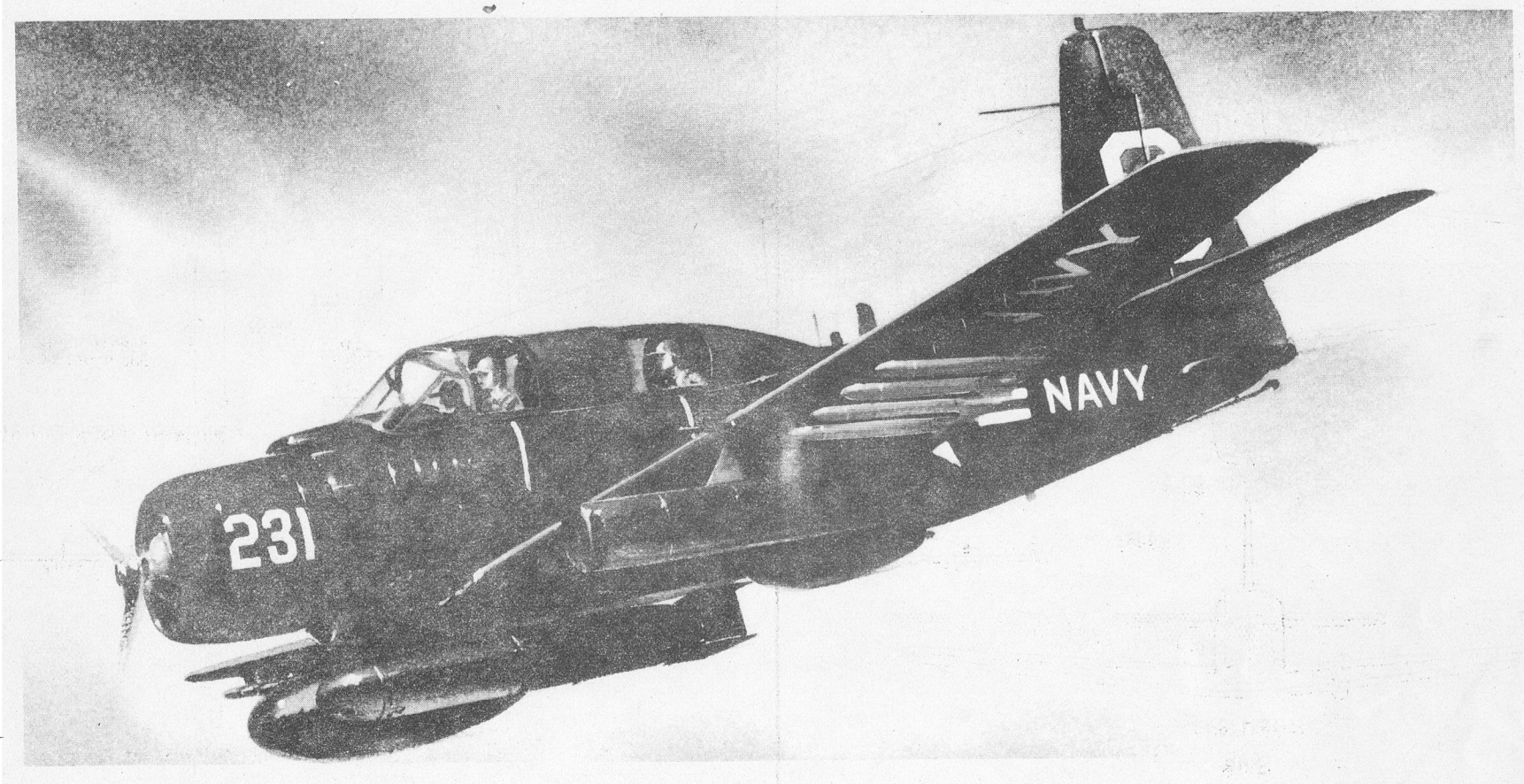


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STANDARD AIRCRAFT CHARACTERISTICS

AD-5S "SKYRAIDER"

DOUGLAS

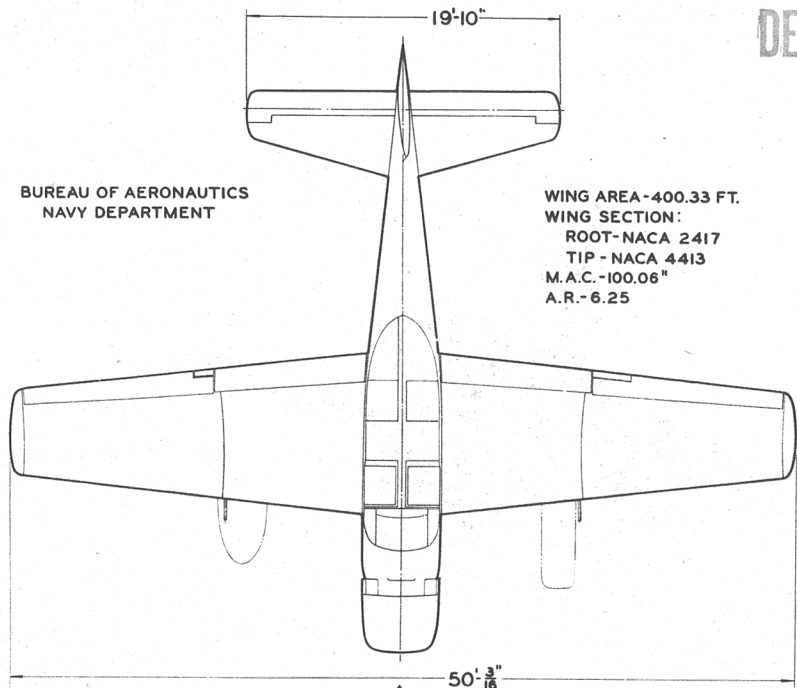
17

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

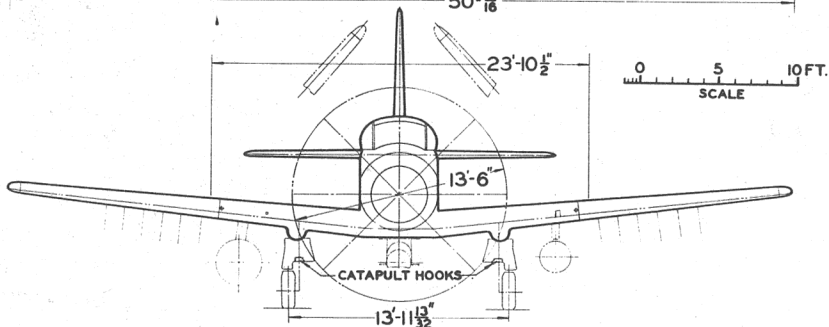
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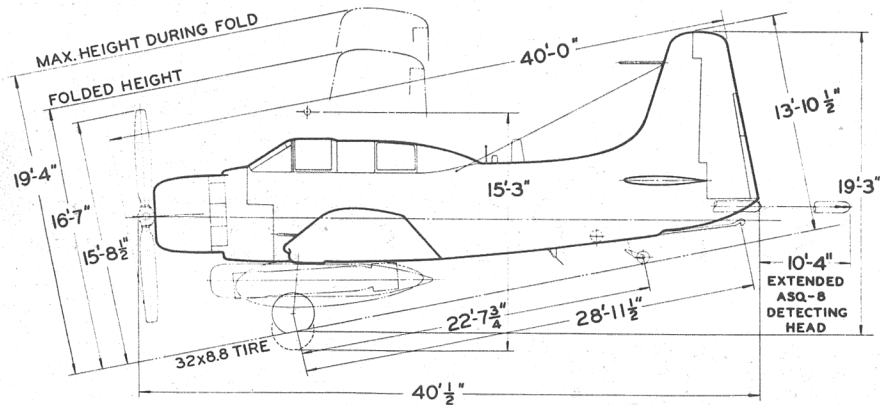
BUREAU OF AERONAUTICS
NAVY DEPARTMENT



WING AREA - 400.33 FT.
WING SECTION:
ROOT - NACA 2417
TIP - NACA 4413
M.A.C. - 100.06"
A.R. - 6.25



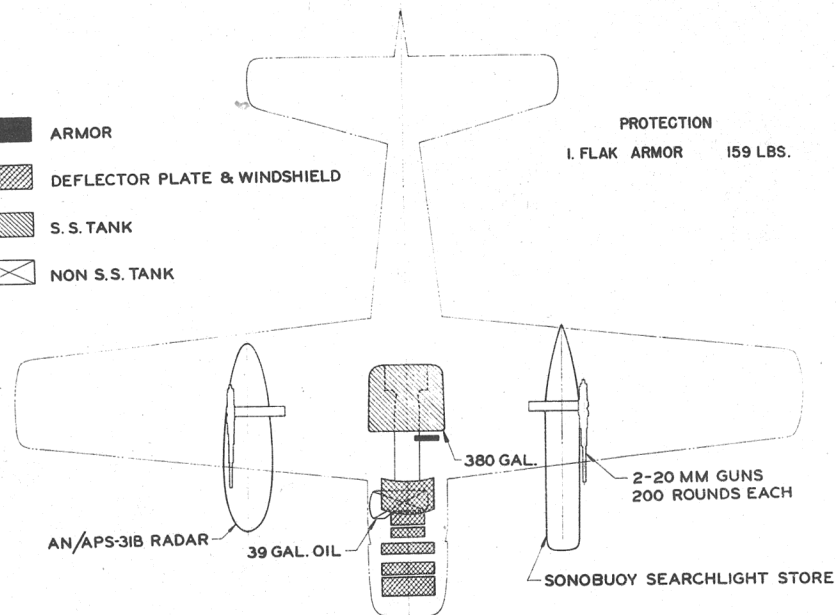
0 5 10 FT.
SCALE



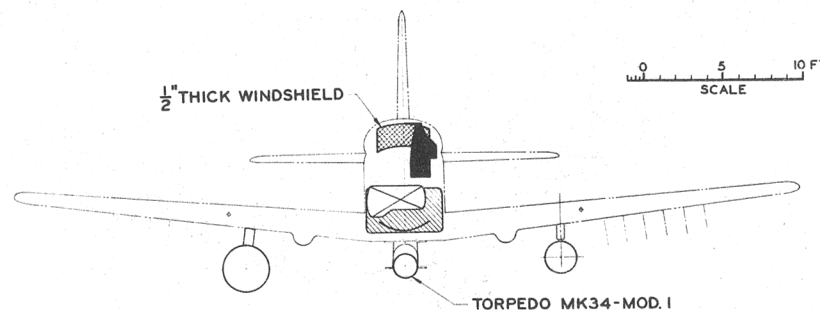
DESCRIPTIVE ARRANGEMENT

- ARMOR
- DEFLECTOR PLATE & WINDSHIELD
- S. S. TANK
- NON S.S. TANK

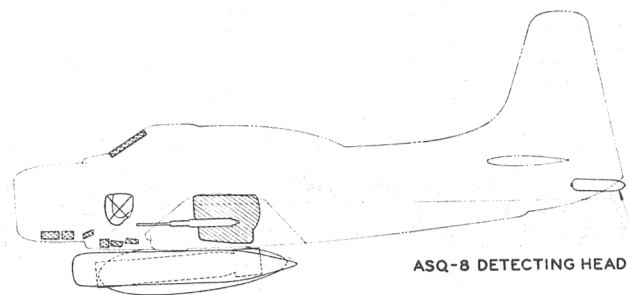
PROTECTION
I. FLAK ARMOR 159 LBS.



1/2" THICK WINDSHIELD



0 5 10 FT.
SCALE



ARMAMENT & TANKS

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POWER PLANT

NO. & MODEL.....(1) R-3350-26W
 MFR.....Wright
 SUPERCH.....1 Stage, 2 Speed
 PROP. GEAR RATIO.....0.4375
 PROP. MFR.....Aero. Prod.
 PROP. DES. NO.....M20A-162-0
 NO. BLA./DIA.....4/13'-6"

RATINGS

	Bhp	@ Rpm	@ Alt.
T.O.	2,700	2,900	S. L.
MIL.	2,700	2,900	3,700'
	2,100	2,600	14,500'
NORM.	2,300	2,600	S. L.
	1,900	2,600	17,100'
SPEC. NO. N-836			

ORDNANCE

GUNS			
No.	Size	Location	Rds.
4	20mm, M-3	Wings	800
Illum, Sight.....Mk. 8-10			
BOMBS & ROCKETS			
Type	Size	Location	No.
Bombs	250#	Wings & Fuse.	15
Bombs	500#	Wings & Fuse.	9
Bombs	1000#	Wings & Fuse.	3
Bombs	2000#	Wings & Fuse.	3
D. B.	350#	Wings & Fuse.	15
Mines	500#	Wings & Fuse.	9
Mines	2000#	Wings & Fuse.	3
Torp.	2160#	Wings & Fuse.	3
Rock.	11.75"	Wings	2
HPAG	5"	Wings	12
HVAR	5"	Wings	12
12 Combination Bomb Rack and Rocket Launchers....Aero 14A			
MAX. BOMB LOAD.....9,000 lbs.			

MISSION AND DESCRIPTION

The principal mission of the AD-5S is that of anti-submarine search and attack. The airplane normally operates as an attack member of an ASW team; however, it is equipped with a sufficiently powerful radar to permit operation as a combined search and attack airplane. Magnetic detection and sonobuoy equipment are installed to facilitate submarine tracking. A radar-controlled searchlight and electronic bombing equipment are provided for night ASW operation. While designed specifically for operation from CVE-105 class carriers the airplane can operate from land bases.

The AD-5S is a development of the AD series airplanes incorporating a unified 3 place cockpit arrangement to facilitate interchange of crew positions and maintenance of electronic equipment in flight. The side-by-side seating for pilot and MAD operator provides improved all-weather operation and doubles the possibility of visual submarine contact. A radar-sonobuoy operator is located aft of the pilot.

The AD-5S may be converted rapidly to a night attack airplane by interchange of a few items of equipment. Since the structural and armament provisions of all AD-5 series airplanes are identical, the AD-5S also may be used as a general purpose attack airplane by removing the special ASW equipment and installing a dive brake. (Continued on NOTES)

DIMENSIONS

WING AREA.....	400 sq. ft.
SPAN.....	50' - 0"
LENGTH.....	40' - 0"
HEIGHT.....	15' - 9"
TREAD.....	13' - 11"
M.A.C.....	8' - 4"
PROP. CLEAR.....	6"

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY.....	12,110
BASIC.....	15,032
DESIGN.....	17,800	6.0
COMBAT.....	17,864	6.0
MAX.T.O..(Field)	23,400*	4.4
	(Cat.)	23,400
MAX.LAND.(Field)	21,000
	(Arrest.)	17,000

All weights are calculated.

* Maximum anticipated loading

FUEL AND OIL

Gals.	No. Tanks	Location
380	1	Fuse., S.S.
150 (or 300)	1	Ctr., Drop
150 (or 300)	2	Wing, Drop
FUEL GRADE.....115/145		
FUEL SPEC....MIL-F-5572		

OIL

CAPACITY (Gals.).....	39
GRADE.....	1120
SPEC.....	MIL-O-6082

ELECTRONICS

VHF TRANS-REC.....	AN/ARC-27A
RADIO ALT.....	AN/APN-1
NAV. REC.....	AN/ARR-2A
MARKER BEACON.....	AN/ARN-12
IFF.....	AN/APX-6
MHF TRANS-REC.....	AN/ARC-2
INTERPHONE.....	AN/AIC-4A
WIRE RECORDER.....	IC/VRW-7
RADAR SEARCH.....	AN/APS-31B
RADAR RELAY REC....	AN/ARR-27A
RCM REC.....	AN/APR-9B
RCM HOMING.....	AN/APA-70C
(Continued on NOTES)	

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PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) ASW ATTACK Mk. 34 Torp., 8 HPAG Rock., Re- tro-Flare Eject.	(3) ASW ATTACK Mk. 34 Torpedo	(4) ASW ATTACK Mk. 34 Torpedo		
TAKE-OFF WEIGHT	lb.	21,066	17,750	19,810		
Fuel	lb.	2,280	1,800	2,280		
Payload (Torpedo/Rockets)	lb.	1,170/1,120	1,170/None	1,170/None		
Wing loading	lb./sq.ft.	52.6	44.4	49.5		
Stall speed - power-off	kn.	87.0	79.8	84.4		
Take-off run at S.L. - calm	ft.	1,280	760	1,025		
Take-off run at S.L. 25 kn. wind	ft.	652	340	495		
Take-off to clear 50 ft. - calm	ft.	---	---	---		
Max. speed/altitude (A)	kn./ft.	254/18,700	281/19,500	276/19,400		
Rate of climb at S.L. (A)	fpm	1,520	2,150	1,790		
Time: S.L. to 10,000 ft. (A)	min.	7.4	4.9	6.0		
Time: S.L. to 20,000 ft. (A)	min.	20.7	12.2	15.8		
Service ceiling (100 fpm) (A)	ft.	23,500	28,100	25,600		
Combat range	n.mi.	555	520	645		
Average cruising speed	kn.	164	161	165		
Cruising altitude(s)	ft.	1,500	1,500	1,500		
Combat radius	n.mi.	220	205	260		
Average cruising speed	kn.	164	161	165		
COMBAT LOADING CONDITION		(2) COMBAT Torp. & Rock. Away				
COMBAT WEIGHT	lb.	17,864				
Engine power		Military				
Fuel	lb.	1,368				
Combat speed/combat altitude	kn./ft.	273/1,500				
Rate of climb/combat altitude	fpm/ft.	2,690/1,500				
Combat ceiling (500 fpm)	ft.	24,600				
Rate of climb at S.L.	fpm	2,710				
Max. speed at S.L.	kn.	269				
Max. speed/altitude	kn./ft.	290/17,100				
LANDING WEIGHT (B)	lb.	16,734	17,924			
Fuel	lb.	238	258			
Stall speed - power-off	kn.	77.6	80.2			
Stall speed - with approach power	kn.	71.8	74.3			

NOTES

(A) Normal Power

(B) Torpedo and rockets jettisoned for landing, if not expended in combat.

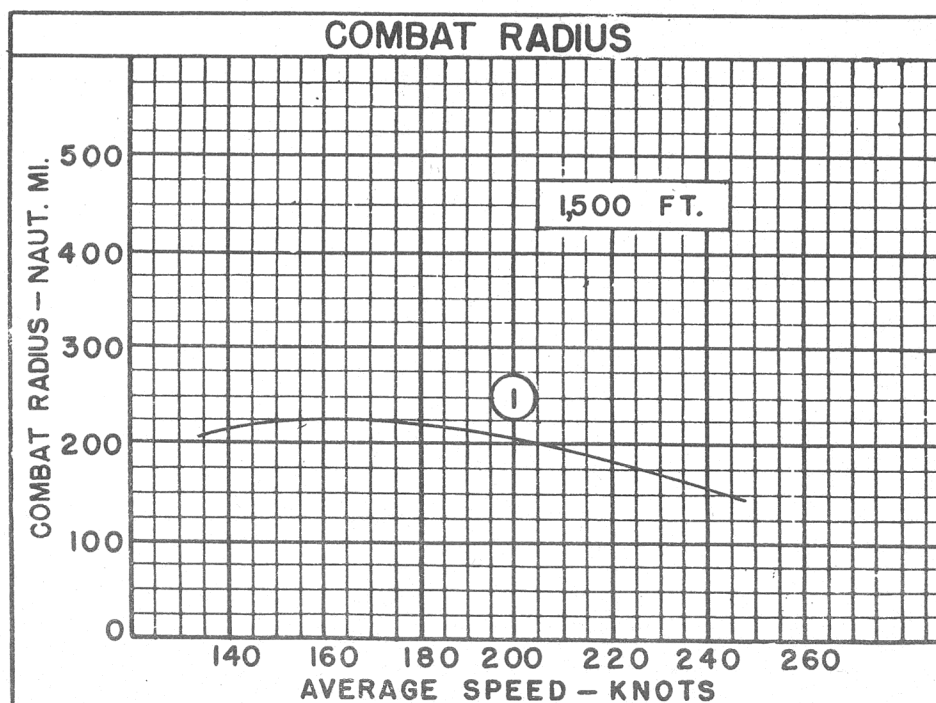
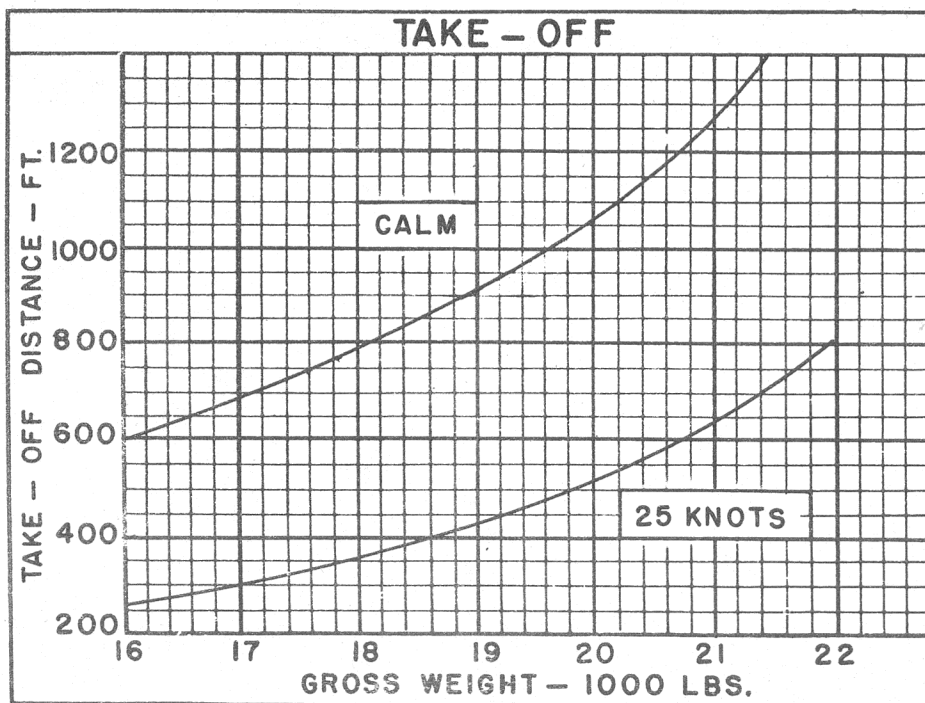
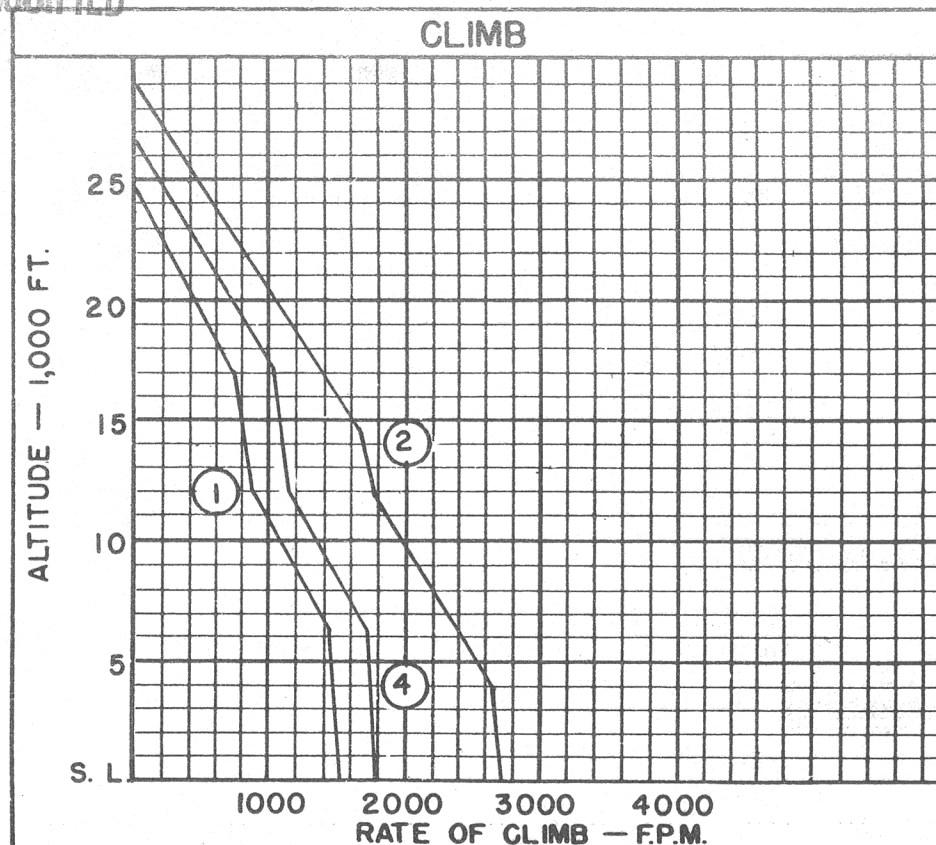
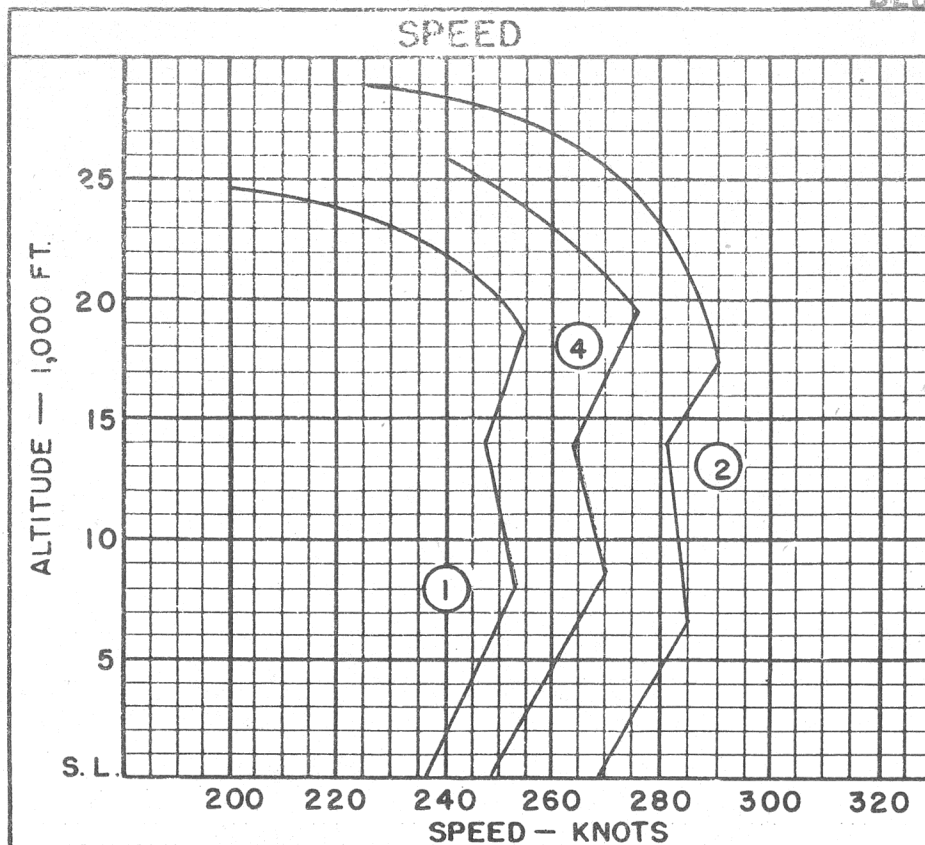
Torpedo may be retained, making landing weight = 17,924 lbs.

Performance is based on AD series flight test.

Range and radius are based on AD series flight test fuel consumption increased 5%.

Loadings (1) and (2) include 12 Aero-14A racks. All loadings include AN/APB-31 radar, and combination sonobuoy dispenser -- searchlight.

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○ LOADING CONDITION COLUMN NUMBER

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NOTES

Spotting: 200 ft. length is required to spot 19 airplanes (wings folded) on the 96 ft. wide deck immediately aft of the forward ramp on CV-9 carriers.

ASW RANGE AND RADIUS PROBLEM

WARM-UP, TAXI, TAKE-OFF: 10 minutes at normal power.

CLIMB: On course to 1,500 feet at normal power.

COMBAT RANGE: Cruise at V for long range at 1,500 feet. 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

MISSION AND DESCRIPTION (Continued)

First flight -- December 1952

Service use to start -- None (only one to be built)

ELECTRONICS (Continued)

SONOBUOY RECEIVER.....AN/ARR-26
SEARCHLIGHT & INDICATOR.....AN/AVQ-2A
MAD.....AN/ASQ-8
IFF.....AN/APX-17
(Planned Service Installation)

OMNI-RANGE RECEIVER.....AN/ARN-21
(Planned Service Installation)
RADIO COMPASS.....AN/ARN-6
UHF D.F.....AN/ARA-25
VHF TRANS.-REC.....AN/ARC-1
(Alternate Provisions for AN/ARC-27A)

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