STANDARD AIRCRAFT CHARACTERISTICS

F4H-1 PHANTOM II

McDONNELL

CLEARED FOR OPEN PUBLICATION
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CONNAIRSYS

CLASSIFICATION (CANCELED) [DECLASSIFIED] BY AUTHORITY OF

AIR-9603 ON 4-26-83 O.H. Perrone

(DATE) (SIGNATURE) (RANK)

NAVAL AIR SYSTEMS COMMAND
DEPARTMENT OF THE NAVY

1 FEBRUARY 1983
POWER PLANT
NO. & MODEL... (2) J79-GE-8
MFR. GENERAL ELECTRIC
TYPE.. AXIAL FLOW
LENGTH WITH A/B 207.3" (COLD)
DIAMETER 36.3" (COLD)
AUGMENTATION.. AFTERBURNER

RATINGS
LBS RPM ALT
MAX (A/B) 71000 (100%) 7695 SSL
MIL 10900 (100%) 7695 SSL
NORM 10300 (95%) 7395 SSL
90% NORM 9270 (94%) 7220 SSL
75% NORM 7720 (91.5%) 7025 SSL
IDLE 410 (65.1%) 5000 SSL
SPEC NO. G.E. E-763A

MISSION AND DESCRIPTION
THE F-4B IS A TWIN-JET, TWO-PLACE GENERAL-PURPOSE FIGHTER WHOSE PRIMARY MISSION IS THE DESTRUCTION OF ENEMY AIRCRAFT. IT CARRIES FOUR AIR-TO-AIR MISSILES SEMI-SUBMERGED IN THE FUSELAGE PLUS UP TO FOUR WING PYLON-MOUNTED AIR-TO-AIR MISSILES. AN ALTERNATE MISSION INCLUDES DELIVERY OF A SPECIAL STORE, FOR EXTENDED RANGE MISSIONS, BOTH CENTERLINE AND WING TANKS CAN BE CARRIED. THE AIRPLANE CAN BE REFUELED IN FLIGHT AND ALSO CAN ACT AS A "BUDDY" TANKER.

SPECIAL FEATURES OF THE F-4B ARE THE SWEPT WING AND TAIL, AUTOMATICALLY CONTROLLED COMPRESSOR-RAMP AIR INLETS, LEADING AND TRAILING-EDGE HIGH-LIFT FLAPS WITH BOUNDARY LAYER CONTROL. LATERAL CONTROL IS ACHIEVED BY MEANS OF SPOILERS IN COMBINATION WITH AILERONS. AN ALL-MOVABLE STABILATOR PROVIDES LONGITUDINAL CONTROL.

EQUIPMENT INCLUDES A PRESSURIZED CABIN WITH EJECTION SEATS, LIQUID OXYGEN SYSTEM, ANTI-G AND FULL PRESSURE SUIT PROVISIONS AND AUTOPILOT.

DEVELOPMENT
FIRST FLIGHT MAY 1958
SERVICE USE JUNE 1961

WEIGHTS
LOADING LBS L.E.
EMPTY 27424
BASIC 27694
DESIGN 34500
COMBAT 38018
MAX. T.O. (FIELD) 56000
(MAX. (CAT) 56000
MAX. L.O.G. (FIELD) 38000
(ARREST) 34000

FUEL AND OIL
NO. TANKS TOTAL GALLONAGE
1 FUSELAGE 1347
2 WINGS 660
1 FUSELAGE EXTERNAL (DROP)
2 740 WING EXTERNAL (DROP)

FUEL GRADE JP4 OR JP5
FUEL SPECIFICATIONS (APPLICABLE)
JP4-4 MIL-F-5626
JP5-4 MIL-F-5626

CAPACITY (GAL) 5.15
SPECIES APPLICABLE MIL-F-28200
OR MIL-F-46856

ELECTRONICS
CADC 32-67106
CNI AN/ASQ-19
AFCS AN/ASQ-32
NAVIGATIONAL COMPUTER AN/ASQ-27
ALTIMETER AN/ASQ-22
RADAR CONTROL SYS AN/ASQ-32
INFRARED DETECTING AN/AA-4
SPACE PROVISIONS FOR INSTALLATION OF DATA LINES AN/ASQ-13
*NO NO, NOT YET

1 FEBRUARY 1963
## PERFORMANCE SUMMARY

### TAKE-OFF LOADING CONDITION

<table>
<thead>
<tr>
<th>Type</th>
<th>Aircraft</th>
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<th>Max. Take-Off Weight</th>
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### PERFORMANCE BASIS: CALCULATIONS & FLIGHT TEST

### RANGE AND/OR RADIUS: RANGE AND RADIUS ARE BASED ON ENGINE SPECIFICATION FUEL CONSUMPTION INCREASED 5%

### SPOTTING: A TOTAL OF 57 AIRCRAFT CAN BE ACCOMMODATED IN A LANDING SPOT ON THE FLIGHT AND HANGER DECKS OF A CIVIL CLASS ANGLED DECK CARRIER (FLIGHT 30; HANGAR 27 AIRPLANES)

### NOTES

A. Military Rated Thrust
B. Maximum Rated Thrust
C. Using single engine jacket during landing reserve period increases range approximately 30 nautical miles.
D. J.A.P. Radius - 200 Nautical Miles
E. Subsonic Climb Speed Schedule
F. Supersonic Climb Speed Schedule

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NOTES

AREA INTERCEPTOR

1) WARM-UP, TAKE-OFF, ACCELERATE: 2 min. with normal thrust at sea level.
2) CLIMB: On course to cruise ceiling with military thrust.
3) CIRCLE-OUT: At altitude and speeds for long range at cruise ceiling.
4) CLIMB: On course to combat ceiling with maximum thrust.
5) COMBAT FUEL ALLOWANCE: 5 min. at M of 1.6 with maximum thrust at 50,000 ft. Expend miscellaneous.
6) CIRCLE-OUT: At altitudes and speeds for maximum range.
7) RESERVE: 20 min. at speed for maximum endurance at sea level (2 engines operating) plus 5% of initial fuel load.

INFLIGHT REFUEL MISSIONS

1) WARM-UP, TAKE-OFF, ACCELERATE: 5 min. with normal thrust at sea level.
2) CLIMB: On course to optimum cruise altitude with military thrust.
3) CIRCLE-OUT: At altitudes and speeds for maximum range.
4) DESCEND: to 35,000 ft. for rendezvous with tanker.
5) DISTANCE: 15 min. rendezvous allowance at maximum endurance speeds.
6) REFUEL: From A-3D-2 Tanker at the following distances from base:

1. O.P. Fighter
2. O.P. Fighter
3. O.P. Fighter
4. Store delivery
   MIL-0-5011 Mission Design Mission
5. Area Interceptor
   MIL-0-5011 Mission Design Mission
6. CLIMB: On course to optimum cruise altitude with military thrust.

THE REMAINING STEPS ARE DEFINED FROM STEP (3) OF THE PARTICULAR MISSION.

MISSION TIME: EXCLUDES WARMUP, TAKE-OFF AND RESERVE FUEL
CYCLE TIME: EXCLUDES WARMUP AND TAKE-OFF FUEL

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GENERAL PURPOSE FIGHTER

1) WARM-UP, TAKE-OFF, ACCELERATE: 5 min. with normal thrust at sea level.
2) CLIMB: On course to cruise altitude with military thrust.
3) CRUISE-OUT: At altitude and speeds for maximum range.
4) COMBAT FUEL ALLOWANCE: Accelerate with maximum power at 10,000 ft. from cruise speed to Mach of 1.5 and remain at this speed and altitude for 5 min. at maximum power.
5) CRUISE-BACK: At altitudes and speeds for maximum range.
6) RESERVE: 20 min. at speed for maximum endurance at sea level (2 engines operating) plus 5% of initial fuel load.

COMBAT AIR PATROL

1) WARM-UP, TAKE-OFF, ACCELERATE: Same as G.P. Fighter.
2) CLIMB: Same as G.P. Fighter.
3) CRUISE-OUT: To a point 250 n.m. from base at altitudes and speeds for best range.
4) LOITER: On station at speed and altitude for maximum endurance.
5) COMBAT FUEL ALLOWANCE: Same as G.P. Fighter.
6) CRUISE-BACK: 150 n.m. to base at speed and altitude for best range.
7) RESERVE: Same as G.P. Fighter.

35,000 FT. STORE DELIVERY

1) WARM-UP, TAKE-OFF, ACCELERATE: Same as G.P. Fighter.
2) CLIMB: Same as G.P. Fighter.
3) CRUISE-OUT: Same as G.P. Fighter.
4) DESCEND to 15,000 FT.: No fuel used, no credit for distance gained.
5) STORE DELIVERY AND Evasive ACTION: Fuel for 2 min. at speed midway between maximum speed with military thrust and maximum speed with maximum thrust using fuel flow at maximum thrust.
6) CLIMB: On course to cruise altitude using maximum thrust.
7) CRUISE-BACK: At altitudes and speeds for best range.
8) RESERVE: Same as G.P. Fighter.

MISSION TIME: EXCLUDES WARMUP, TAKE-OFF AND RESERVE FUEL
CYCLE TIME: EXCLUDES WARMUP AND TAKE-OFF FUEL