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SERVICE

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STANDARD AIRCRAFT CHARACTERISTICS

AD-3W "SKYRAIDER"

DOUGLAS

UNCLASSIFIED

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

1 JANUARY 1950

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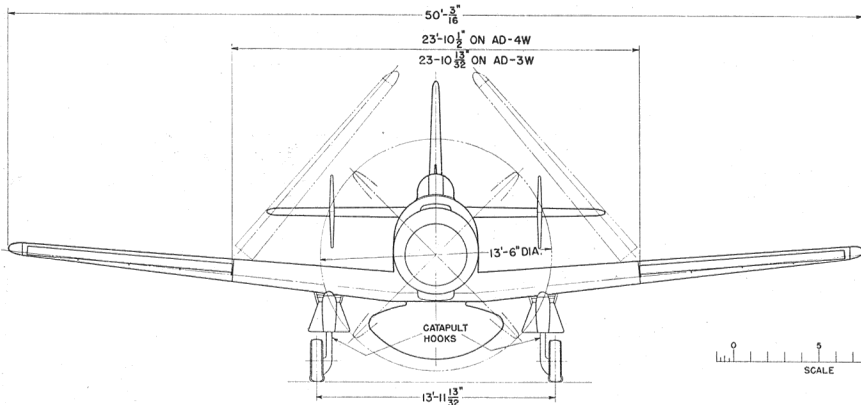
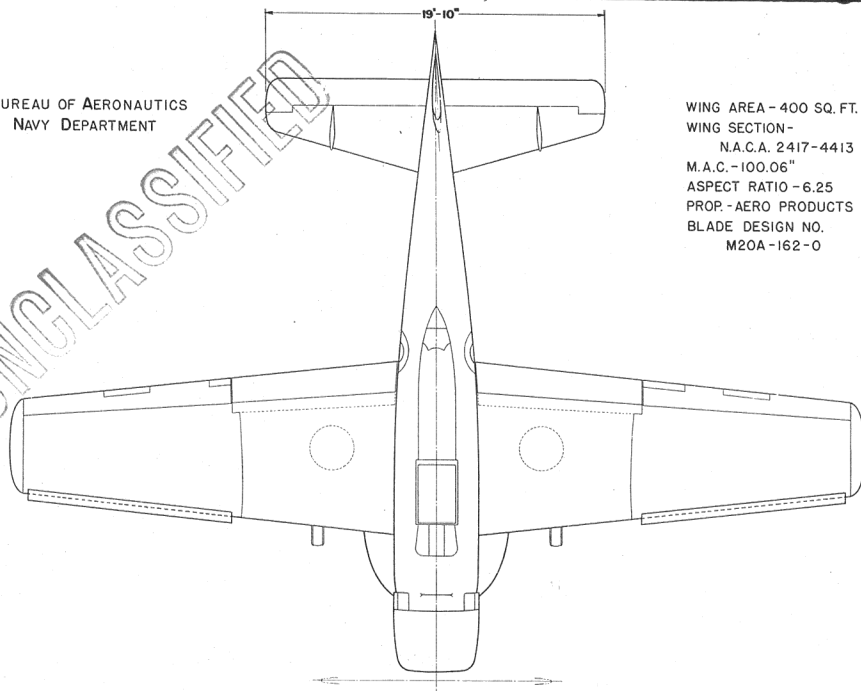
AD-3W

SERVICE

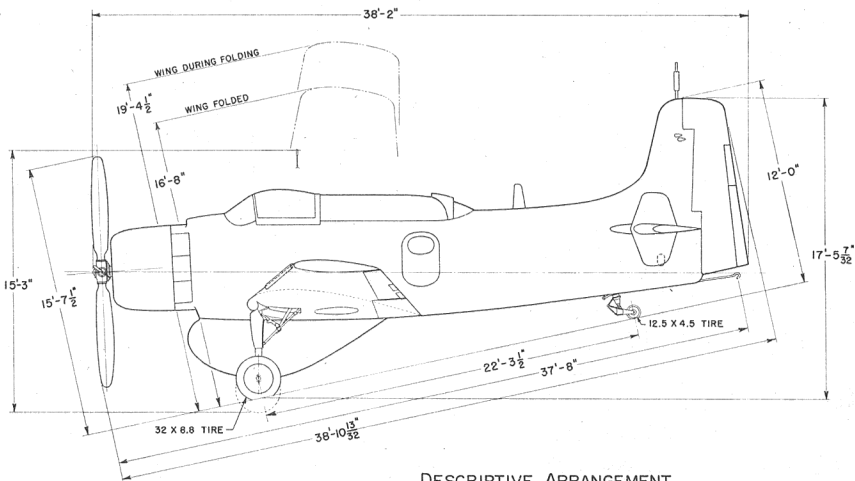
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BUREAU OF AERONAUTICS
NAVY DEPARTMENT

WING AREA - 400 SQ. FT.
WING SECTION -
N.A.C.A. 2417-4413
M.A.C. - 100.06"
ASPECT RATIO - 6.25
PROP. - AERO PRODUCTS
BLADE DESIGN NO.
M20A-162-0



0 5 10 FT.
SCALE

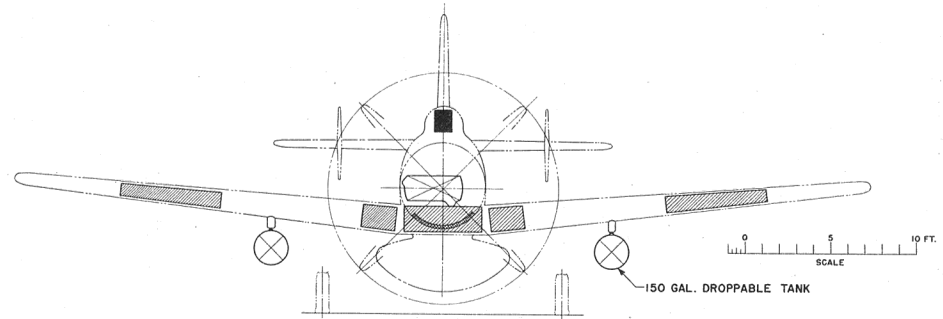
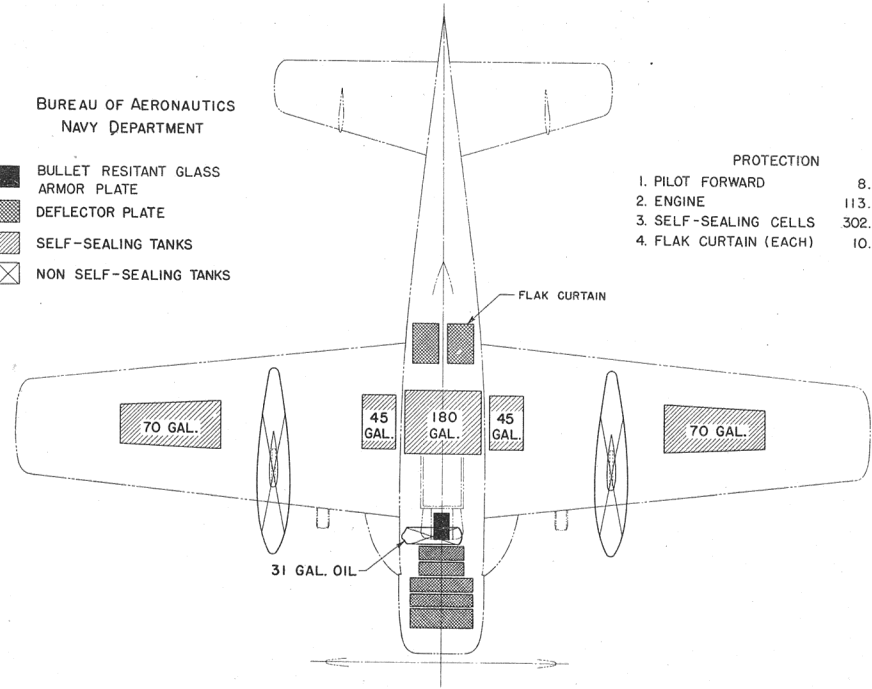


DESCRIPTIVE ARRANGEMENT

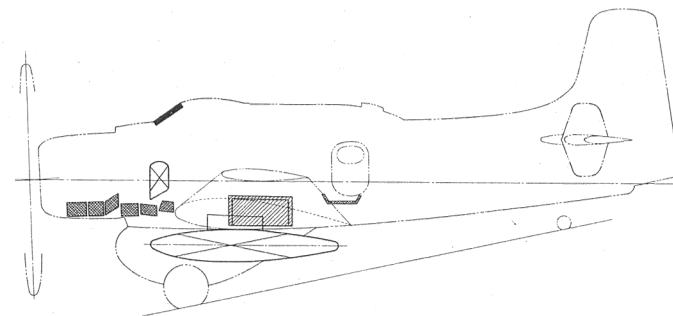
BUREAU OF AERONAUTICS
NAVY DEPARTMENT

- BULLET RESISTANT GLASS ARMOR PLATE
- ▨ DEFLECTOR PLATE
- ▩ SELF-SEALING TANKS
- ⊠ NON SELF-SEALING TANKS

- PROTECTION
1. PILOT FORWARD 8.8 LBS.
 2. ENGINE 113.2 LBS.
 3. SELF-SEALING CELLS 302.0 LBS.
 4. FLAK CURTAIN (EACH) 10.0 LBS.



0 5 10 FT.
SCALE



ARMAMENT AND TANKS

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

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MISSION AND DESCRIPTION

The principal mission of the AD-3W airplane is to provide airborne early warning of enemy attack. It is a three-place attack airplane, not equipped with dive brakes. It is carrier-based.

The interior arrangement provides an enclosed compartment abaft the pilot's cockpit for two radar operators with partial controls for the radio and complete controls for the radar equipment. A passage is provided on the starboard side to permit access in flight to the electronic equipment for minor repair and adjustment. Entrance doors with windows are provided on each side of the rear compartment. The doors may be released in flight for emergency exit.

A fiberglass radome is suspended under the fuselage to house the search AEW antenna.

The airplane is conventional in arrangement with aluminum alloy semi-monocoque structure. Arresting gear and catapult hooks are provided to permit operation from any size carrier. Slotted flaps are fitted.

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY.....	12,944.....	
BASIC.....	13,299.....	
DESIGN.....	15,600..	6.0
COMBAT.....	16,600..	5.6
MAX.T.O..(Cat.)..	19,700..	4.7
(Field).....	20,600..	4.5
MAX.LD.(Smooth).....	20,600.....	
(Rough).....	18,300.....	
(Arrest.).....	18,300.....	
(Qualif.).....	15,600.....	

All weights are actual.

FUEL AND OIL

Gal.	No. Tanks	Location
180	1	Fuse.,S.S.
230	4	Wings,S.S.
300	2	Wings,Drop

FUEL GRADE.....115/145
FUEL SPEC.....AN-F-48

OIL

CAPACITY (Gals.).....	31
GRADE.....	1120
SPEC.....	AN-O-8

POWER PLANT

NO. & MODEL... (1) R-3350-26WA
MFR.....Wright
SUPERCH.....1 Stage, 2 Speed
PROP. GEAR RATIO.....0.4375
PROP. MFR.....Aero Prod
PROP. DES. NO.....M20A-162-O
NO. BL./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'
NORMAL	2,300	2,600	S. L.
	1,900	2,600	17,100'

SPEC. NO. N-836

ORDNANCE

NONE

DIMENSIONS

WING AREA.....	400 sq. ft.
SPAN.....	50' - 0"
LENGTH.....	38' - 2"
HEIGHT.....	15' - 8"
TREAD.....	13' - 11"
M.A.C.....	8' - 4"
PROP. CLEAR.....	6"

ELECTRONICS

VHF RELAY.....AN/ARC-28
VHF COMM.....AN/ARC-1
LF COMM.....AN/ARC-5
VHF NAVIGATION.....AN/ARR-2A
RADIO ALTM.....AN/APN-1
SEARCH RADAR.....AN/APS-20A
IFF.....AN/APX-1AM
IFF RELAY.....AN/APX-13A
RADAR RELAY.....AN/ART-26

SEE NOTES

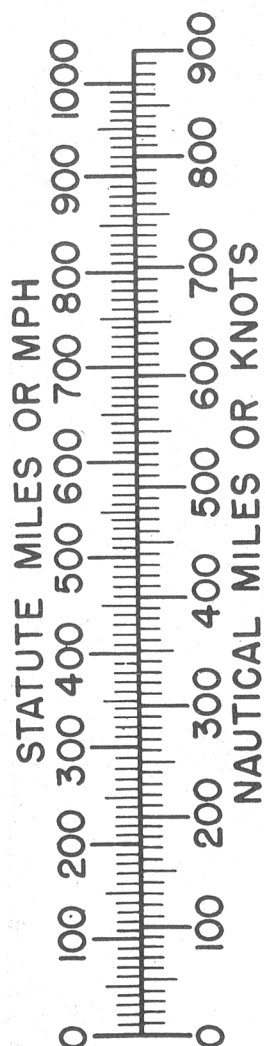
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Standard Aircraft Characteristics NAVAER 1335C (REV. 1-49)

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PERFORMANCE SUMMARY



LOADING CONDITION		(1) AEW 2-150 Gal. Tanks	(3) AEW
TAKE-OFF WEIGHT	lbs.	18,670	16,600
Fuel (Fixed/Drop)	lbs.	2,460/1,800	2,460/-
Bombs	lbs.	—	—
Wing/Power Loading (A) lbs/sq.ft; lbs/bhp.		46.7/9.8	41.5/8.7
Stall Speed--Power off	kn.	86.0	81.0
Stall Speed--Power off - No Fuel	kn.	75.6	74.9
Stall Speed--Power on	kn.	77.2	73.0
Maximum Speed/Alt (B)	kn/ft.	230/17,900	242/18,000
Take-off Distance, deck -- calm	ft.	983	742
Take-off Distance, deck 25 kn.	ft.	477	339
Take-off Distance, Airport	ft.	—	—
Rate of climb -- sea level (B)	ft/min.	2,300	2,770
Service Ceiling (B)	ft.	30,200	33,000
Time-to-climb 10,000ft. (B)	min.	4.7	3.9
Time-to-climb 20,000ft. (B)	min.	11.5	9.1
Combat Range/V av 1,500 ft. n.mi/kn.		1,280/130	740/130
Combat Radius/V av 1,500 ft. n.mi/kn.		510/130	295/130
Combat Endurance/V av 1,500 ft. hr/kn.		10.6/120	6.1/120
LOADING CONDITION		(2) COMBAT	
GROSS WEIGHT	lbs.	16,600	
Engine power		Military	
Fuel	lbs.	2,460	
Bombs/Tanks			
Max. speed at sea level	kn.	231	
Max. speed/Alt	kn/ft.	244/15,500	
Combat speed/Alt	kn/ft.	234/1,500	
Rate of climb SL	ft/min.	3,310	
Ceiling for 500 fpm R/C	ft.	29,500	
Time-to-climb/Alt.	min/ft.		

NOTES

- (A) BHP at Maximum Critical Altitude
 (B) Normal BHP

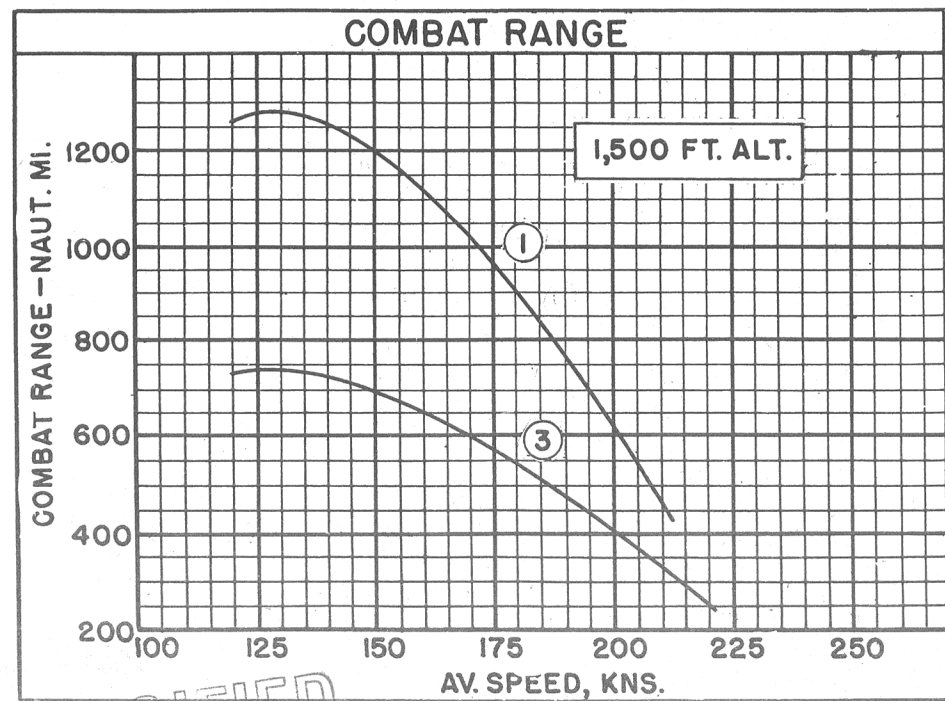
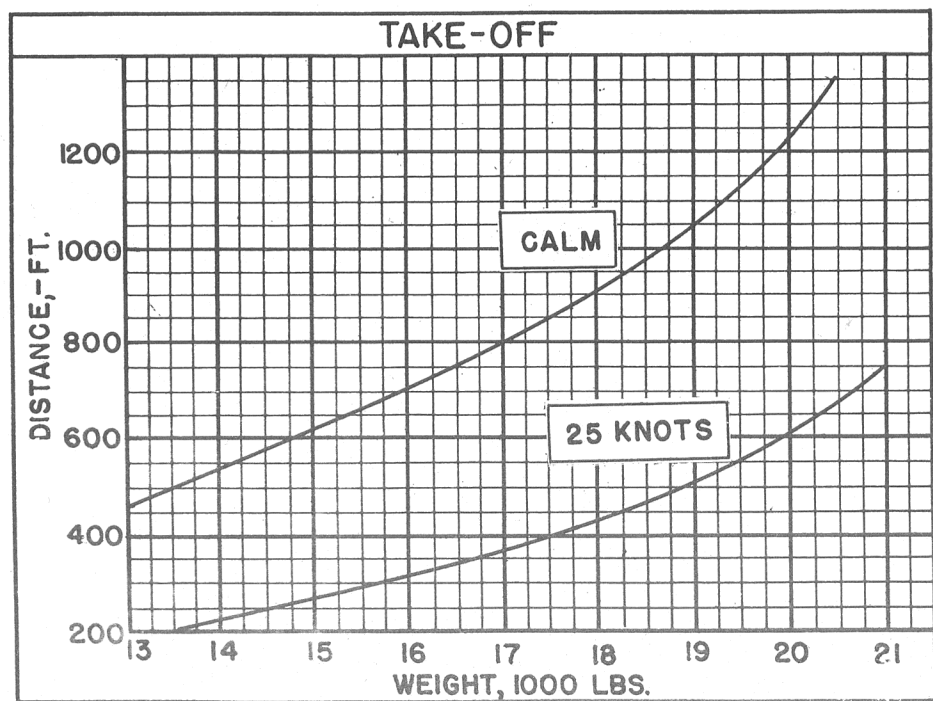
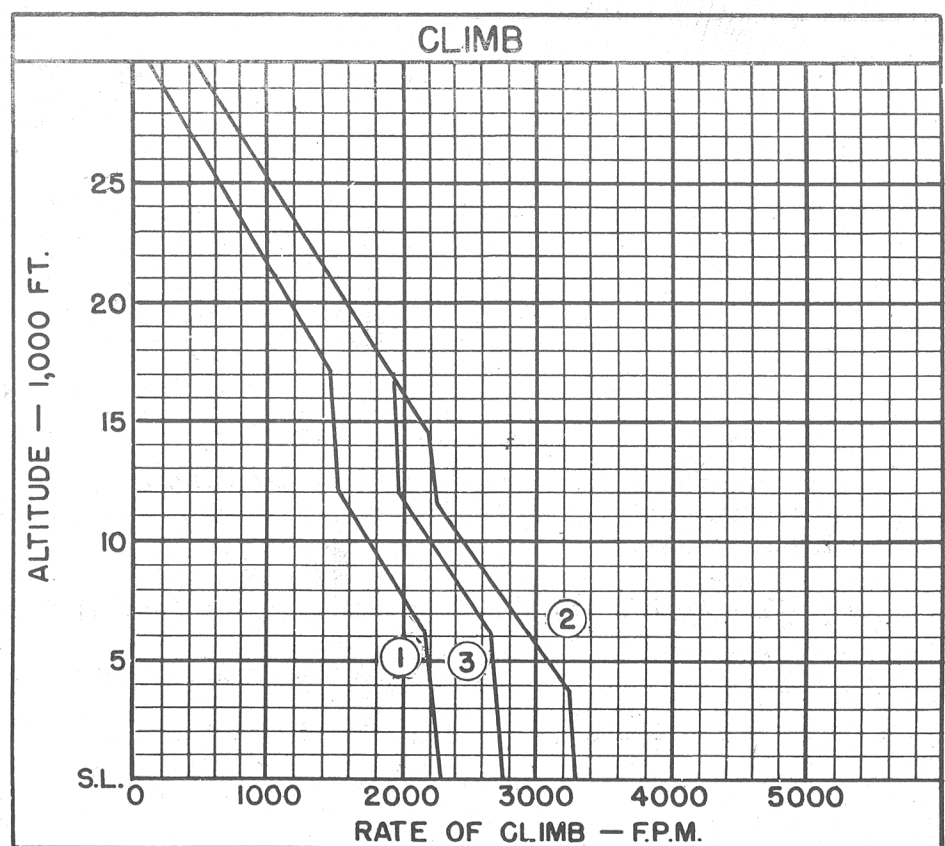
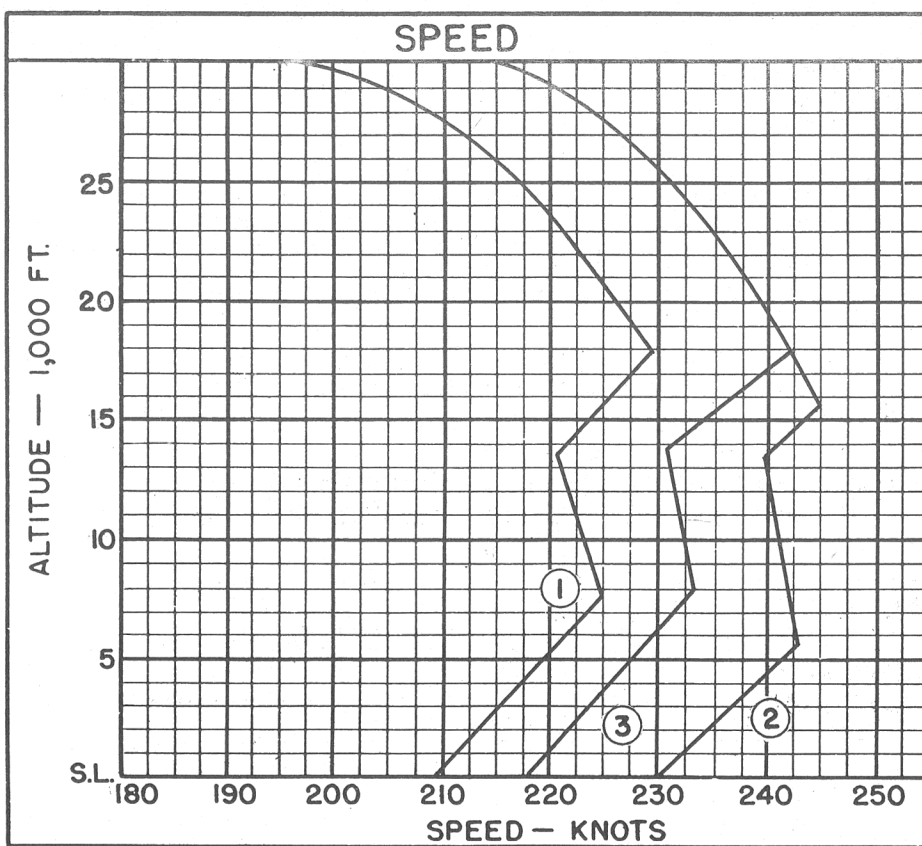
Performance is based on flight test of AD-1 airplane and partial flight tests of AD-3W airplane.

Range and radius are based on engine specification fuel consumption data increased by 5%.

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

○ LOADING CONDITION COLUMN NUMBER

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NOTES

GENERAL ASW PATROL PROBLEM NO. ASW-1

COMBAT RADIUS = 40% of combat range at 1,500 ft. altitude.

All loadings include 2 Mk-51 wing bomb racks with sway bracing.

Spotting: 200 ft. length is required to spot 20 airplanes on the 96 ft. wide deck immediately aft of the forward ramp on the CV-9 class carriers.

Combat endurance is based on same assumptions and allowances as combat range. Speed for maximum endurance is approximately 112 kn. but endurance at 120 kn. is presented because handling characteristics are poor at lower speeds.

The following Electronics equipment will be installed in service:

Ground Position Indicators.....AN/APA-57
and AN/APA-81

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