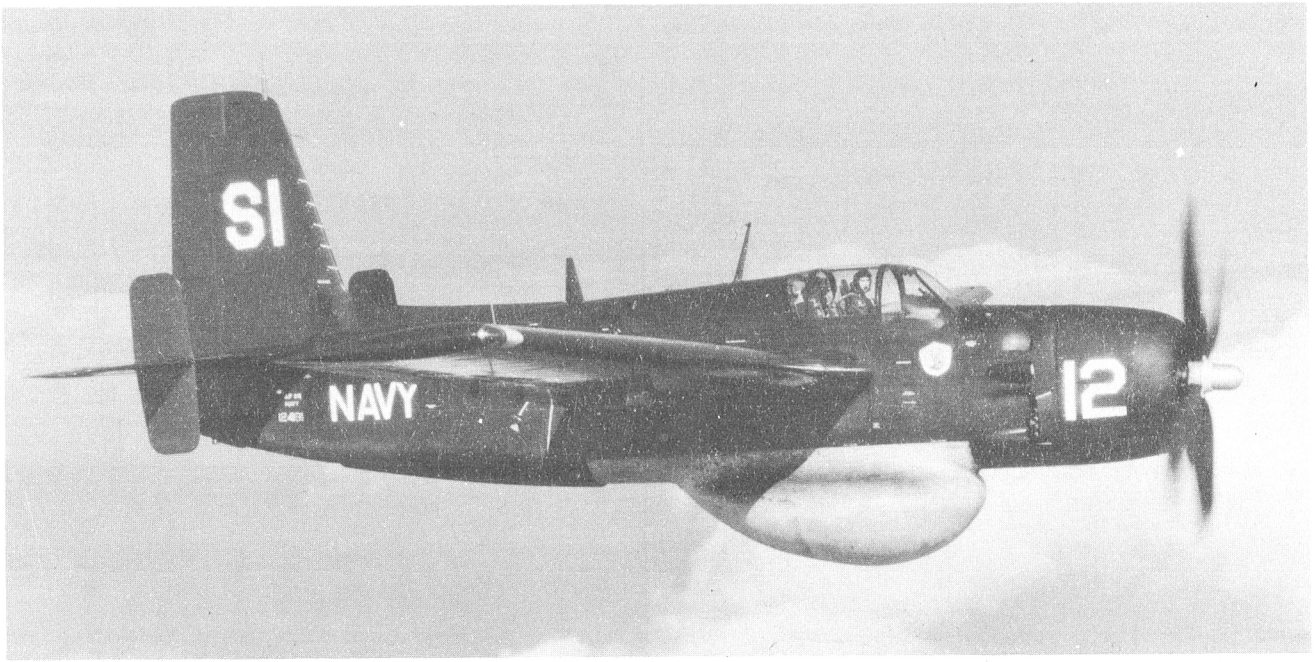


STANDARD AIRCRAFT CHARACTERISTICS

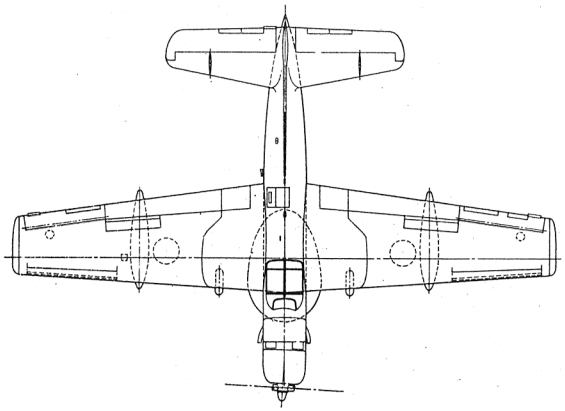
AF-2W "GUARDIAN"

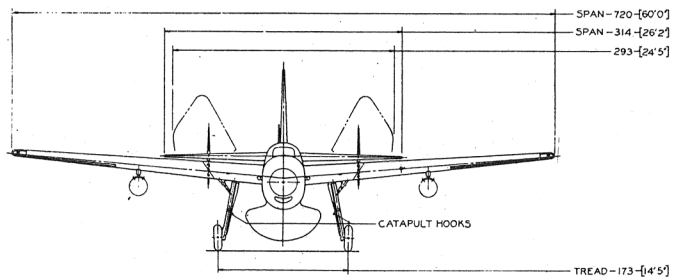
GRUMMAN

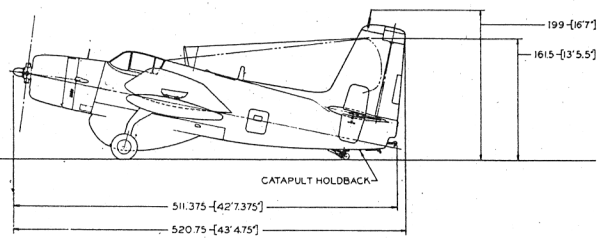
Standard Aircraft Characteristics NAVAER 1335A (REV. 1-49)

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

WING AREA—548.7
WING SECTION-
N.A.C.A. 23018-23012
M.A.C.- 115.07
ASPECT RATIO- 6.6







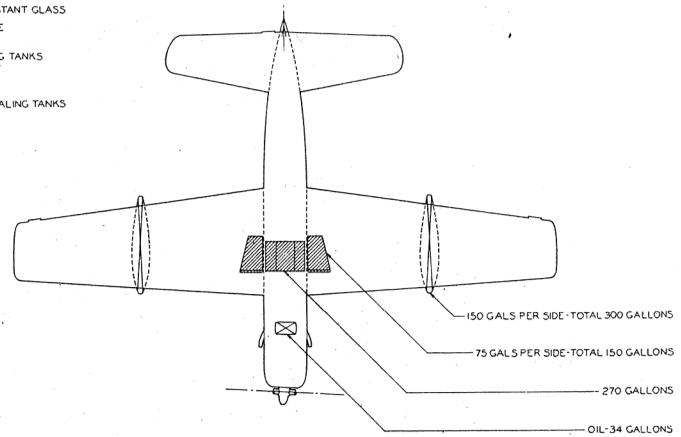
DESCRIPTIVE ARRANGEMENT

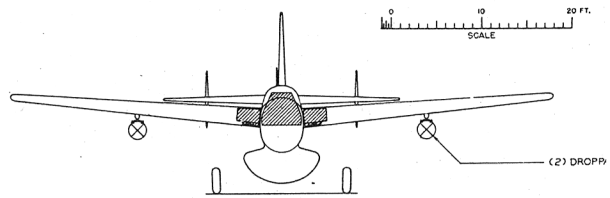
BUREAU OF AERONAUTICS
NAVY DEPARTMENT

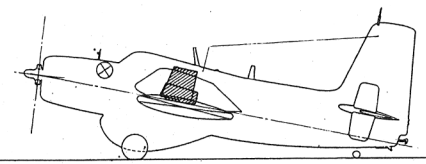
BULLET RESISTANT GLASS ARMOR PLATE

SELF-SEALING TANKS

NON SELF-SEALING TANKS







ARMAMENT & TANKAGE

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

POWER PLANT

NO. & MODEL.....(1) R-2800-48
MFR.....Pratt & Whitney
SUPERCH.....1 Stage, 1 Speed
PROP. GEAR RATIO.....0.45
PROP. DES. NO.....6557A-6
NO. BL./DIA.....4/13'-2"

RATINGS

	Bhp	@ Rpm	@ Alt.
T. O.	2,300	2,800	S. L.
MIL.	2,300	2,800	3,500'
NORM.	1,900	2,600	7,000'

SPEC. NO. N-8132-C

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ORDNANCE

None

CAMERAS

Recon. Camera.....K-25

MISSION AND DESCRIPTION

The AF-2W airplane's primary mission is that of radar search for submarines. This airplane, after detection of underwater craft, directs its companion airplane, the model AF-2S (attack version) onto the target to launch the attack.

The airplane is a 4 place land plane for operation ashore or aboard aircraft carriers, with or without the aid of a catapult.

The airplane is conventional in design and structure, with an all-metal 2 spar wing and a semi-monocoque fuselage. Landing gear, slotted flaps, wing folding and pilot's canopy are hydraulically operated. Ailerons are of sealed balance type with spring tabs and one trim tab. Rudder has a combination trim and 4 to 1 ratio balance tab. Elevators are interconnected; one is equipped with a spring tab and the other with a trim tab. Power plant installation is conventional with steel tube mount.

DIMENSIONS

WING AREA.....549 sq. ft.
SPAN.....60' - 0"
LENGTH.....43' - 5"
HEIGHT.....16' - 7"
TREAD.....14' - 5"
M.A.C.....9' - 7"
PROP. CLEAR.....9"

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY	15,853	
BASIC	16,037	
DESIGN	19,200	5.0
COMBAT	18,629	5.0
MAX.T.O. (Field)	21,802*	4.4
MAX.LAND.(Field)	21,500	

All weights are actual.

*Maximum anticipated loading.

FUEL AND OIL

Gals.	No. Tanks	Location
270	1	Fuse., S.S.
150	2	Wing, S.S.
300	2	Wing, Drop

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

OIL

CAPACITY (Gals.).....34
GRADE.....1100
SPEC.....MIL-O-6082

ELECTRONICS

VHF COMMUNICATION...AN/ARC-28
UHF COMM.....(DUAL) AN/ARC-27
(P.S.I.,Repl. for AN/ARC-28)
MHF LIAISON.....AN/ARC-2
(Alternate Service Install. in lieu of 1 ARC-1 or ARC-27)
INTERPHONE....AN/AIC-4 or -4A
HOMING.....AN/ARR-2A
HOMING.....AN/ARN-21
(P.S.I.,Repl. for AN/ARR-2A)
RADAR ALT.....AN/APN-1 or -22
RANGE RECEIVER....R-23A/ARC-5
Continued on NOTES sheet

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) SEARCH	(3) SEARCH 2-150 Gal. Tank			
TAKE-OFF WEIGHT	lb.	19,637	21,302			
Fuel (Fixed/Drop)	lb.	2,520/-	2,520/1,300			
Payload	lb.	--	--			
Wing loading	lb./sq.ft.	35.8	39.8			
Stall speed - power-off	kn.	76.8	81			
Take-off run at S.L. - calm	ft.	989	1,245			
Take-off run at S.L. 17.5kn. wind	ft.	513	688			
Take-off to clear 50 ft. - calm	ft.	—	--			
Max. speed/altitude (1)	kn./ft.	230/9,200	221/9,200			
Rate of climb at S.L. (1)	fpm	1,565	1,320			
Time: S.L. to 10,000 ft. (1)	min.	6.9	8.3			
Time: S.L. to 20,000 ft. (1)	min.	23.8	37.5			
Service ceiling (100 fpm) (1)	ft.	21,200	19,600			
Combat range	n.mi.	750	1,315			
Average cruising speed	kn.	144	145			
Cruising altitude(s)	ft.	1,500	1,500			
Combat radius	n.mi.	300	525			
Average cruising speed	kn.	144	145			
COMBAT LOADING CONDITION		(2) COMBAT				
COMBAT WEIGHT	lb.	18,629				
Engine power		Military				
Fuel	lb.	1,512				
Combat speed/combat altitude	kn./ft.	232/1,500				
Rate of climb/combat altitude	fpm/ft.	2,180/1,500				
Combat ceiling (500 fpm)	ft.	18,900				
Rate of climb at S.L.	fpm	2,200				
Max. speed at S.L.	kn.	228				
Max. speed/altitude	kn./ft.	237/4,000				
LANDING WEIGHT	lb.	17,368				
Fuel	lb.	251				
Stall speed - power-off	kn.	71.9				
Stall speed - with approach power	kn.	67.2				

NOTES

(1) Normal Power

Performance is based on NATC flight test of the AF-2W airplane.

Range and radius are based on flight test fuel consumption data increased by 5%.

All conditions include APS-20C radome beneath fuselage.

All climbs are made with rich mixture for satisfactory engine cooling.

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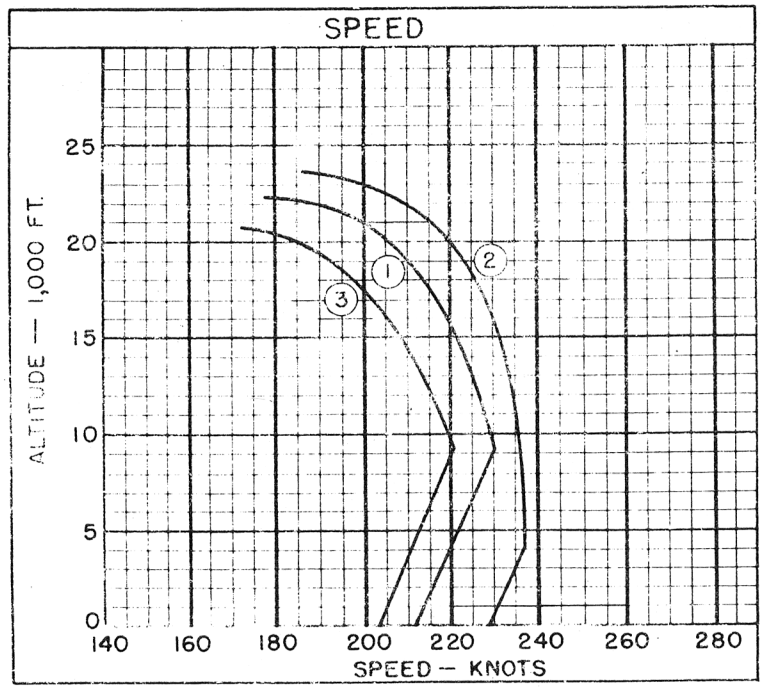

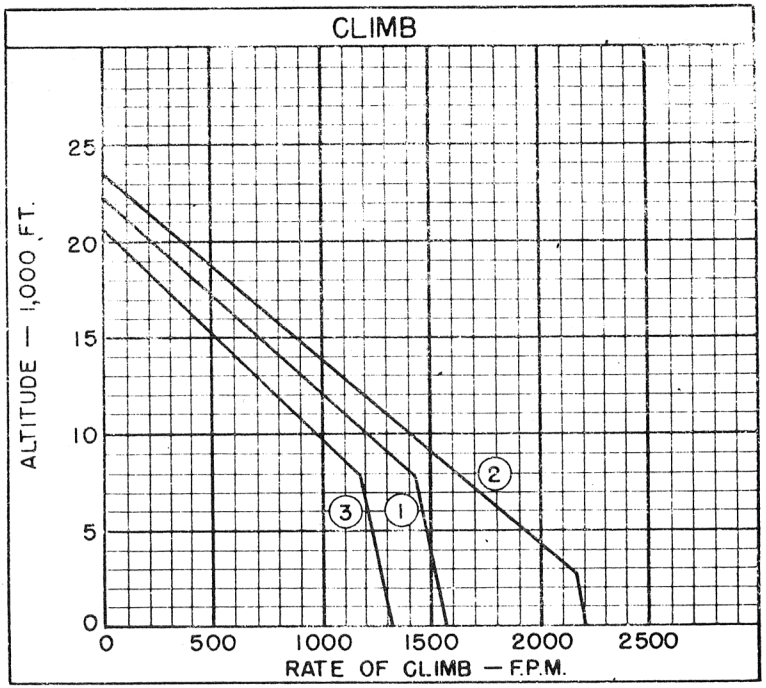

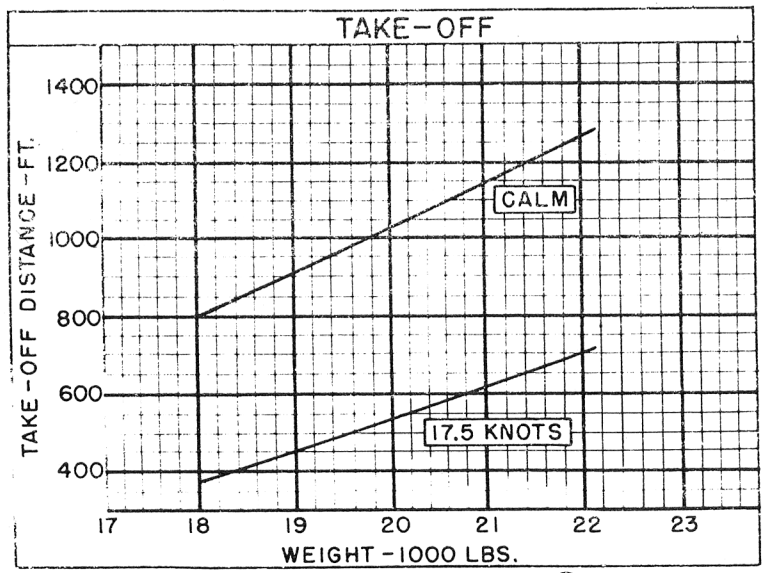

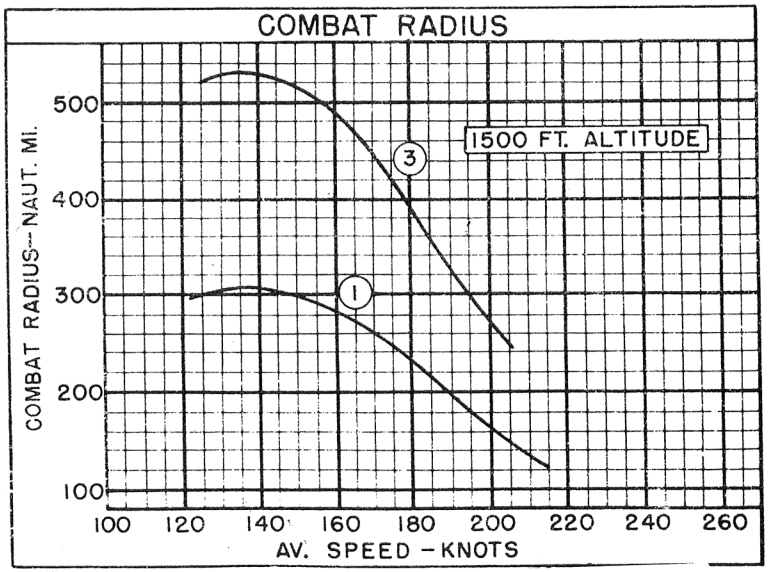

◯ LOADING CONDITION COLUMN NUMBER

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

NOTES

Spotting: 200 ft. length is required to spot 16 airplanes on the 96 ft. wide deck immediately aft of the forward ramp on the CV-9 class carriers.

ASW RANGE AND RADIUS PROBLEM

WARM-UP, TAXI, TAKE-OFF: 10 minutes at normal power.
CLIMB: On course to 1,500 ft. at normal power.
COMBAT RANGE: Cruise at V for long range at 1,500 ft. External fuel tanks dropped when empty.
RESERVE: 20 minutes at V for long range plus 5% of initial fuel load.

COMBAT RADIUS = 40% OF COMBAT RANGE

ELECTRONICS (Continued)

COUNTERMEASURE REC. (RADAR).....AN/APR-9B
COUNTERMEASURE (RADAR).....AN/APA-70C
RADAR.....AN/APS-20C
SPEED CONTROL KIT.....AN/APS-20
RADAR RECEIVING SET.....AN/APR-12 (P.S.I.)
RADAR RELAY TRANS.....AN/ART-26 or -28
GROUND POSITION INDICATOR.AN/APA-57A or 57C
GROUND POSITION INDICATOR.....AN/APA-81
IFF.....AN/APX-2 or -2A
IFF.....AN/APX-6
IFF.....AN/APX-7
(P.S.I., Replacement for AN/APX-6)
COMBINED TILT-STABILIZED RADAR-IFF
ANTENNA SYSTEM.....AS-539/APS-20
(P.S.I., when installed Speed Control Kit is to be removed)

This chart supersedes previously issued chart dated 1 October 1949.
Reason for reissue: NATC flight test data available.

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