

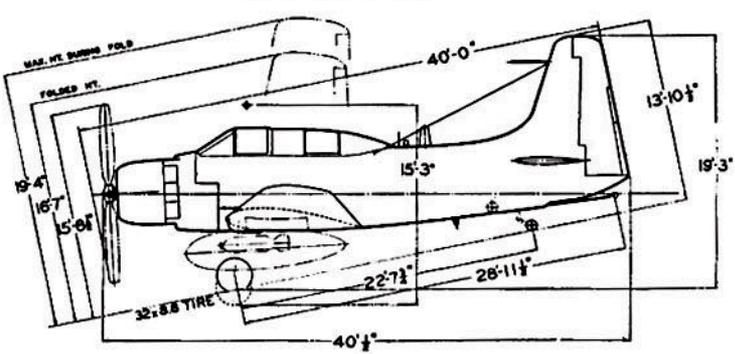
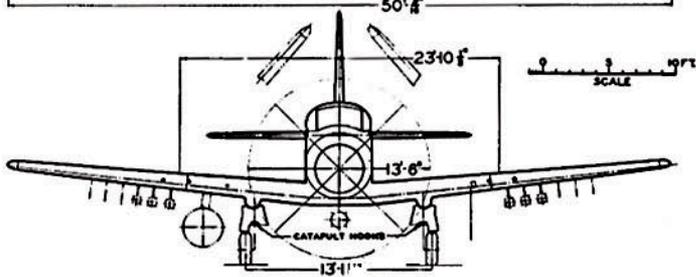
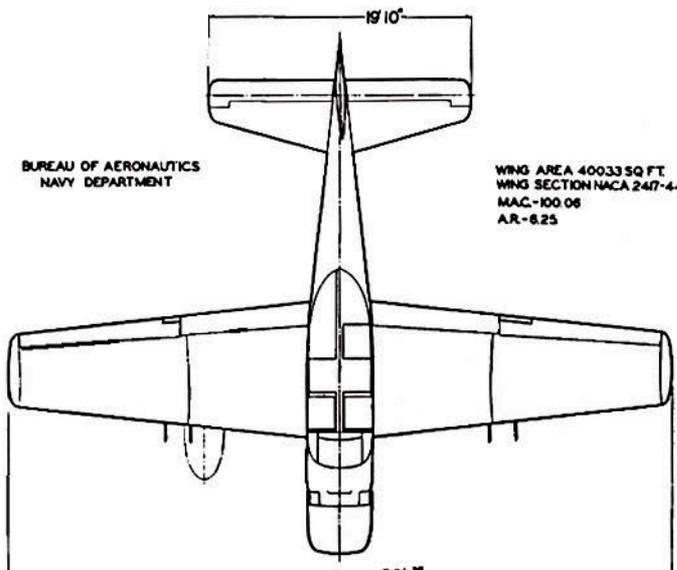
# STANDARD AIRCRAFT CHARACTERISTICS

## AD-5N "SKYRAIDER"

DOUGLAS

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

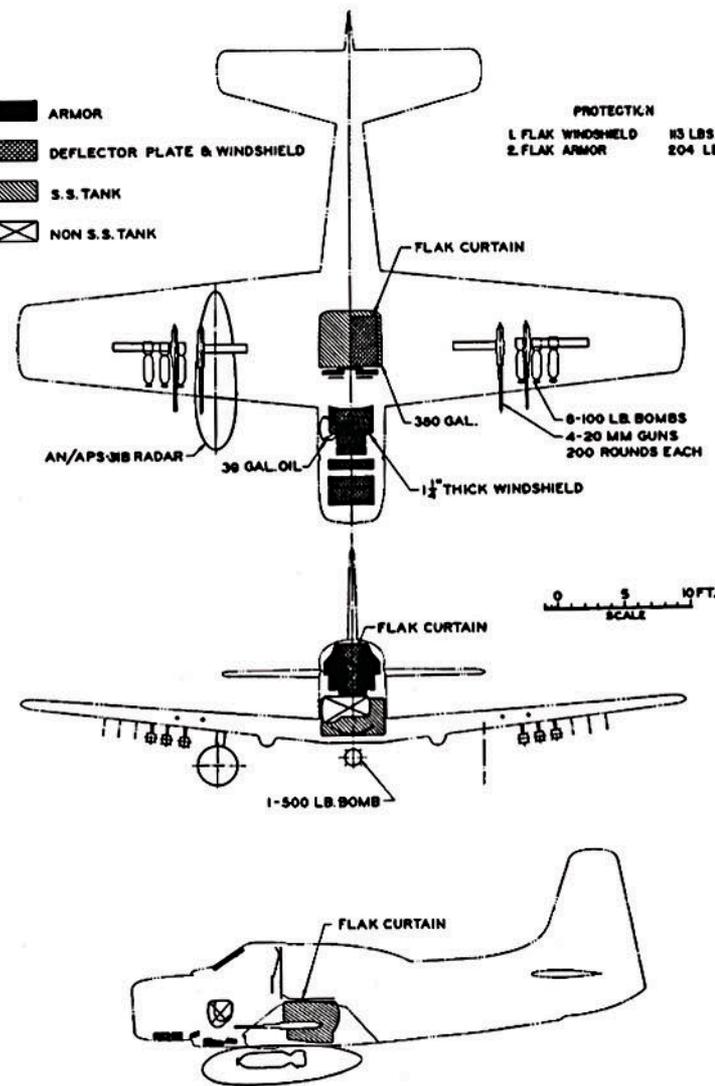
WING AREA 40033 SQ FT  
WING SECTION NACA 2417-441  
MAC-100.06  
A.R.-6.25



DESCRIPTIVE ARRANGEMENT

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

PROTECTION  
1. FLAK WINDSHIELD 113 LBS.  
2. FLAK ARMOR 204 LBS.



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

**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. 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'
NORM.	2,300	2,600	S. L.
	1,900	2,600	17,100'

SPEC. NO. N-836

**ORDNANCE**

<u>GUNS</u>			
No.	Size	Location	Rds.
4	20mm, M-3	Wings	800
Illum. Sight.....Mk.			8-10
<u>BOMBS &amp; ROCKETS</u>			
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
EPAG	5"	Wings	12
EVAR	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-5N is that of night attack and radar countermeasures. It is also an effective bomber, mine-layer, torpedo, or scout airplane, capable of operating from carrier or land bases. The AD-5N has complete installation provisions for all equipment required for anti-submarine operations and also contains structural provisions for any item of tactical equipment normally carried on any other AD-5 model. The AD-5N is a development of the AD series and incorporates side-by-side seating for an assistant pilot-radar countermeasures operator. A radar operator is located aft of the pilot. The crew and all special tactical equipment are located within a unified cockpit area to permit interchange of crew positions and maintenance of electronics equipment in flight.

The AD-5N incorporates increased armament, improved maintenance, and improved aerodynamic characteristics. A single dive brake is provided for dive bombing and maneuvering control. The airplane may be utilized as a general purpose attack by removal of specific night attack installations and equipment since the basic structural configuration is identical to the AD-5.

First flight — August 1952  
 Service use to start — April 1953

**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.....	14,528.....	
DESIGN.....	17,800..6.0	
COMBAT.....	17,173..6.2	
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-27
(Planned Service Installation)	
NAV. REC.....	AN/ARR-2A
MARKER BEACON.....	AN/ARR-12
IFF.....	AN/APX-6
MHF TRANS-REC.....	AN/ARC-2
INTERPHONE.....	AN/AIC-4A
SEARCH RADAR.....	AN/APS-31B
RCM REC.....	AN/APR-9B
RCM HOMING.....	AN/APA-70C
IFF.....	AN/APX-17
(Planned Service Installation)	
(Continued on NOTES)	

## PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) NIGHT	(3) NIGHT RADAR	(4) NIGHT		
		ATTACK 1-500# 12-100# & 1-1000# Bombs	COUNTERMEASURES AN/APT-16 Radar RDX900A Wind, Dis	ATTACK 1-500# Bomb 6-100# Bombs		
TAKE-OFF WEIGHT	lb.	20,785	18,701	19,039		
Fuel	lb.	2,280	2,280	2,280		
Payload (Bombs)	lb.	2,700	--	1,100		
Wing loading	lb./sq.ft.	52.0	46.8	47.5		
Stall speed - power-off	kn.	86.4	82.1	82.6		
Take-off run at S.L. - calm	ft.	1,190	850	888		
Take-off run at S.L. 25 kn. wind	ft.	600	410	430		
Take-off to clear 50 ft. - calm	ft.	--	--	--		
Max. speed/altitude (A)	kn./ft.	234/8,000	287/19,600	268/19,200		
Rate of climb at S.L. (A)	fpm	1,400	2,030	1,850		
Time: S.L. to 10,000 ft. (A)	min.	8.1	5.4	6.0		
Time: S.L. to 20,000 ft. (A)	min.	24.9	13.5	15.4		
Service ceiling (100 fpm) (A)	ft.	21,800	27,100	25,700		
Combat range	n.mi.	375	650	560		
Average cruising speed	kn.	190	202	194		
Cruising altitude(s)	ft.	15,000	15,000	15,000		
Combat radius	n.mi.	145	205	195		
Average cruising speed	kn.	183	189	198		
COMBAT LOADING CONDITION		(2) COMBAT (Bombs Away)				
COMBAT WEIGHT	lb.	17,173				
Engine power		Military				
Fuel	lb.	1,368				
Combat speed/combat altitude	kn./ft.	278/S.L.				
Rate of climb/combat altitude	fpm/ft.	2,910/S.L.				
Combat ceiling (500 fpm)	ft.	26,000				
Rate of climb at S.L.	fpm	2,910				
Max. speed at S.L.	kn.	278				
Max. speed/altitude	kn./ft.	300/17,300				
LANDING WEIGHT	lb.	16,032				
Fuel	lb.	227				
Stall speed - power-off	kn.	75.9				
Stall speed - with approach power	kn.	70.2				

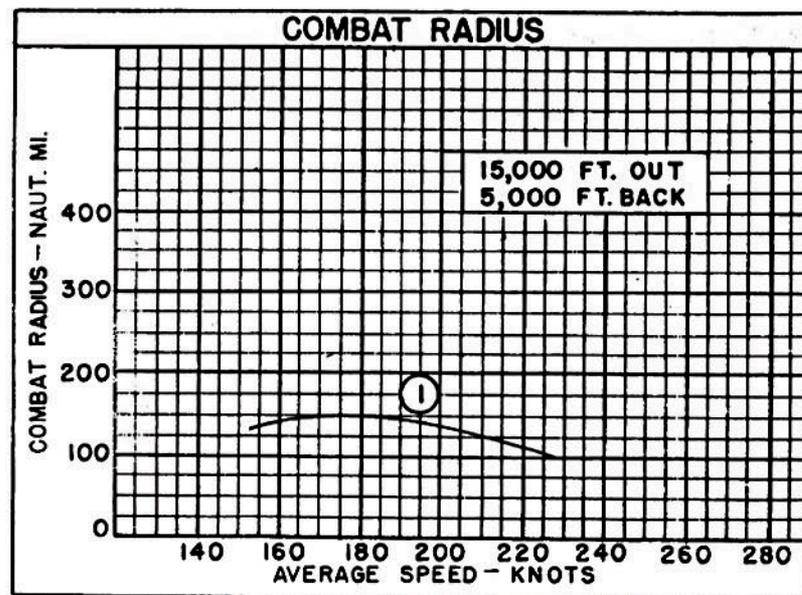
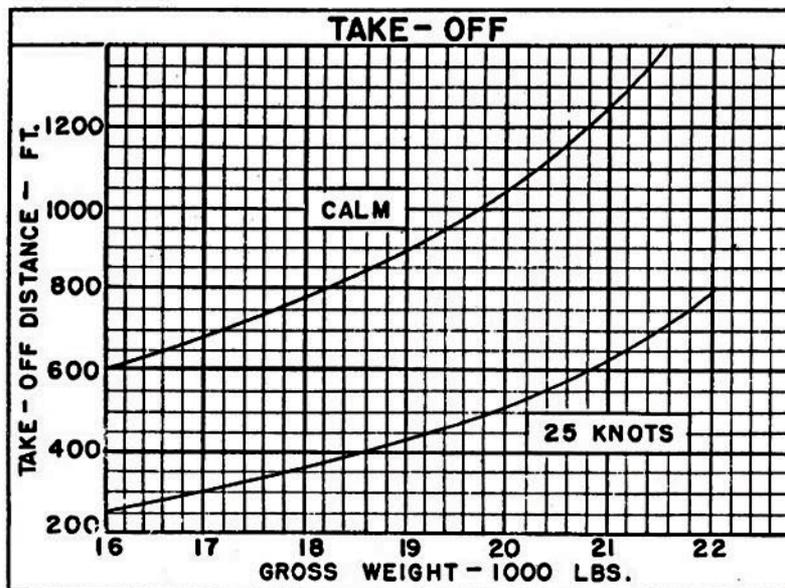
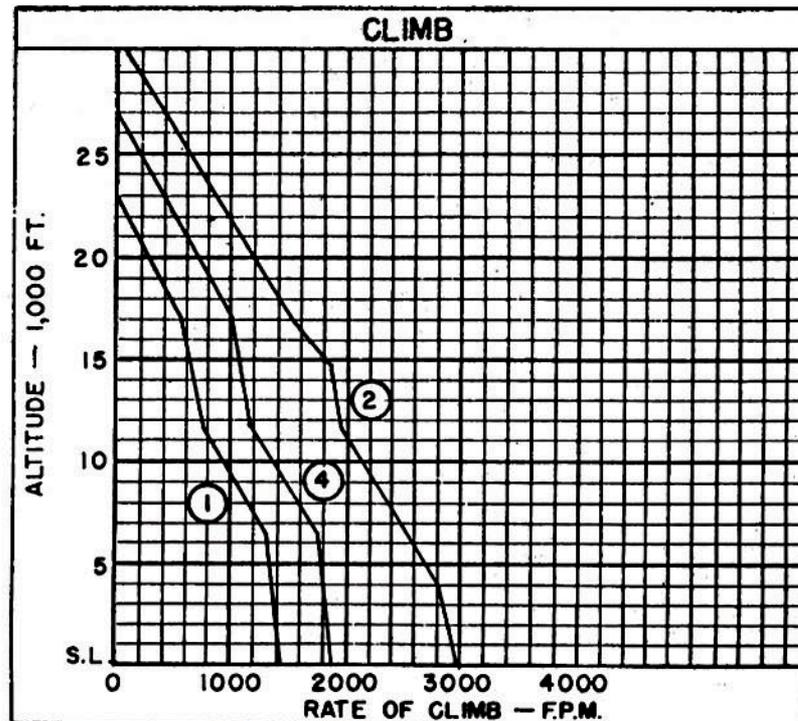
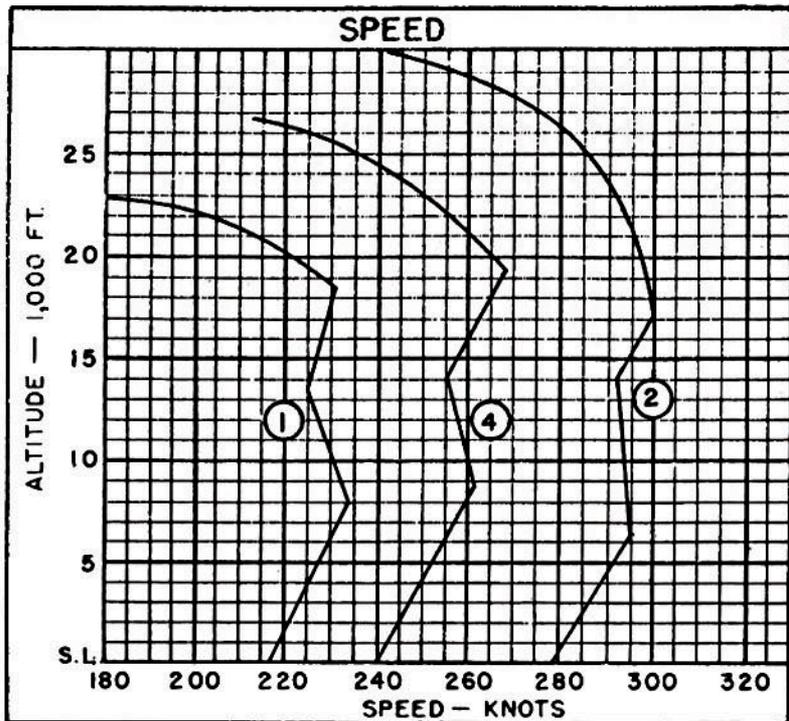
## NOTES

(A) Normal Power

Performance is based on AD series flight test.

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

All loadings include AN/APS-31 radar.



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

○ LOADING CONDITION COLUMN NUMBER

# NOTES

Rack and pylon installations as follows:

- Condition (1) Centerline bomb displacing gear, 2-Mk. 51 racks, 12-Aero 14A racks  
 (2) Centerline bomb displacing gear, 2-Mk. 51 racks, 12-Aero 14A racks  
 (3) Centerline bomb displacing gear, radar pylon, 1-Mk. 51 rack, 12-Aero 14A racks  
 (4) Centerline bomb displacing gear, radar pylon, 6-Aero 14A racks

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.

## LOW ALTITUDE ATTACK COMBAT RADIUS PROBLEM (RECIPROCATING ENGINE)

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

CLIMB: On course to 15,000 feet at normal power.

CRUISE-OUT: At 15,000 feet at V for long range. External fuel tanks dropped when empty.

DESCEND: To sea level. (No fuel used, no distance gained).

DROP BOMBS, FIRE ROCKETS

COMBAT: 15 minutes at sea level. (5 minutes at military power and 10 minutes at normal power.)

CLIMB: On course to 5,000 feet at normal power.

CRUISE-BACK: At 5,000 feet at V for long range.

RESERVE: 20 minutes at V for long range at sea level plus 5% of initial fuel load.

$$\text{COMBAT RADIUS} = \text{CLIMB} + \text{CRUISE-OUT} = \text{CLIMB} + \text{CRUISE-BACK}$$

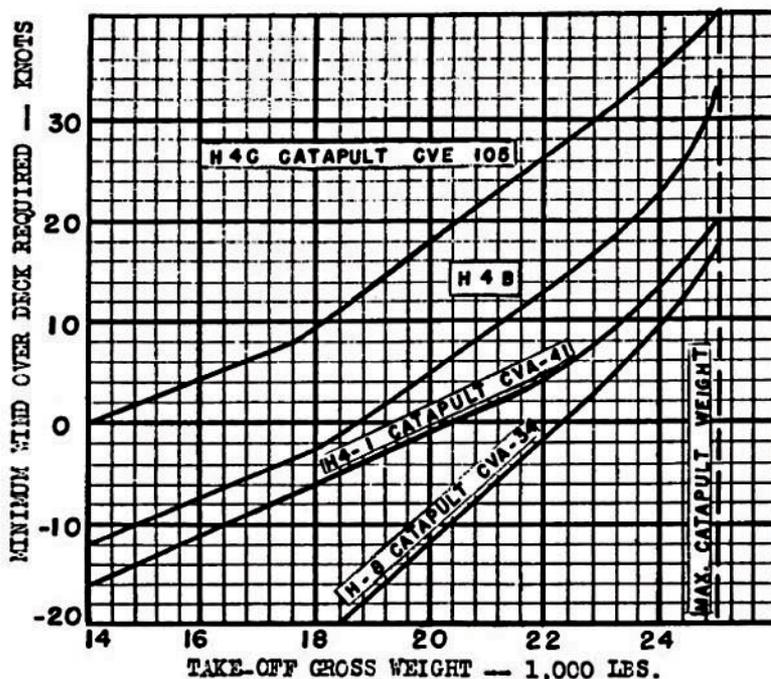
## ELECTRONICS (Continued)

TRANS.....AN/ARN-21  
 (Planned Service Installation)  
 RADAR RELAY.....AN/ARR-27A  
 UHF TRANS-REC.....AN/ARC-27 or -27A  
 ALTIMETER.....AN/APN-1 or -22  
 RADIO COMPASS.....AN/ARN-6  
 UHF D.F.....AN/ARA-25

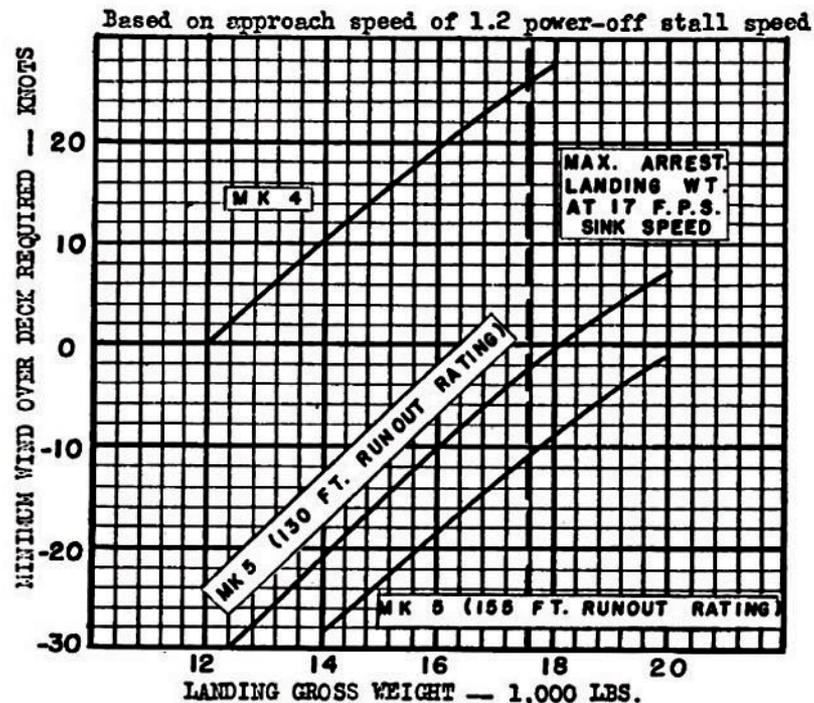
Provisions only for:  
 JAMMING TRANS.....AN/APT-16  
 VHF COM.....AN/ARC-1A  
 SONOBUOY REC.....AN/ARR-26  
 CHAFF DISPENSER.....MX-900/A  
 WIRE RECORDER.....IC/VRW-7  
 SEARCHLIGHT.....AN/AVQ-2A

# CARRIER SUITABILITY

MINIMUM WIND OVER DECK REQUIRED FOR CATAPULTING  
VS. GROSS WEIGHT



MINIMUM WIND OVER DECK REQUIRED FOR LANDING  
VS. GROSS WEIGHT



## 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.

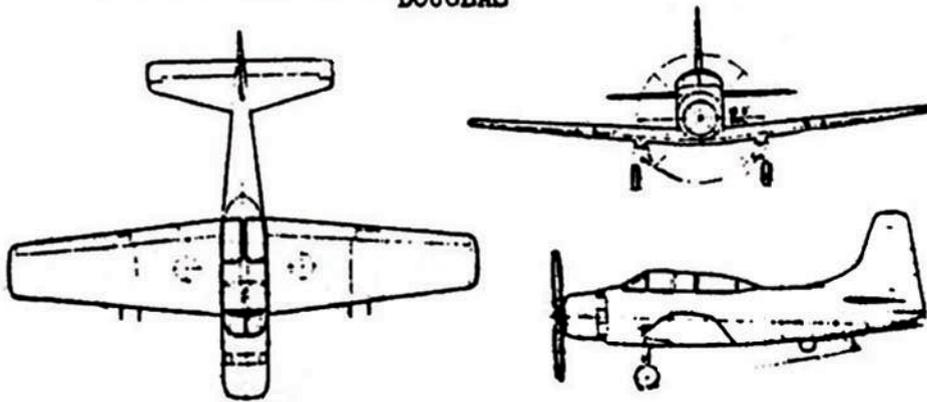
NAVAER-13351 (Nov 5-52)

## CHARACTERISTICS SUMMARY

NIGHT ATTACK

AD-5N

DOUGLAS



WING AREA 400 sq.ft.  
WING SPAN 50'-0"

LENGTH 40'-0"  
HEIGHT 15'-9"

AVAILABILITY			PROCUREMENT			
NUMBER AVAILABLE			NUMBER DELIVERED			
			IN FISCAL YEARS			
ACTIVE	RESERVE	TOTAL				

## STATUS

First Flight ----- August 1952  
Service Use ----- March 1954

## ENGINES

I W.A.C. R-3350-26WA

BHP/ RPM/ ALT.

T.O. 2700/2900/ S.L.

MIL. 2700/2900/ 3700'

2100/2600/14500'

NORM. 2300/2600/ 6200'

1900/2600/17000'

## FEATURES

Crew - 3

Folding wings

Arresting gear

Catapulting gear

Single dive brake

Aileron boost

980 gals.fuel max.  
capacity

## ARMAMENT

BASIC MISSION:

1-500 Lb & 6-100 Lb  
bombs.

AN/APS -31 Radar

- - - - -Store - - -

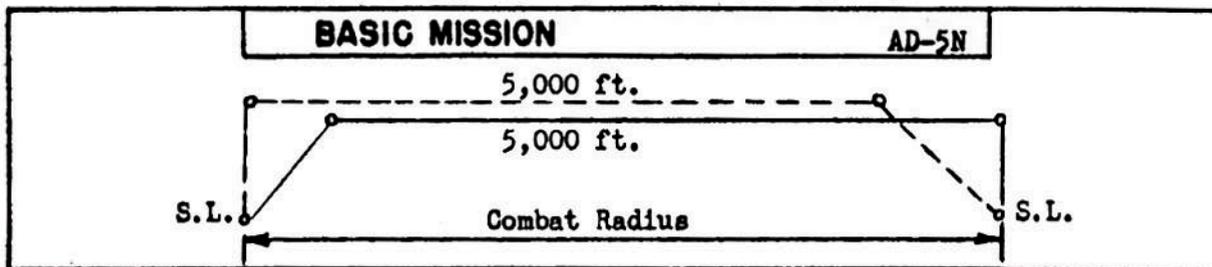
2MK, 51 wing racks -  
2000 lbs. cap. each

12 - Aero 14 wing racks

3000 lb total cap.

Ctr. Line cap. - 3600 Lbs  
Max. Bomb cap. - 7325 Lbs

## CHARACTERISTICS SUMMARY



PERFORMANCE		
<b>COMBAT RADIUS</b>	<b>COMBAT RANGE</b>	<b>SPEED</b>
205 naut. mi.	575 naut. mi.	263 knots at S.L. ft.
165 knots avg.	165 knots avg.	280 knots at 15,000 ft.
*2.7 hours		260 knots at 25,000 ft.
*Mission time Basic Mission		Combat Weight Military Power
<b>CLIMB</b>	<b>CEILING</b>	<b>TAKE OFF</b>
1,640 ft./min.	24,500 ft.	1,200 ft. - calm
Sea Level, T. O. wt. Normal Power	100 ft./min., T. O. wt. Normal Power	No assist
2,580 ft./min.	24,300 ft.	600 ft. -25 knot
Sea Level, Combat wt. Military Power	500 ft./min., Combat wt. Military Power	wind No assist
<b>LOAD</b>	<b>WEIGHTS</b>	<b>STALLING SPEED</b>
Fuel 380 gal.	Empty 12,112 lbs.	89.7 knots
fixed 380 drop	Combat 18,505 lbs.	Flaps down, T. O. wt.
Provisions for 600 gals. of droppable fuel.	Take-off 20,517 lbs.	<b>TIME TO CLIMB</b>
Payload-1100 lbs. Bombs		-- ft. in -- min.
		Combat Wt., Max. Power

### NOTES

**PERFORMANCE BASIS:** Performance is based on contractor's results of AD series flight tests.

**RANGE AND RADIUS** are based on AD series flight test fuel consumption increased 5%.

Reissue due to availability of contractor's AD-5 flight test data.

NAVAER-1519B (Rev. 10-51)