tr>
<td><strong>Time: S.L. to 20,000 ft.</strong></td>
</tr>
<tr>
<td><strong>Time: S.L. to 30,000 ft.</strong></td>
</tr>
<tr>
<td><strong>Service ceiling (100 fpm)</strong></td>
</tr>
<tr>
<td><strong>Combat range</strong></td>
</tr>
<tr>
<td><strong>Average cruising speed</strong></td>
</tr>
<tr>
<td><strong>Cruising altitude(s)</strong></td>
</tr>
<tr>
<td><strong>Combat radius</strong></td>
</tr>
<tr>
<td><strong>Average cruising speed</strong></td>
</tr>
<tr>
<td><strong>Mission time - radius</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMBAT LOADING CONDITION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENGINE TYPE</strong></td>
</tr>
<tr>
<td><strong>Engine power</strong></td>
</tr>
<tr>
<td><strong>Fuel</strong></td>
</tr>
<tr>
<td><strong>Combat speed/altitude</strong></td>
</tr>
<tr>
<td><strong>Rate of climb/altitude</strong></td>
</tr>
<tr>
<td><strong>Combat ceiling (500 fpm)</strong></td>
</tr>
<tr>
<td><strong>Rate of climb at S.L.</strong></td>
</tr>
<tr>
<td><strong>Max. speed at S.L.</strong></td>
</tr>
<tr>
<td><strong>Max. speed/altitude</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LANDING WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuel</strong></td>
</tr>
<tr>
<td><strong>Stall speed - power-off</strong></td>
</tr>
<tr>
<td><strong>Stall speed - with approach power</strong></td>
</tr>
</tbody>
</table>

**NOTES**

(A) Normal Rated Thrust
(B) Military Rated Thrust
(C) Military + Afterburner Thrust
(D) Area Intercept and Escort Thrust

Mission Time = Time for Climb, Cruise-out, Combat, Cruise-back.
NOTES

SPOTTING: A total of 64 airplanes can be accommodated in a landing spot on the Flight Deck of a CVA-19 class angled deck carrier.

GENERAL PURPOSE FIGHTER - (GAS TURBINE)

WARM-UP, TAKE-OFF, ACCELERATION: 5 minutes at normal rated thrust at sea level.
CLIMB: At military rated thrust to altitude for best cruise.
CRUISE-OUT: At speed for long range and altitude for best cruise.
COMBAT: Fuel allowance at 33,200 ft. for 20 minutes operation; 15 minutes at military rated thrust. 5 minutes at maximum rated thrust (assume combat concluded at initial cruise back altitude).
CRUISE-BACK: At speed for long range at altitude for best cruise.
RESERVE AND LANDING: 30 minutes at speed for maximum endurance at sea level plus 5% of initial fuel load.

COMBAT RADIUS = CLIMB + CRUISE-OUT = CRUISE-BACK

MISSION TIME = CLIMB + CRUISE OUT + COMBAT + CRUISE-BACK

Area Intercept Problem same as General Purpose except for the following differences:

WARM UP, TAKE-OFF & ACCELERATION: 2 minutes at normal rated thrust at sea level.
CLIMB: No change
CRUISE OUT: No change
CRUISE: On course with maximum power to combat ceiling & fire missiles.
COMBAT: Fuel based on 5 minutes of maximum power at combat ceiling.

DISCERN: To optimum cruise altitude
CRUISE BACK: No change
RESERVE: No change

F3H-2M

CONFIDENTIAL 15 MAY 1955