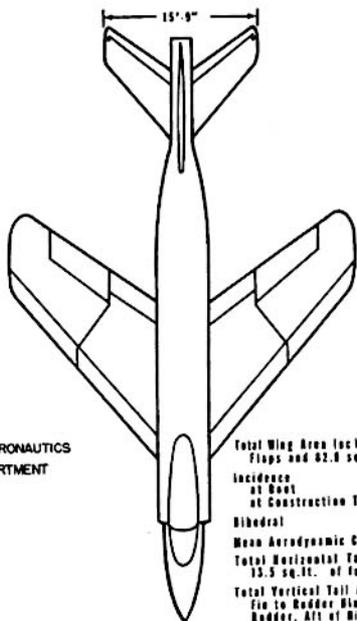


# STANDARD AIRCRAFT CHARACTERISTICS

## F3H-IN "DEMON"

MC DONNELL

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT



Total Wing Area including Ailerons, Flaps and 02.8 sq.ft. of fuselage 442 sq.ft.

Incidence at Root at Construction Tips 20°

Bihedral 0°

Mean Aerodynamic Chord 155.0"

Total Horizontal Tail Area including 15.5 sq.ft. of fuselage 82.5 sq.ft.

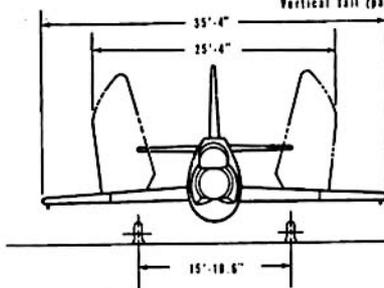
Total Vertical Tail Area Fin to Rudder Wings 45.4 sq.ft. Rudder, All of Wings 34.1 sq.ft. 11.3 sq.ft.

Air Tail Designation Parallel to Center Line Wing Root

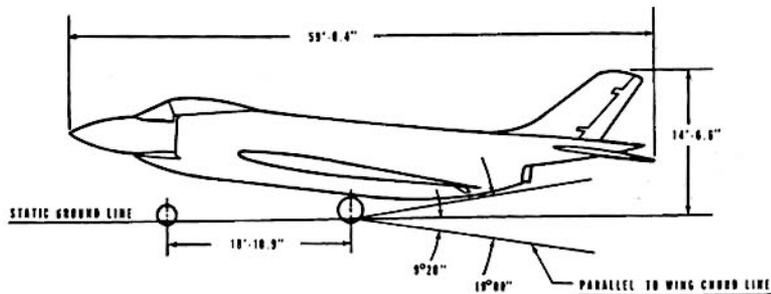
Wing Tip (Construction Tip)

Horizontal Tail

Vertical Tail (parallel to Fuselage Water Line)



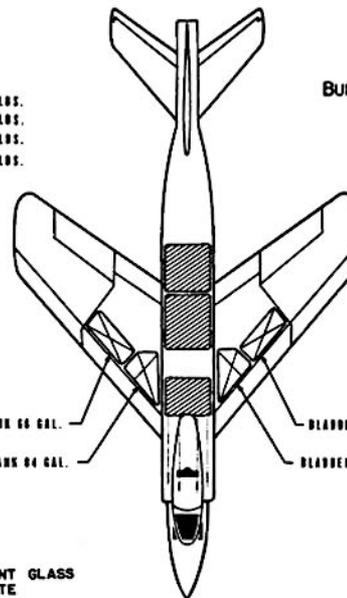
Geometric Aspect Ratio  
Wing 2.82  
Horizontal Tail 3.00  
Vertical Tail 1.12



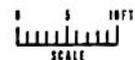
DESCRIPTIVE ARRANGEMENT

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

PROTECTION  
PILOT FWD -79 LBS.  
BACK ARMOR PLATE -50 LBS.  
FLOOR FLAR PLATE -22 LBS.  
SELF-SEALING FUEL CELLS -495 LBS.



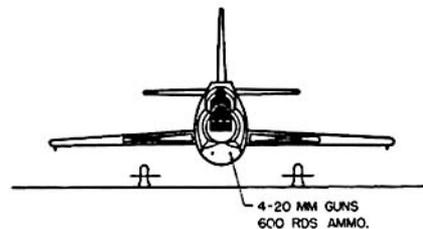
BLADDER TANK 84 GAL.  
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BLADDER TANK 84 GAL.



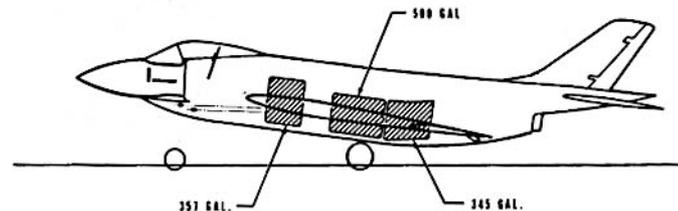
■ BULLET RESISTANT GLASS ARMOR PLATE

▨ SELF-SEALING TANKS

⊠ NON SELF-SEALING TANKS



4-20 MM GUNS  
600 RDS AMMO.



357 GAL.  
345 GAL.

ARMAMENT & TANKAGE

**POWER PLANT**

NO. & MODEL.....(1) J40-WE-22  
 MFR.....Westinghouse  
 TYPE.....Axial-Flow  
 LENGTH(INCL. AB).....284"  
 DIAMETER.....41"  
 AUGMENTATION.....Afterburner

**RATINGS**

LBS @ RPM @ ALT.

MIL + AB	10,900	7,260	S.S.L.
MILITARY	7,250	7,260	S.S.L.
NORMAL	6,500	7,260	S.S.L.

Spec. No. WAGT-40E2-4D

**ORDNANCE**GUNS

No.	Size	Location	Rds.
4	20mm	Nose	600

FIRE CONTROL

ACS AERO 19A

BOMBS AND ROCKETS

Racks	No.	Location	Max. Cap.
Bomb	2	Fuselage	2000#
14A	6	Wing	500#

Launcher

Max. Bomb Capacity..4000 lbs.

SPECIAL ORDNANCE

Special Kits 1:3 Basis  
 (IBCC Action)

1 Mk. 51-11 Bomb Racks

1 Aero-1A Bomb Rack Adaptor

1 Aero - 18A Labs.

1 Aero 7A Racks Bomb(ejector)

Max. Load Cap.....4000 lbs.

**MISSION AND DESCRIPTION**

The primary mission of the F3H-1N is the destruction of enemy aircraft. The airplane is a single place, swept-wing, jet propelled fighter designed for land or carrier operations.

Equipment includes 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.

Additional lift for landing and take-off is provided by power actuated leading edge slats and trailing edge slotted flaps. The airplane features fuselage speed brakes and power actuated primary controls with artificial fuel.

**DEVELOPMENT**

Mock up.....July 1951

First flight..December 1953

Service use.....April 1955

**DIMENSIONS**WING

AREA.....442 sq.ft.  
 SFAN.....35' -4"  
 M. A. C.....155"  
 SWEEPBACK(@ C/4).....45°  
 LENGTH.....59' -0"  
 HEIGHT.....14' -7"  
 TREAD.....15' -11"

**WEIGHTS**

LOADINGS	LBS	L.F.
EMPTY.....	18,691.....	
BASIC.....	19,360.....	
DESIGN.....	26,000	7.5.
COMBAT.....	26,085..	7.5.
MAX.T.O. (Field) ..	34,000.....	
(Cat) ..	30,000.....	
MAX.LAND(Field) ..	27,000.....	
(Arrest) ..	23,500.....	

All weights are calculated.

**FUEL AND OIL**

No. Tanks	Tot. Gal.	Location
3	1,202	Fuselage
4	304	Wing

FUEL GRADE.....JF-4  
 FUEL SPEC...MIL-F-5624

**OIL**

CAFACTY (Gals).....15  
 GRADE.....1010  
 SPEC.....MIL-O-6081

**ELECTRONICS**

UHF TRANSMITTER....AN/ARC-27A  
 (with alt. prov. for AN/ARC-1)  
 RADAR ALTIMETER.....AN/AFN-22  
 UHF-ADF.....AN/ARA-25  
 RADIO COMPASS.....AN/ARN-6  
 TACAN.....AN/ARN-21  
 (F. S. I. Repl. for AN/ARN-6)  
 RADAR (Provisions) ..AN/APQ-50  
 IFF.....AN/APX-6  
 RADAR.....AN/AFG-30  
 CODER.....AN/APA-89

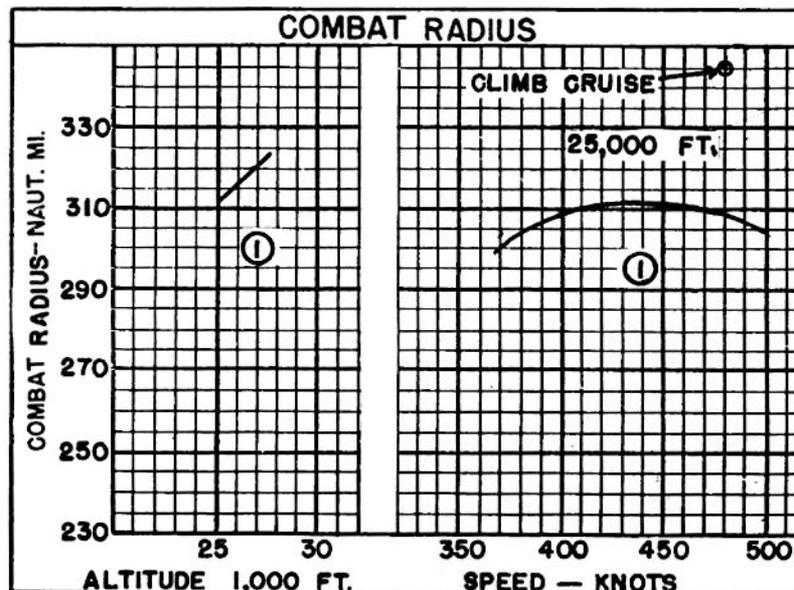
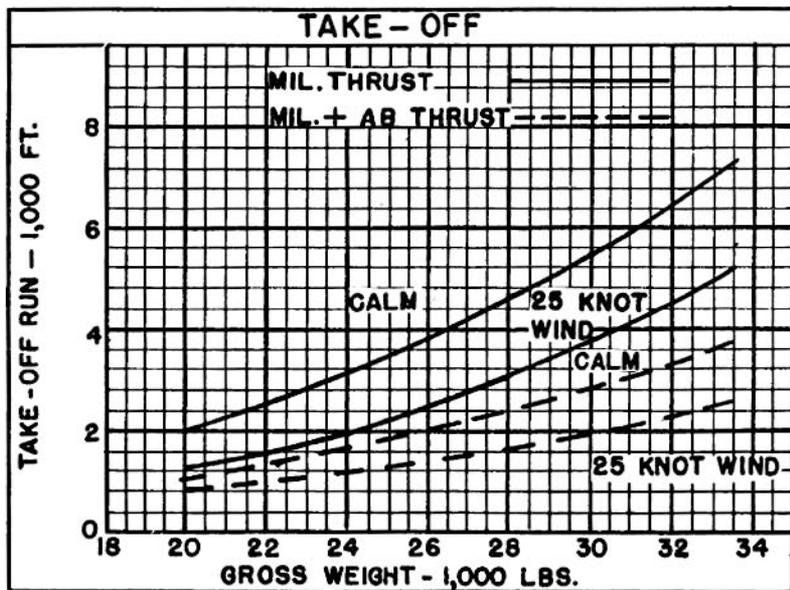
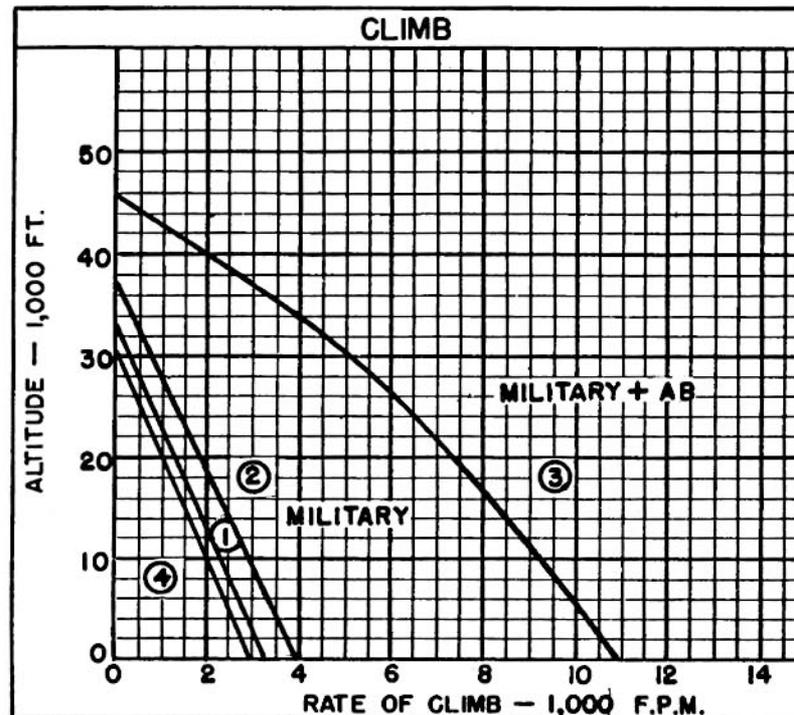
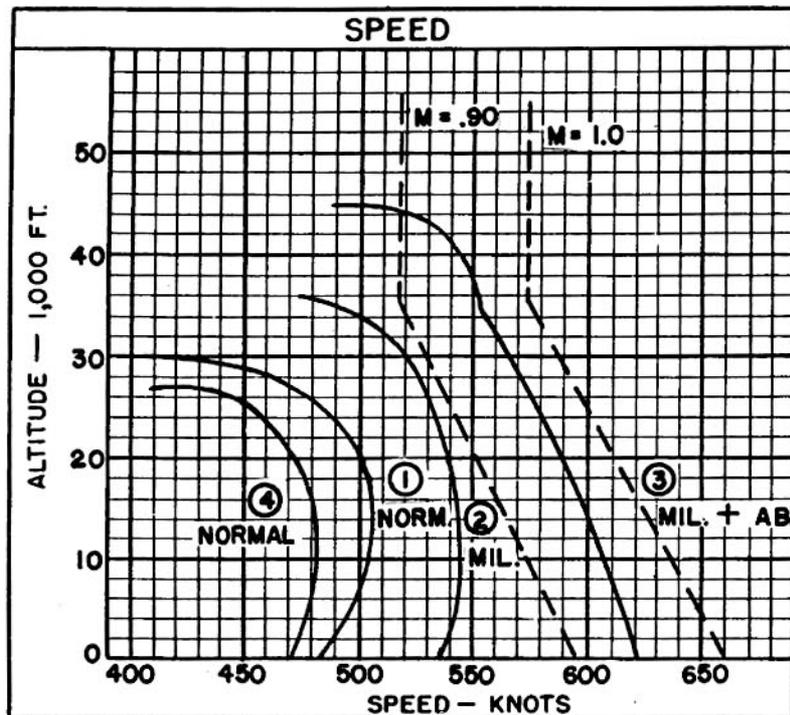
## PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION	(1) FIGHTER Full Internal Fuel	(4) FIGHTER Full Internal Fuel-6-500# Bomb	
TAKE-OFF WEIGHT	lb.	29,998	33,099
Fuel	lb.	9,789	9,789
Payload	lb.	-	3,000
Wing loading	lb./sq.ft.	67.9	74.9
Stall speed - power-off	kn.	112.1	117.5
Take-off run at S.L. - calm (B)/(C)	ft.	5,500/2,800	-
Take-off run at S.L. 25 kn. wind	B/ft.	3,800/1,900	-
Take-off to clear 50 ft. - calm	ft.	-	-
Max. speed/altitude (A)	kn./ft.	506/14,000	482/12,000
Rate of climb at S.L. (B)	fpm	3,250	2,900
Time: S.L. to 20,000 ft. (B)	min.	8.7	-
Time: S.L. to 25,000 ft. (B)	min.	12.8	-
Service ceiling (100 fpm) (B)	ft.	32,000	29,500
Combat range	n.mi.	980	-
Average cruising speed	kn.	480	-
Cruising altitude(s)	ft.	27,500/33,800	-
Combat radius	n.mi.	345	-
Average cruising speed	kn.	481	-
Mission time	hrs.	1.8	-
COMBAT LOADING CONDITION	(2) CLEAN	(3) CLEAN	
COMBAT WEIGHT	lb.	26,085	26,085
Engine power		Military	Military +AB
Fuel	lb.	5,870	5,870
Combat speed/combat altitude	kn./ft.	523/29,500	566/29,500
Rate of climb/combat altitude	fpm/ft.	800/29,500	5,150/29,500
Combat ceiling (500 fpm)	ft.	32,500	44,000
Rate of climb at S.L.	fpm	3,950	10,900
Max. speed at S.L.	kn.	535	620
Max. speed/altitude	kn./ft.	545/12,000	620/S.L.
LANDING WEIGHT	lb.	21,901	
Fuel	lb.	1,692	
Stall speed - power-off	kn.	95.8	120/90 = 1.25
Stall speed - with approach power	kn.	92.2	

- (A) Normal Rated Thrust
- (B) Military Rated Thrust
- (C) Military Plus Afterburner Rated Thrust
- (D) Performance basis: Calculations.
- (E) Range and radius are based on engine specification fuel consumption data increased by 5%.
- (F) Mission time includes time to climb, cruise-out, combat, cruise-back.

## NOTES

Standard Aircraft Characteristics NAVAER 1335E (REV. 2-50)



○ LOADING CONDITION COLUMN NUMBER

# NOTES

SPOTTING: A total of 64 airplanes (wings folded) can be accommodated in a landing spot on the flight and hangar decks of a CVA-19 class canted deck carrier.

## GENERAL PURPOSE FIGHTER

WARM-UP, TAKE-OFF, ACCELERATION: 5 minutes at normal rated thrust at sea level.

CLIMB: To altitude for best cruise at military rated thrust.

CRUISE-OUT: At speed for long range at altitude for best cruise.

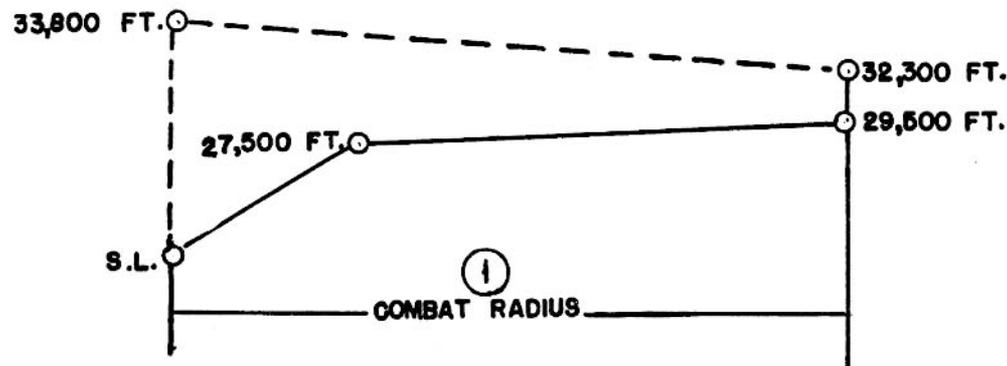
COMBAT: Fuel allowance at 29,500 feet for 20 minutes operation: 15 minutes at military rated thrust and 5 minutes at maximum rated thrust. (Assume combat concluded at end of initial cruise-back altitude).

CRUISE-BACK: At speed for long range at altitude for best cruise.

RESERVE: 20 minutes at speed for maximum endurance at sea level plus 5% of initial fuel load.

$$\text{COMBAT RADIUS} = \text{CLIMB} + \text{CRUISE OUT} + \text{CRUISE BACK}$$

$$\text{MISSION TIME} = \text{CLIMB} + \text{CRUISE-OUT} + \text{COMBAT} + \text{CRUISE-BACK}$$



LOADING CONDITION COLUMN NUMBER