



CLEARED  
FOR OPEN PUBLICATION

DEC 21 1984

COMNAVAIRSYSCOM

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Public Information Officer  
By direction of the Commander

# STANDARD AIRCRAFT CHARACTERISTICS

## AD-4W "SKYRAIDER"

DOUGLAS

CLASSIFICATION (CANCELED) ( ) BY AUTHORITY OF  
AIR-7203

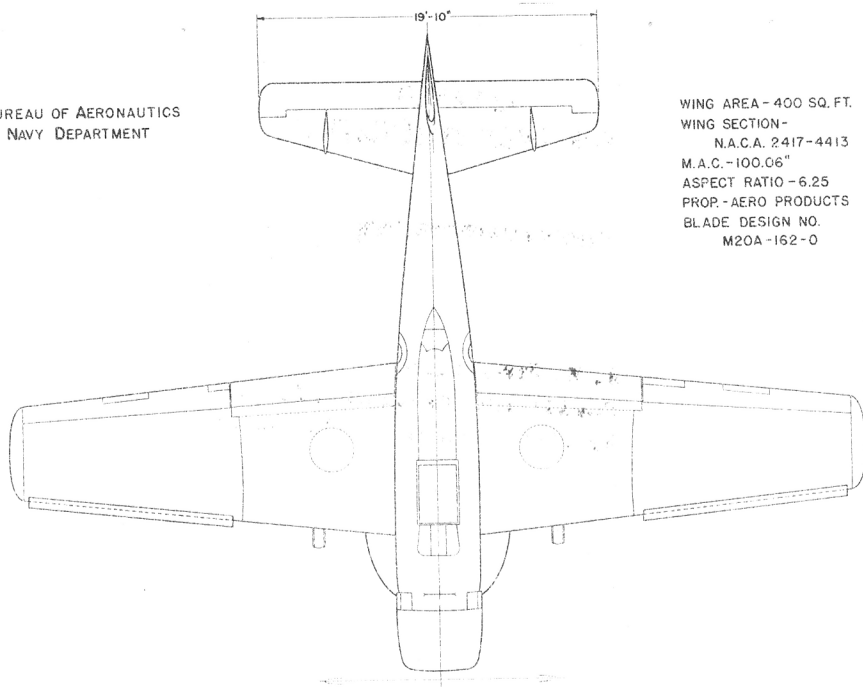
ON 12-27-84 *O. H. Persons* Security Spec'l.  
(DATE) (SIGNATURE) (RANK)

NAVAL AIR SYSTEMS COMMAND  
DEPARTMENT OF THE NAVY

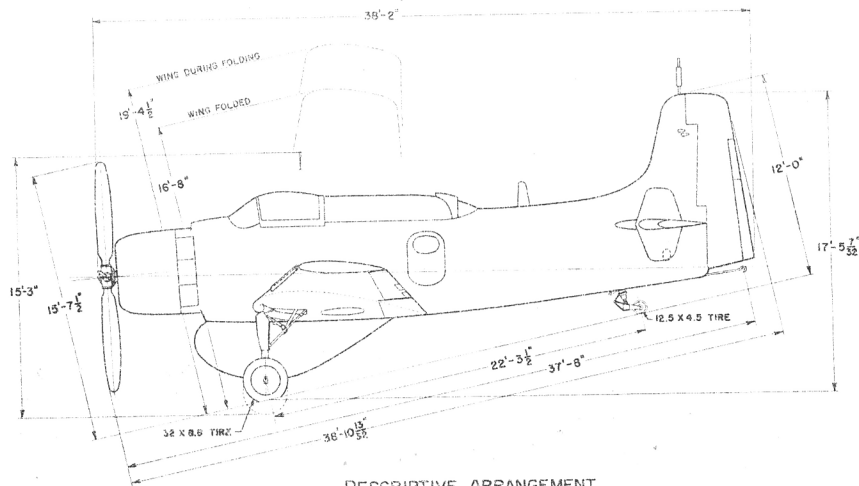
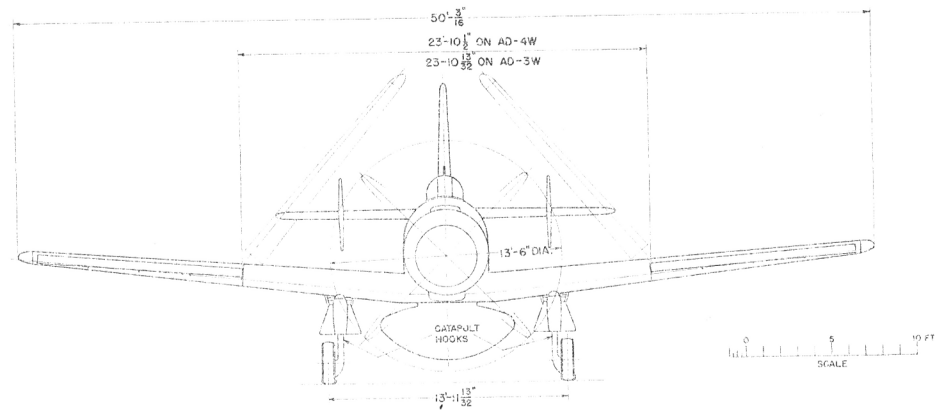
AD-4V

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

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT



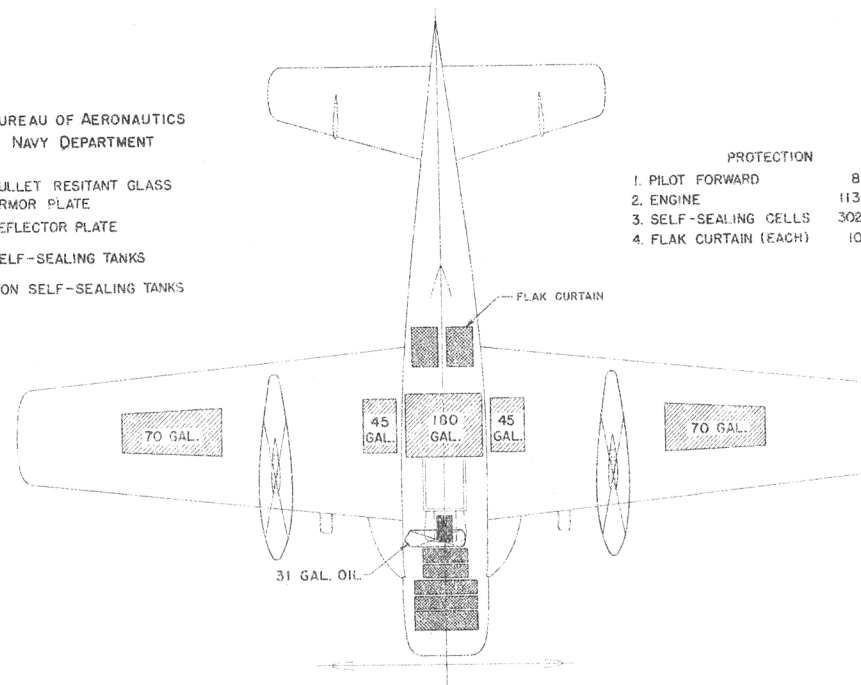
WING AREA - 400 SQ. FT.  
WING SECTION -  
N.A.C.A. 2417-4413  
M.A.C. - 100.06"  
ASPECT RATIO - 6.25  
PROP. - AERO PRODUCTS  
BLADE DESIGN NO.  
M20A-162-0



DESCRIPTIVE ARRANGEMENT

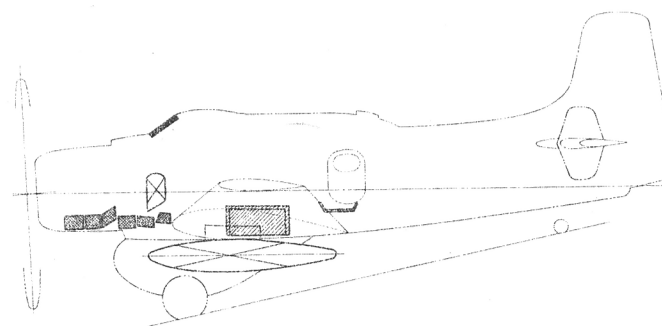
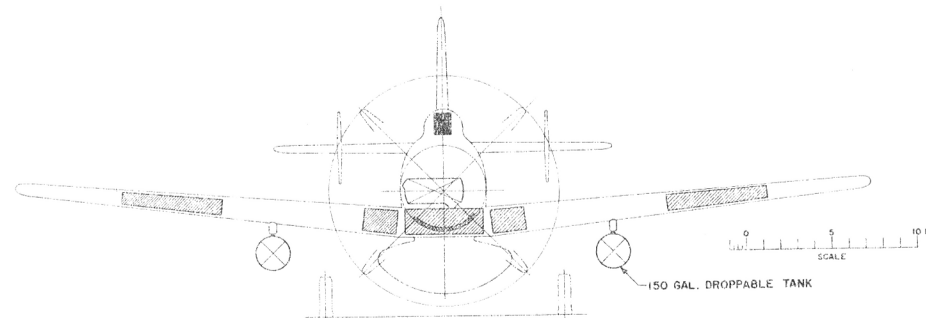
BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

- 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.  |



ARMAMENT AND TANKS

**MISSION AND DESCRIPTION**

The principal mission of the AD-4W airplane is to provide airborne early warning of enemy attack. It is also configured to do ASW search missions. It is a three-place attack, carrier-based airplane, not equipped with dive brakes.

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.

**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"

**WEIGHTS**

Loadings	Lbs.	L.F.
EMPTY.....	13,025.....	
BASIC.....	13,380.....	
DESIGN.....	15,600..	6.0
COMBAT.....	16,681..	5.6
MAX.T.O..(Cat.)..	19,700..	4.7
(Field).....	20,681..	4.5
MAX.LD.(Smooth).....	20,600.....	
(Rough).....	18,300.....	
(Arrest.).....	18,300.....	
(Qualif.).....	15,600.....	

All weights are estimated.

**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

**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  
HF TRANSCEIVER.....AN/ARC-2  
IFF.....AN/APX-6  
GR. POSIT. IND..AN/APA-57,-81  
WIRE RECORDER.....VRW-7

**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-162-0  
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

## PERFORMANCE SUMMARY

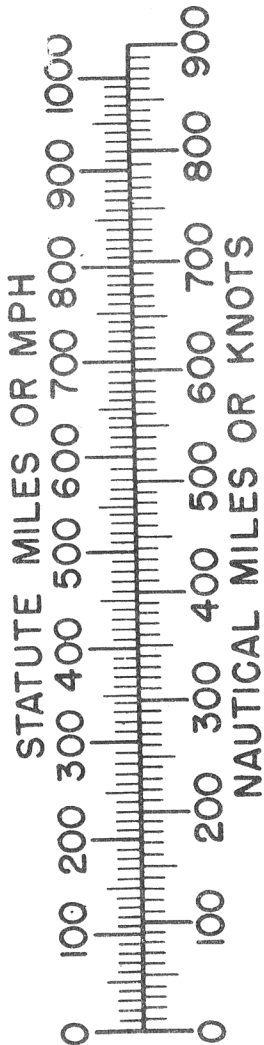
LOADING CONDITION		(1) AEW	(3) AEW		
		2-150 Gal. Tanks			
TAKE-OFF WEIGHT	lbs.	18,751	16,681		
Fuel (Fixed/Drop)	lbs.	2,460/1,800	2,460/-		
Bombs	lbs.	—	—		
Wing/Power Loading (A)	lbs/sq.ft; lbs/bhp.	46.9/9.9	41.7/8.8		
Stall Speed--Power off	kn.	86.2	81.2		
Stall Speed--Power off - No Fuel	kn.	75.7	75.0		
Stall Speed--Power on	kn.	77.3	73.1		
Maximum Speed/Alt (B)	kn/ft.	230/17,900	242/18,000		
Take-off Distance, deck -- calm	ft.	995	754		
Take-off Distance, deck 25 kn.	ft.	481	343		
Take-off Distance, Airport	ft.				
Rate of climb -- sea level (B)	ft/min.	2,285	2,755		
Service Ceiling (B)	ft.	30,100	32,900		
Time-to-climb 10,000 ft. (B)	min.	4.7	3.9		
Time-to-climb 20,000 ft. (B)	min.	11.6	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.	16,681			
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.	3,300			
Ceiling for 500 fpm R/C	ft.	29,400			
Time-to-climb/Alt.	min/ft.				

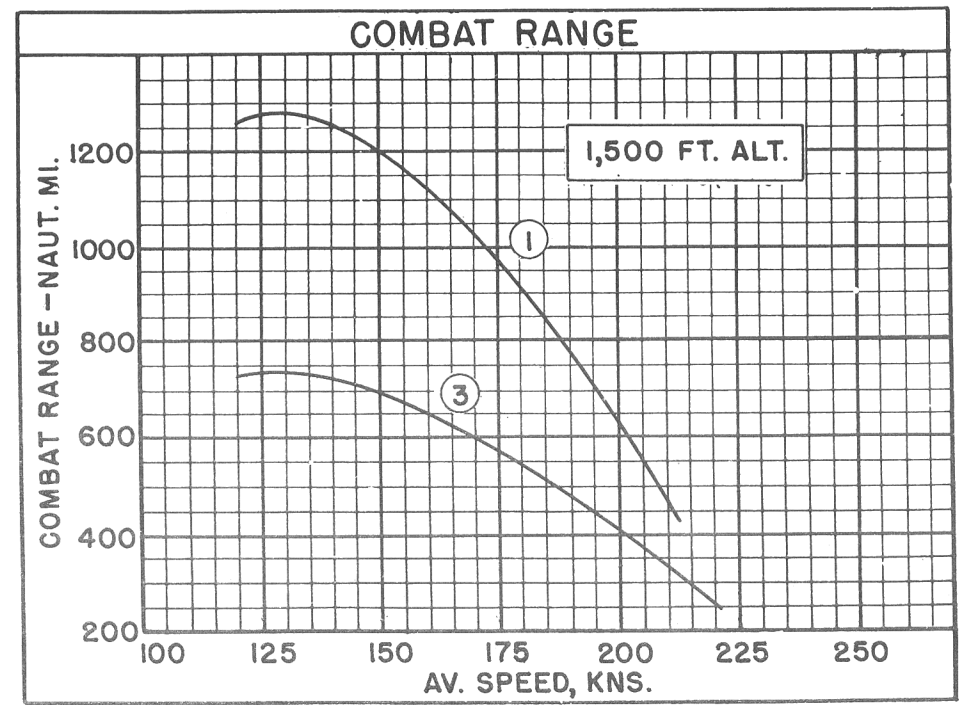
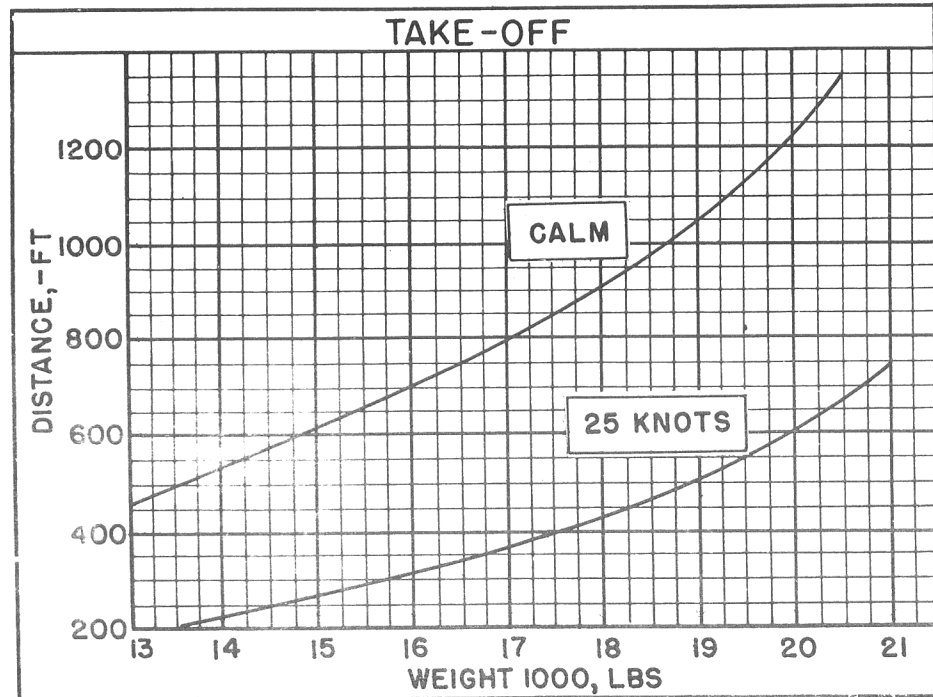
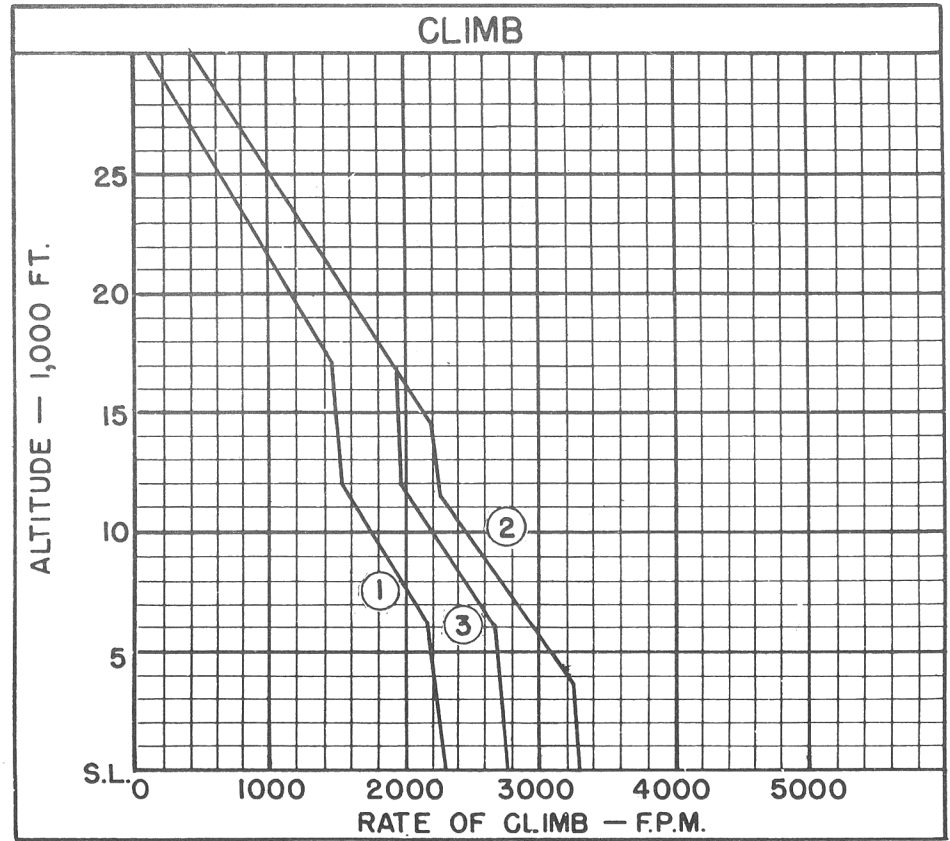
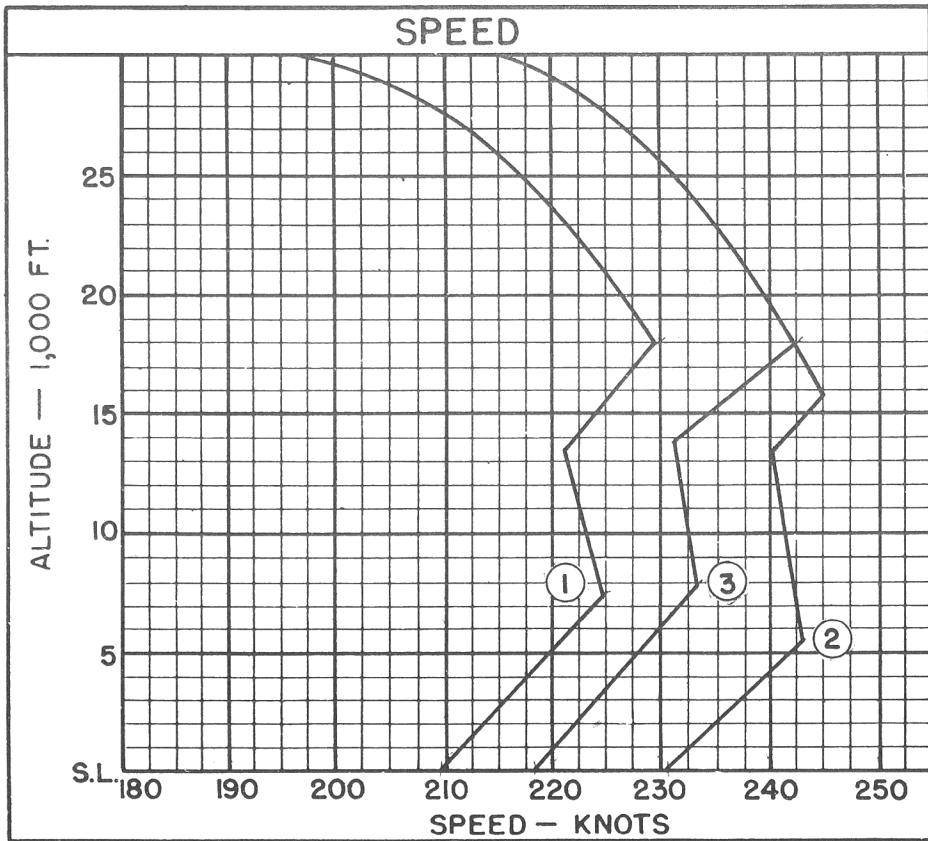
## NOTES

- (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%.





○ LOADING CONDITION COLUMN NUMBER



# NOTES

## GENERAL ASW PATROL PROBLEM NO. ASW-1

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

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