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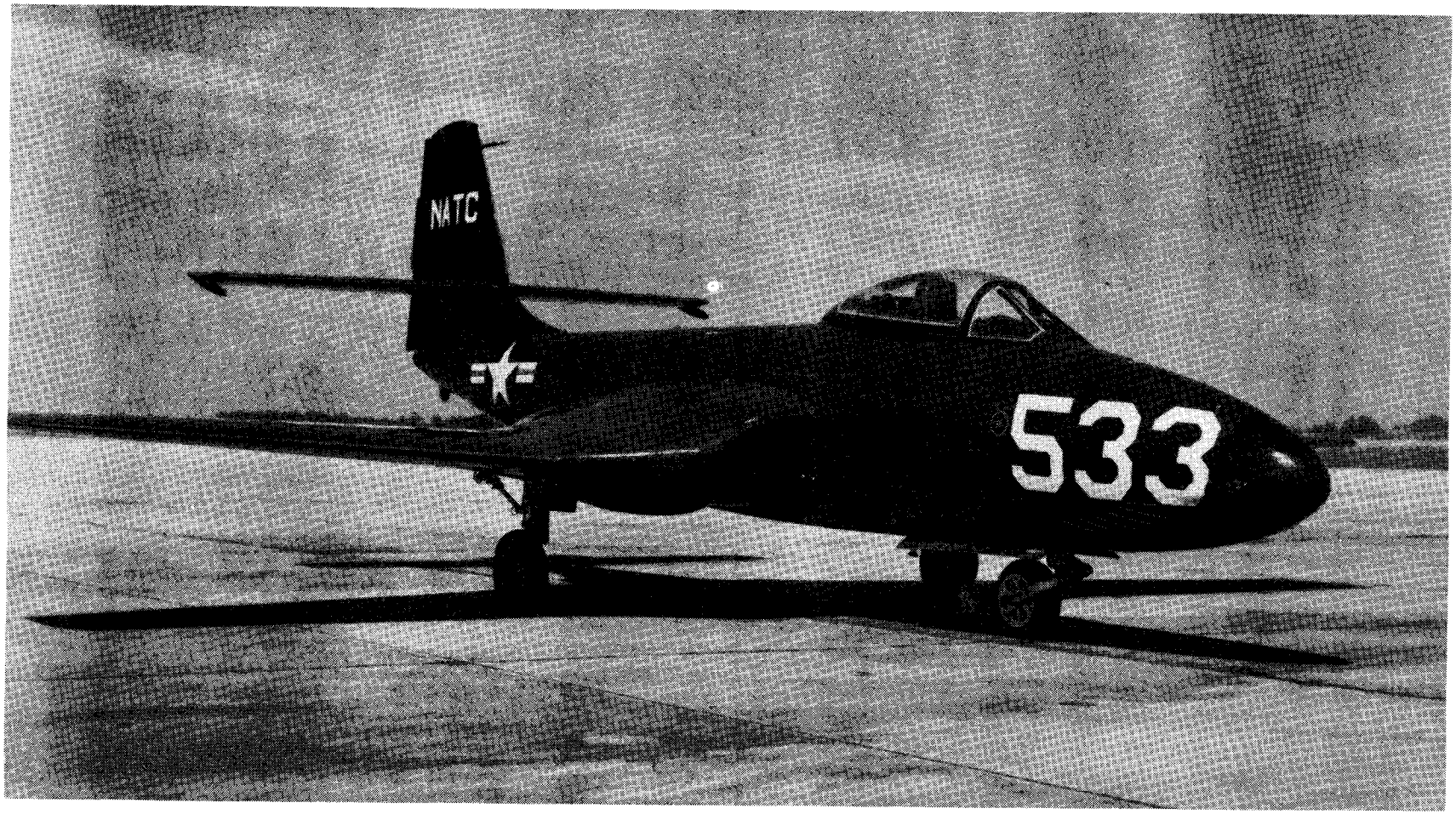

STANDARD AIRCRAFT CHARACTERISTICS

F2H-2 "BANSHEE"

McDONNELL

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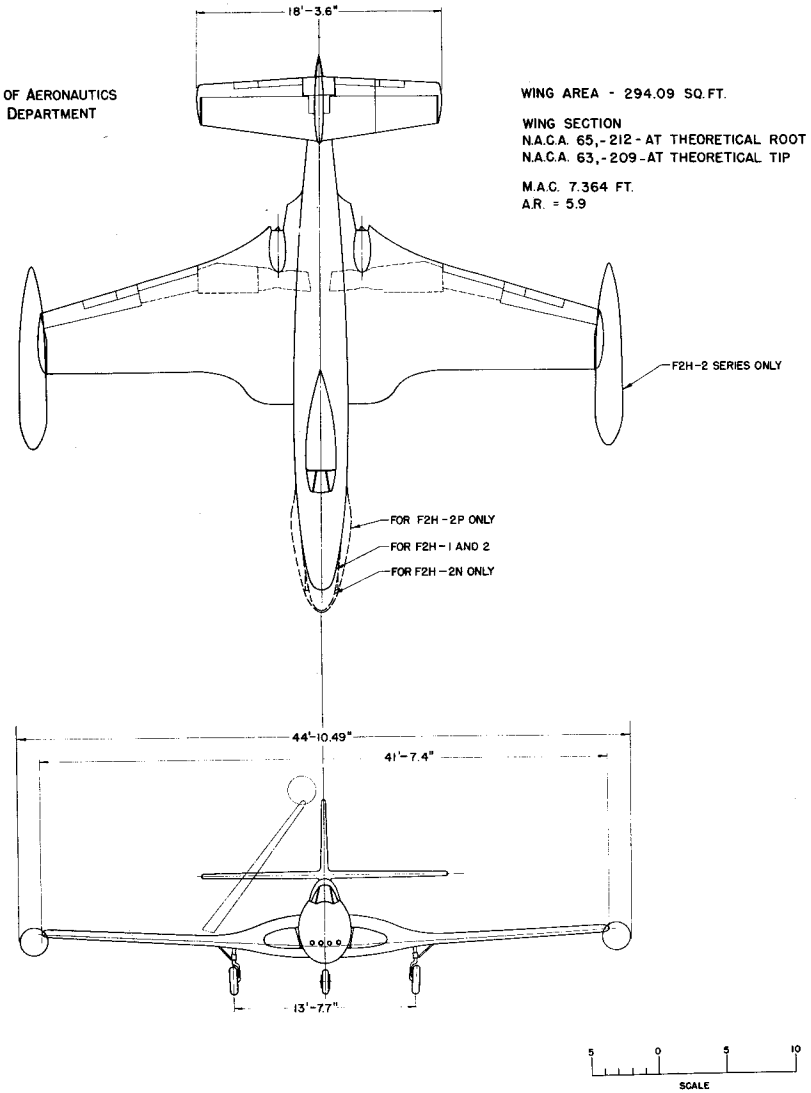
Standard Aircraft Characteristics NAVAER 1335A (REV. 1-49)

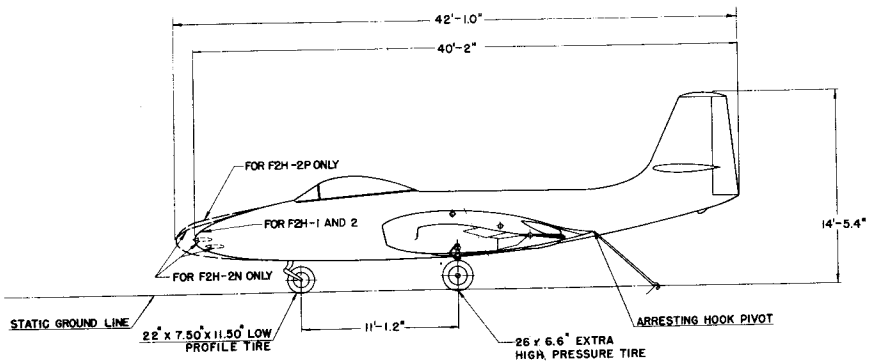
BUREAU OF AERONAUTICS
NAVY DEPARTMENT



WING AREA - 294.09 SQ.FT.

WING SECTION
N.A.C.A. 65,-212 - AT THEORETICAL ROOT
N.A.C.A. 63,-209 - AT THEORETICAL TIP

M.A.C. 7.364 FT.
A.R. = 5.9



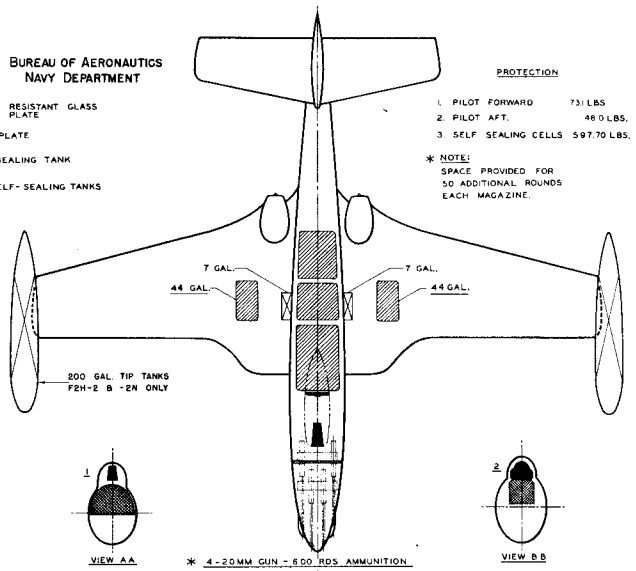
BUREAU OF AERONAUTICS
NAVY DEPARTMENT

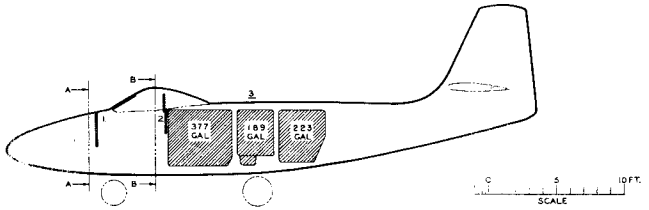
- BULLET RESISTANT GLASS ARMOR PLATE
- FLAK PLATE
- SELF SEALING TANK
- NON SELF-SEALING TANKS

PROTECTION

1. PILOT FORWARD 731 LBS
2. PILOT AFT. 480 LBS.
3. SELF SEALING CELLS 597.70 LBS.

* NOTE:
SPACE PROVIDED FOR 50 ADDITIONAL ROUNDS EACH MAGAZINE.





ARMAMENT & TANKS

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POWER PLANT

NO. & MODEL....(2) J34-WE-34
MFR.....Westinghouse
TYPE.....11 Stg. Axial Compr.
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
NORM.	2,650	11,800	S.S.L.

SPEC. NO. WAGT-24C4D-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 retractable, tricycle landing gear, folding outer panels, an arresting hook with cable expelling mechanism, and conventional catapult equipment.

Stressed metal skin construction is employed throughout with all surfaces being of the full cantilever type. The control systems are 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.

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY	11,146	....
BASIC	11,859	....
DESIGN	16,400	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	Fuse,S.S.
88	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-6081

ORDNANCE

GUNS

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

Fire Control

AFCS.....Mk. 6 Mod. 0

Bombs and Rockets

Type	Size	Location	No.
Bombs	100#	Wings	8
Bombs	250#	Wings	4
Bombs	500#	Wings	2
HVAR	5"	Wings	8
HPAG	5"	Wings	8

8 - Aero 14A Combination Bomb Racks and Rocket Launchers

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

DIMENSIONS

WING AREA.....294 sq. ft.
SPAN.....44' - 10"
LENGTH.....40' - 2"
HEIGHT.....14' - 6"
TREAD.....13' - 8"
M.A.C.....7' - 4"

ELECTRONICS

RADIO VHF.....AN/ARC-1 or 1A
VHF TRANS. REC.....AN/ARC-27
(P.S.I.-Repl.for AN/ARC-1)
UHF D.F.....AN/ARA-25
(Planned Service Install.)
RADIO COMPASS.....AN/ARN-6
HOMING.....AN/ARR-2A
RADIO HOMING.....AN/ARN-21
(P.S.I.-Repl.for AN/ARR-2A and AN/ARN-6)
RADIO ALTIMETER.....AN/APN-1
IFF.....AN/APX-6
RADAR.....AN/APG-30

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PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) FIGHTER Full Internal	(3) FIGHTER 2-200 Gal. Tanks	(5) GRD. SUPPORT 2-200Gal.Tanks 8-5" HVAR Rock.	(6) GRD. SUPPORT 2-200Gal.Tanks 4-5" HVAR Rock. 4-250# Bombs
TAKE-OFF WEIGHT	lb.	17,742	20,612	21,852	22,312
Fuel (Fixed/Drop)	lb.	5,262/-	5,262/2,400	5,262/2,400	5,262/2,400
Payload (Ammunition/Rockets,Bombs)	lb.	372	372	372/1,120	372/1,580
Wing loading	lb./sq.ft.	60.3	70.2-	74.4	75.9
Stall speed - power-off	kn.	105	111	115	116
Take-off run at S.L. - calm	ft.	1,680	2,350	2,700	2,880
Take-off run at S.L. 25 kn. wind	ft.	1,020	1,480	1,740	1,860
Take-off to clear 50 ft. - calm	ft.	--	--	--	--
Max. speed/altitude (A)	kn./ft.	478/S.L.	462/10,000	417/30,000	394/33,000
Rate of climb at S.L.	fpm	(B) 6,300	(A) 3,910	(A) 3,300	(A) 2,900
Time: S.L. to20,000 ft.	min.	(B) 3.9	(A) 6.5	(A) 8.3	(A) 10.6
Time: S.L. to30,000 ft.	min.	(B) 6.7	(A) 11.5	(A) 16.8	(A) 24.4
Service ceiling (100 fpm)	ft.	(B) 49,100	(A) 44,800	(A) 35,200	(A) 32,500
Combat range	n.mi.	790	1,280	855	775
Average cruising speed	kn.	430	435	395	390
Cruising altitude(s)	ft.	40,000	40,000	30,000/35,000	30,000/35,000
Combat radius	n.mi.	295	540	290	265
Average cruising speed	kn.	430	435	405	400
COMBAT LOADING CONDITION		(2) CLEAN	(4) CLEAN		
COMBAT WEIGHT	lb.	15,640	17,742		
Engine power		Military	Military		
Fuel	lb.	3,157	5,262		
Combat speed/combat altitude	kn./ft.	462/35,000	458/35,000		
Rate of climb/combat altitude	fpm/ft.	3,200/35,000	2,500/35,000		
Combat ceiling (500 fpm)	ft.	49,500	47,500		
Rate of climb at S.L.	fpm	7,300	6,300		
Max. speed at S.L.	kn.	506	504		
Max. speed/altitude	kn./ft.	506/S.L.	504/S.L.		
LANDING WEIGHT	lb.	13,683	13,871		
Fuel	lb.	1,203	1,325		
Stall speed - power-off	kn.	91	91		
Stall speed - with approach power	kn.	86	86		

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

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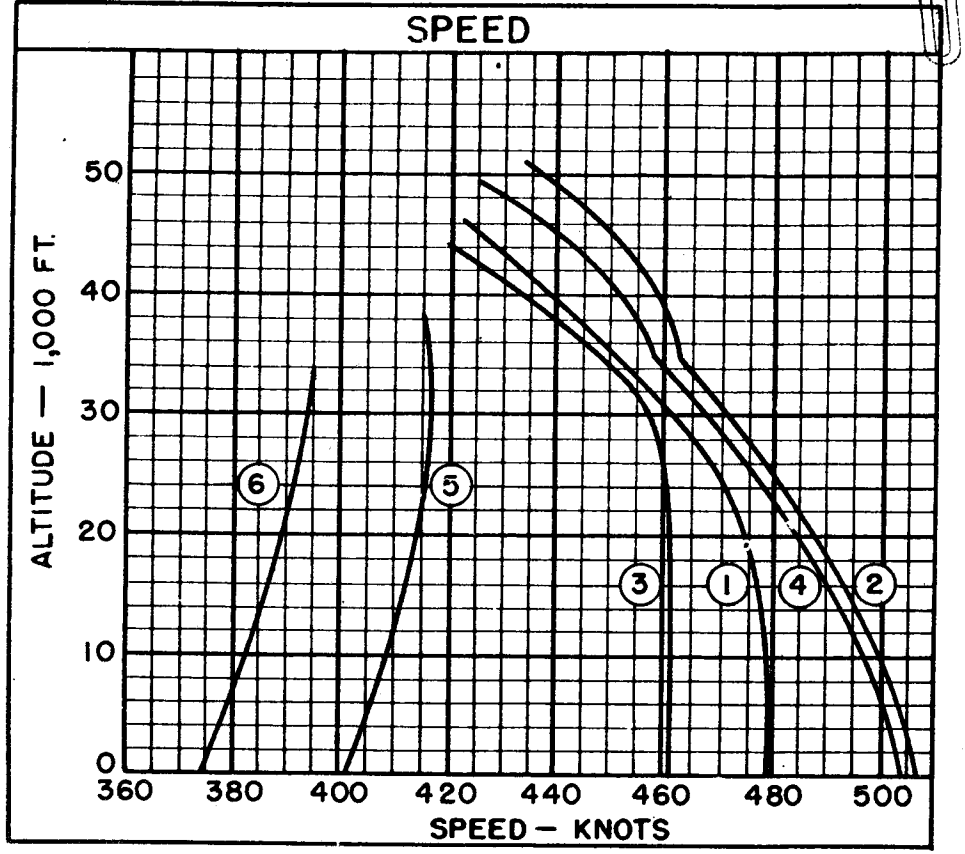
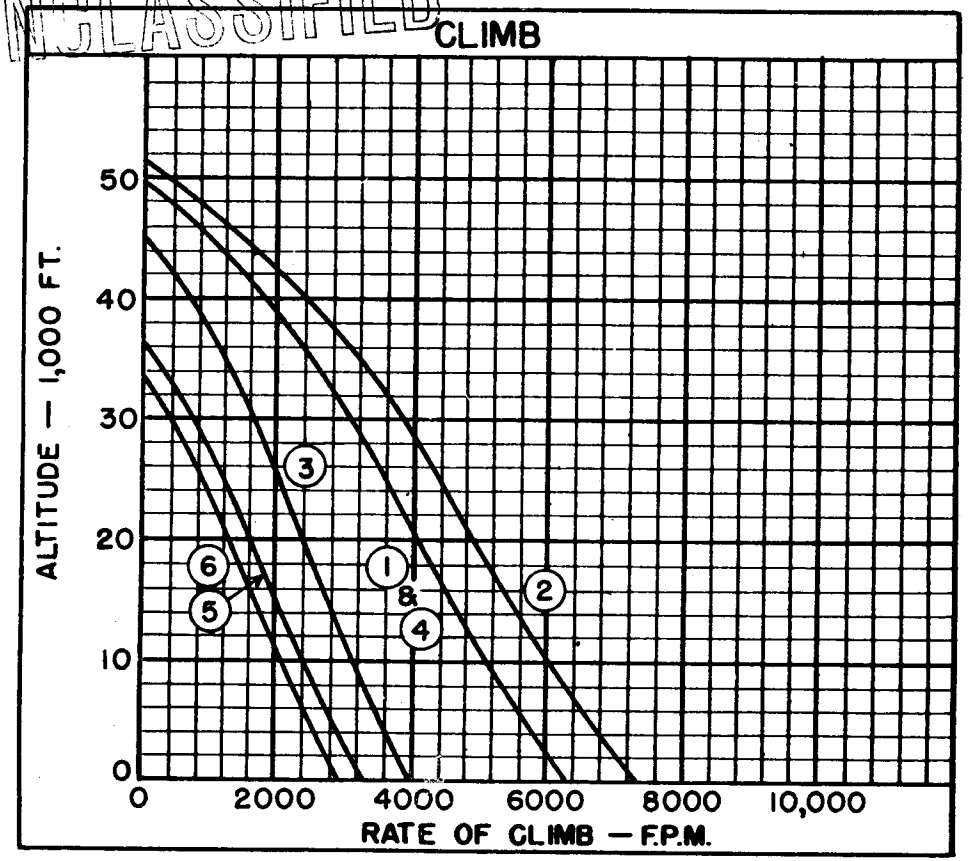
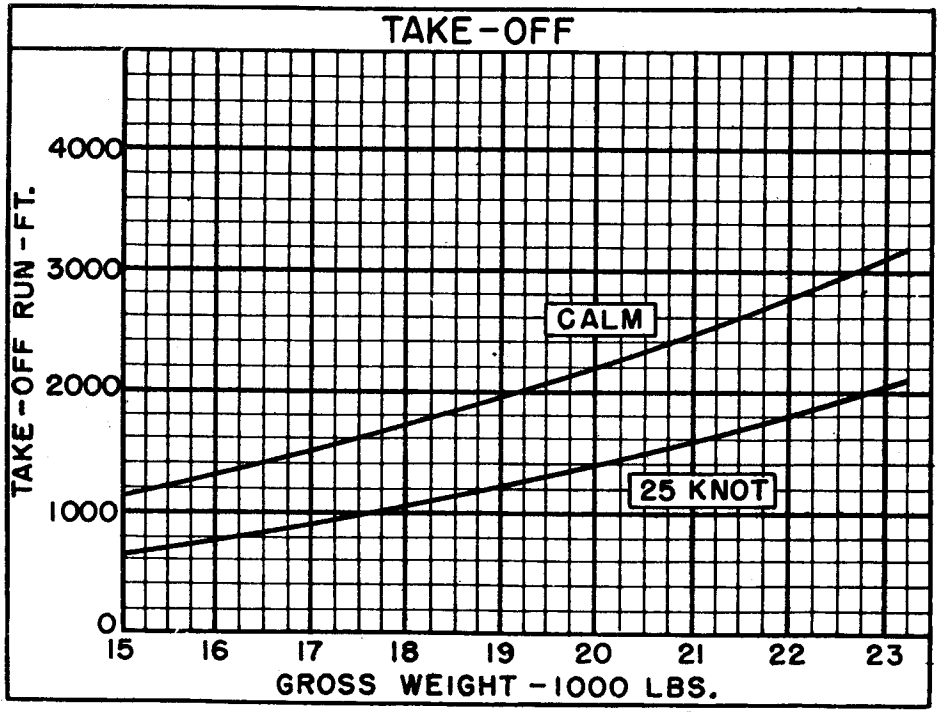
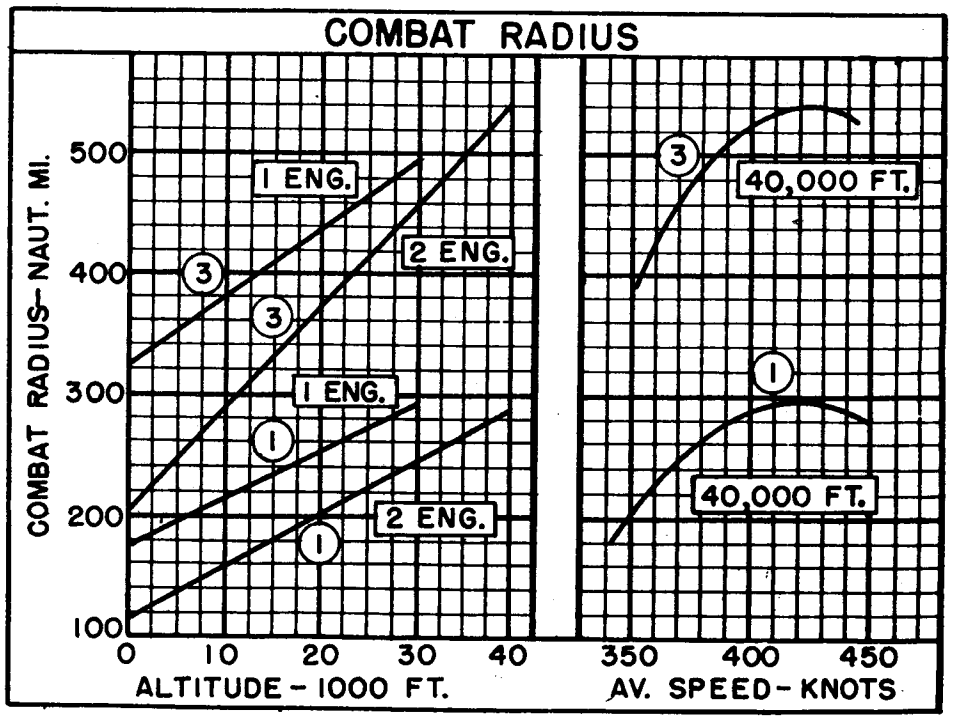








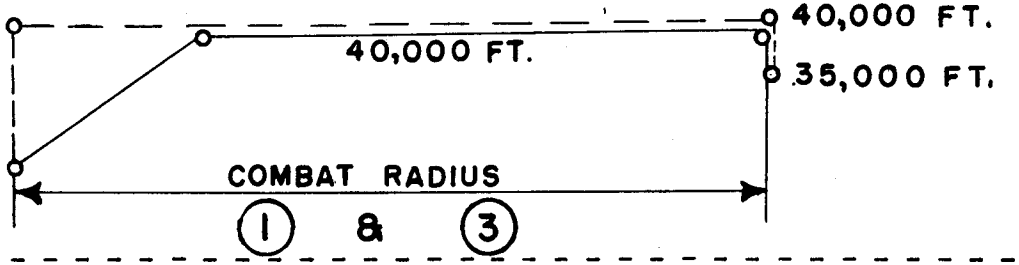
Standard Aircraft Characteristics NAVAER 1335E (REV. 2-50)

NOTES

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

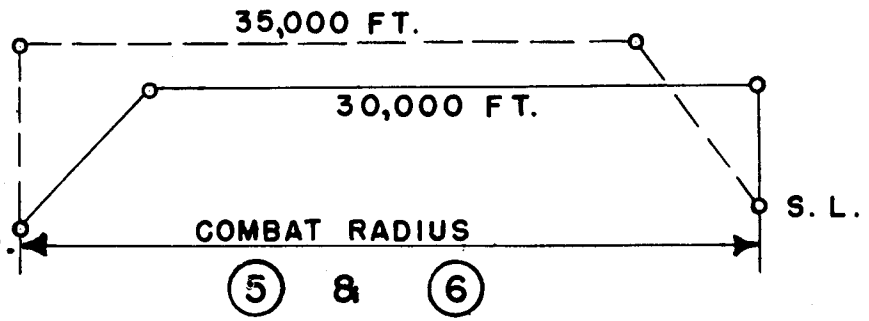
WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.
CLIMB: To 40,000 feet at military power.
CRUISE-OUT: At V for long range at 40,000 feet. External tanks dropped when empty.
DESCEND: To 35,000 feet. (No fuel used, no distance gained.)
COMBAT: At 35,000 feet for 20 minutes at military power. (Assume 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.

COMBAT RADIUS = CLIMB / CRUISE-OUT = 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.

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NOTES

F2H-2N ELECTRONICS

VHF RELAY STSTEM.....AN/ARC-28
VHF TRANS. - REC.....AN/ARC-27
(P.S.I. Repl. for AN/ARC-28)
UHF D. F.....AN/ARA-25
(Planned Service Installation)
RADIO COMPASS.....AN/ARN-6
RADIO HOMING.....AN/ARN-21
(P.S.I. Repl. for AN/ARR-2A & AN/ARN-6)
RADIO ALTIMETER.....AN/APN-1
HOMING.....AN/ARR-2A
IFF.....AN/APX-6
IFF (I-R UNIT).....AN/APX-17
RADAR.....AN/APS-19A
or RADAR.....AN/APG-36A

F2H-2N ORDNANCE

GUNS

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

FIRE CONTROL

Illuminated Sight....Mk. 20 Mod. 0

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

F2H-2P CAMERAS

5 - K-17 Body Camera
1 - K-18 Body Camera
1 - AN-6A Gun Camera
5 - 6" K-17 Camera Cone
3 - 12" K-17 Camera Cone
1 - 24" K-17 Camera Cone
1 - 24" K-18 Camera Cone
1 - 36" K-18 Camera Cone
1 - S7S Strip Camera
1 - 100mm S7S Camera Cone
1 - 7" S7S 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.

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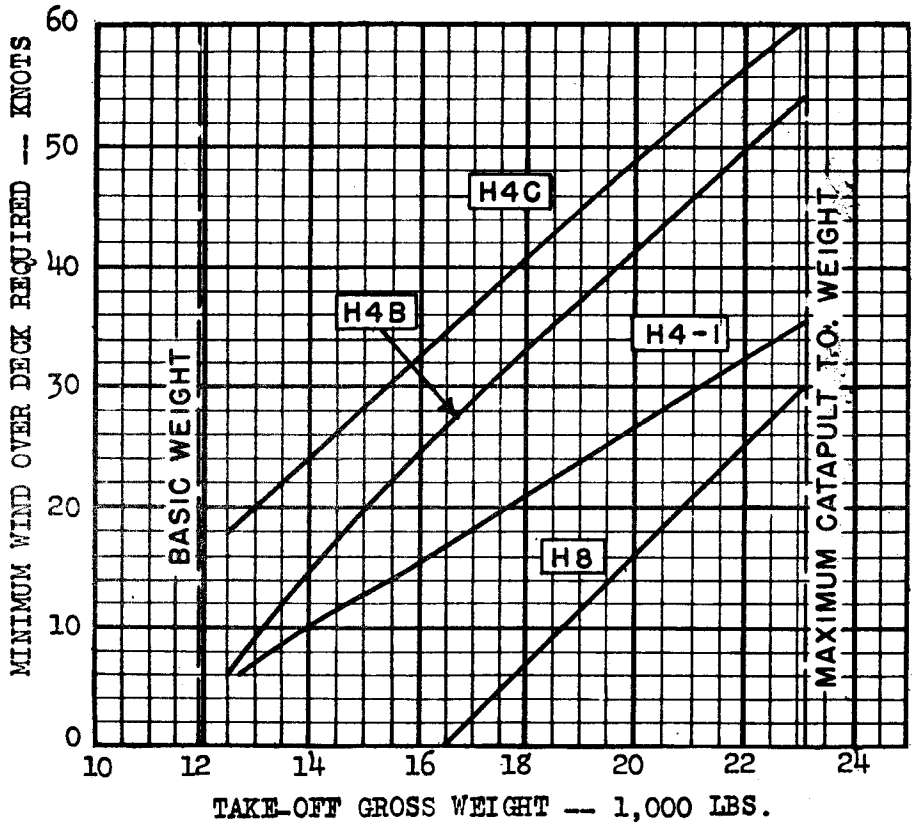
CARRIER SUITABILITY

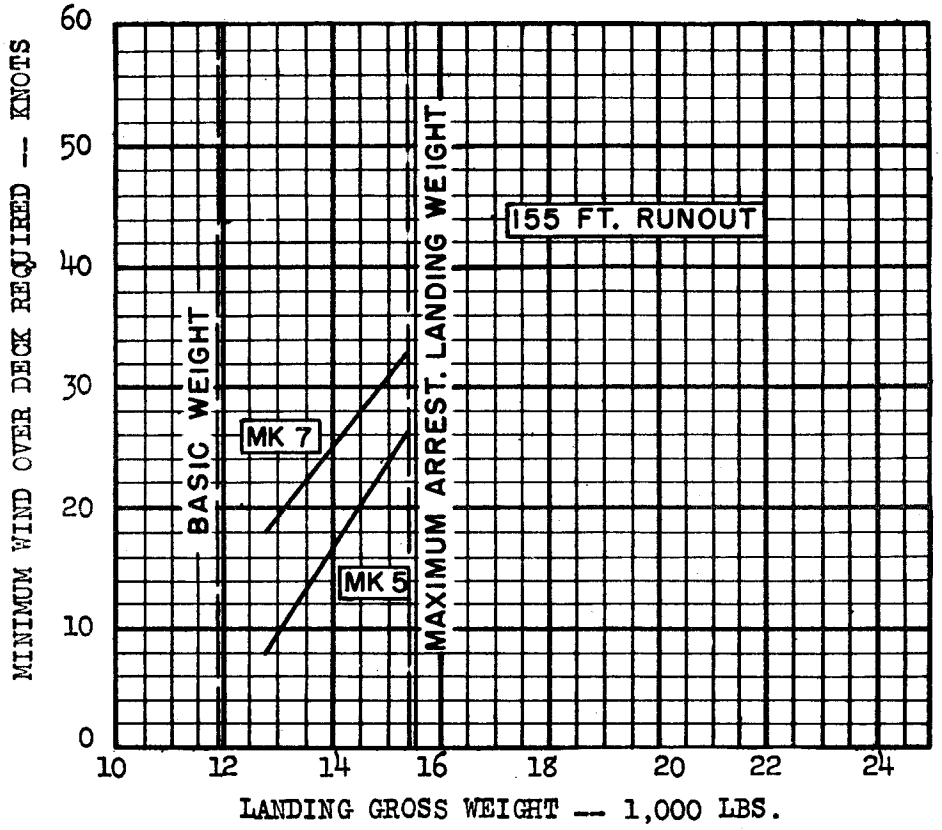
MINIMUM WIND OVER DECK REQUIRED FOR CATAPULTING
VS. GROSS WEIGHT

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 NATC Flight Test.