

# STANDARD AIRCRAFT CHARACTERISTICS

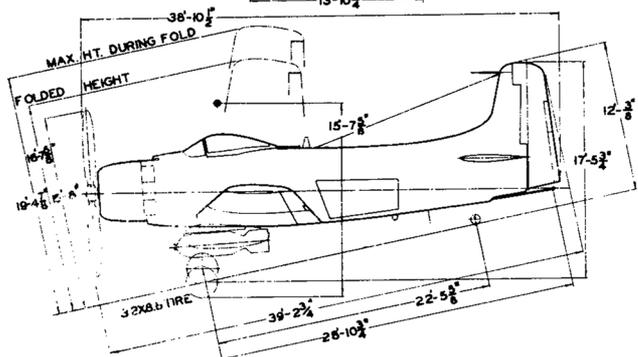
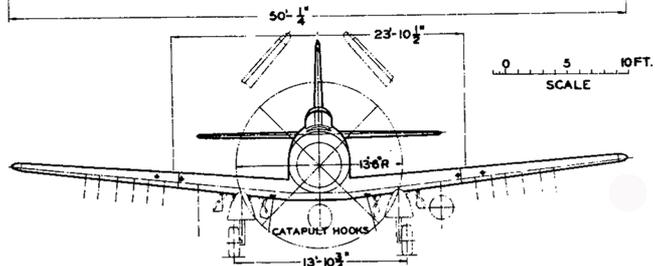
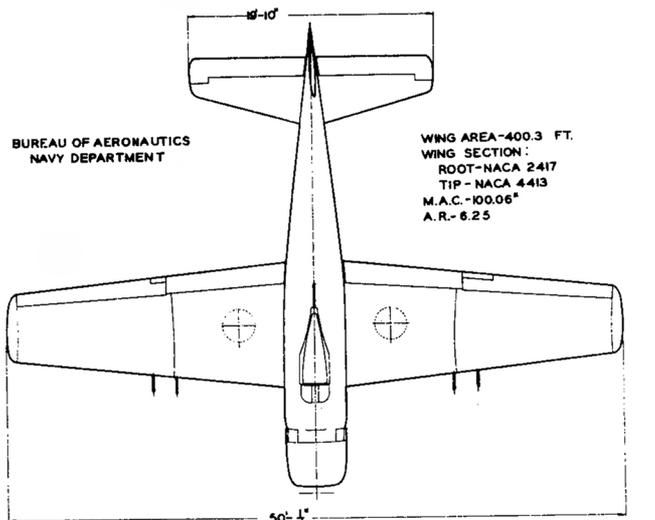
AD-4B

DOUGLAS

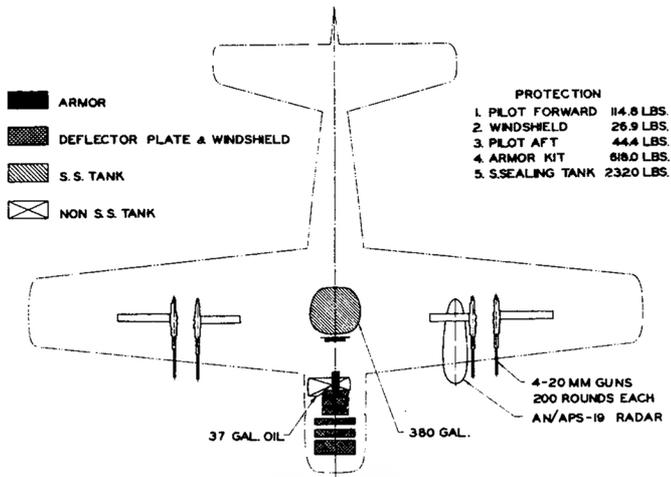
Standard Aircraft Characteristics NAVAER 1335A (REV. 1-55)

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

WING AREA-400.3 FT.  
WING SECTION:  
ROOT-NACA 2417  
TIP-NACA 4413  
M.A.C.-100.06"  
A.R.-6.25

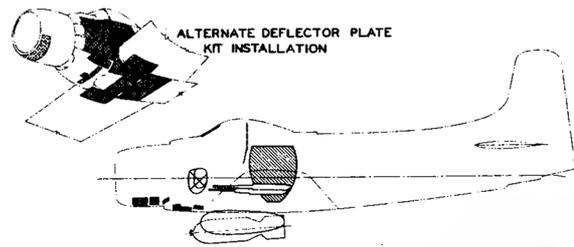
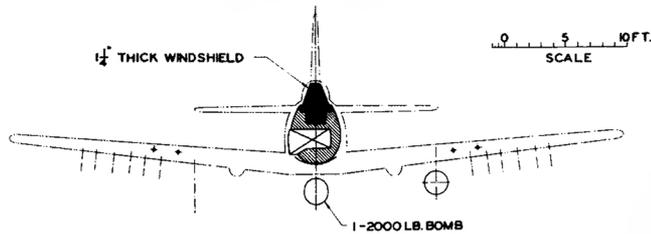


DESCRIPTIVE ARRANGEMENT



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

- PROTECTION
1. PILOT FORWARD 114.8 LBS.
  2. WINDSHIELD 26.9 LBS.
  3. PILOT AFT 44.4 LBS.
  4. ARMOR KIT 618.0 LBS.
  5. S.SEALING TANK 232.0 LBS.



ARMAMENT & TANKS

Standard Aircraft Characteristics NAVAER 1335B (Rev. 1-55)

## POWER PLANT

NO. & MODEL.....(1) R-3350-26WA  
 MFR.....Wright Aero.  
 SUPERCH.....1 Stage, 2 Speed  
 RED. CR. RATIO......4375  
 PROP. MFR.....Aero Products  
 BLADE DESIGN.....M2042-162-0  
 NO. BL./DIA.....4/13' - 6"

## RATINGS

	BHP	@ RPM	ALT.
COMBAT	3150	2900	S.L.
T. O.	2700	2900	S.L.
MIL.	2700	2900	S.L. to 3700'
	2100	2600	11,500' to 14,500'
NORL.	2300	2600	S.L. to 6200'
	1900	2600	12,000' to 17,000'

SPEC. NO. M836-C

## ORDNANCE

NO.	Size	Location	Rds.
4	20mm, MG	Wing	800

## FIRE CONTROL

MK 8 Sight  
 MK 3 Mod 5 Bomb Director

## EXTERNAL LOAD

Racks	No.	Location	Max. Cap.
Aero 14E	12	Outer wing	500 lbs.

14 & 30 in.  
 Bomb Ejectors 1 Fuselage 3,500 lbs.  
 MK 51-14 2 In. Wing 2,000 lbs.

## STORES

Special: MK 7, 8  
 Conventional:

	Location	NO.
250 lb.	Outer Wing	12
1,000	Fuselage & In. wing	3
2,000	Fuselage & In. wing	3
5" HVAR Rockets	Outer Wing	12

MAX. BOMB CAP. (Ship) 6,200 lbs.  
 (Shore) 12,000 lbs.

## MISSION AND DESCRIPTION

The primary mission of the AD-4B is the destruction of sea and ground targets by dive bombing attacks. The airplane is also capable of torpedo, glide bombing, rocket attacks and tactical support missions.

The airplane is conventional in design and structure. The landing gear, canopy, flaps, wing folding, and three fuselage dive brakes are hydraulically operated. Flaps are of the single slotted trailing edge type. The pressure-balance type ailerons are operated by power boost, the rudder is equipped with a spring tab system and the longitudinal trim is leveled by an electrically adjustable stabilizer.

Oxygen for five hours is supplied. Twenty gallons of ADI fluid are supplied for injection.

## DEVELOPMENT

First Flight.....August 1952  
 Service Use.....July 1953

## WEIGHTS

LOADINGS	LBS.	L.F.
EMPTY.....	11,783.....	
BASIC.....	13,381.....	
DESIGN.....	15,595.....	7.0
COMBAT.....	15,952.....	6.8
MAX.T.O. (Field).....	25,000.....	4.1
(CAT.).....	25,000.....	
MAX.LAND (Field).....	21,000.....	
(Arrest).....	17,500.....	6.1

All weights are Actual.

## FUEL AND OIL

No. Tanks	Total Gal.	Location
1	380	Fuselage
1	300	Ctr.Drop
2	600	Wng.Drop
2	300	Wng.Drop

FUEL GRADE .....115/145  
 FUEL SPEC.....(applicable).....MIL-F-5572

## OIL

CAPACITY (Gals.).....36  
 GRADE.....1,100  
 SPEC.....(applicable).....MIL-O-6082

## DIMENSIONS

WING  
 AREA .....400 Sq. Ft.  
 SPAN.....50' - 0"  
 SPAN (Wings Folded).....23' - 11"  
 MAC.....8' - 4"  
 LENGTH.....59' - 3"  
 HEIGHT.....15' - 8"  
 TREAD.....13' - 11"  
 PROP. GRD. CLEAR.....6"

## ELECTRONICS

UFF COMM.....AN/ARC-27  
 AN/ARC-1 Alternate  
 RANGE REC.....R-23A/ARC-5  
 RADIO REC.....AN/ARR-2A  
 RADIO COMPASS.....AN/ARN-6  
 IFF.....AN/APX-6  
 RADAR.....AN/APS-19

PERFORMANCE SUMMARY						
TAKE-OFF LOADING CONDITION		(1)LOW ALT. ATTACK 1-MK 7 STORE	(3)LOW ALT. ATTACK 1-MK 7 STORE 2-150 gal.ext.tanks	(4)LOW ALT. ATTACK 1-MK 8 STORE 2-300 gal.ext.tanks		
TAKE-OFF WEIGHT	lb.	18,669	20,717	24,221		
Fuel	lb.	2,280	4,080	5,880		
Fayload	lb.	1,680	1,680	3,250		
Wing loading	lb./sq.ft.	46.7	51.8	60.6		
Stall speed - power-off	kn.	81.5	85.9	93.1		
Take-off run at S.L. - calm	ft.	960	1,250	1,830		
Take-off run at S.L. 25 kn. wind	ft.	490	660	1,010		
Take-off to clear 50 ft. - calm	ft.	1,680	2,110	2,900		
Max. speed/altitude	(A) kn./ft.	274/16,000	260/15,700	247/15,600		
Rate of climb at S.L.	(A) fpm.	1,830	1,390	900		
Time: S.L. to 10,000 ft.	(A) min.	5.3	6.6	9.9		
Time: S.L. to 20,000 ft.	(A) min.	13.4	17.8	-		
Service ceiling (100 fpm)	(A) ft.	26,300	23,500	19,000		
Combat range	n.mi.	780	1,430	1,790		
Average cruising speed	kn.	167	170	174		
Cruising altitude(s)	ft.	5,000	5,000	5,000		
Combat radius	n.mi.	280	635	630(B)		
Average cruising speed	kn.	155	166	170		
Mission time	hr.	3.7	7.9	7.8		
COMBAT LOADING CONDITION		(2) 60% FUEL 1-MK 7 STORE RETAINED				
COMBAT WEIGHT	lb.	17,757				
Engine power		Military				
Fuel	lb.	1,368				
Combat speed/combat altitude	kn./ft.	263/S.L.				
Rate of climb/combat altitude	fpm/ft.	2,960/S.L.				
Combat ceiling (500 fpm)	ft.	23,800				
Rate of climb at S.L.	fpm.	2,980				
Max. speed at S.L.	kn.	263				
Max. speed/altitude	kn./ft.	278/15,200				
LANDING WEIGHT	lb.	14,921				
Fuel	lb.	212				
Stall speed - power-off	kn.	73.5				
Stall speed - with approach power	kn.	70.4				

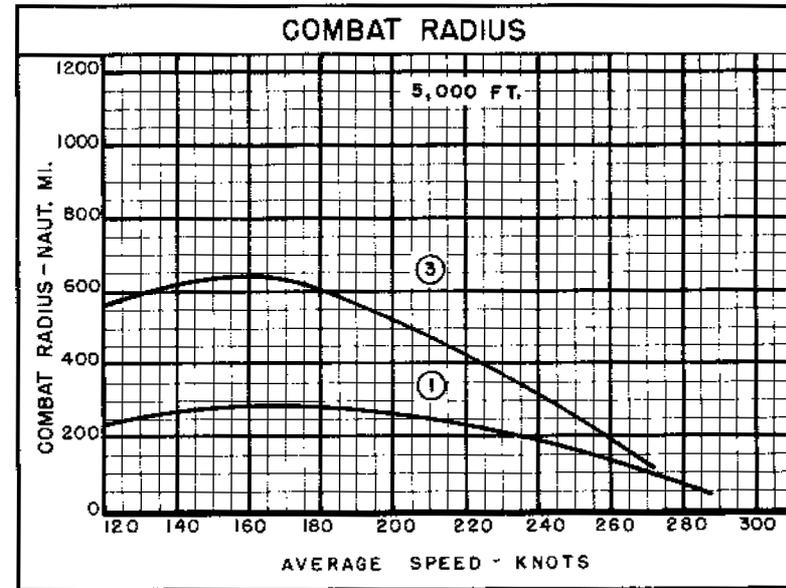
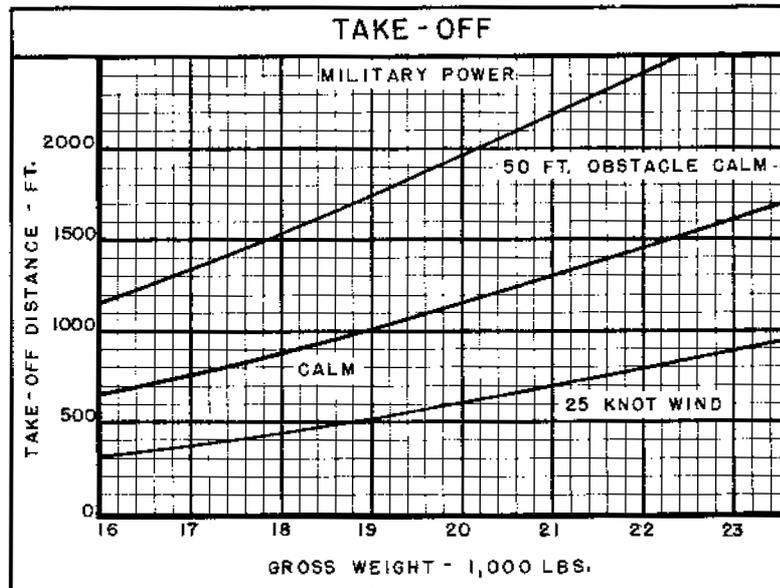
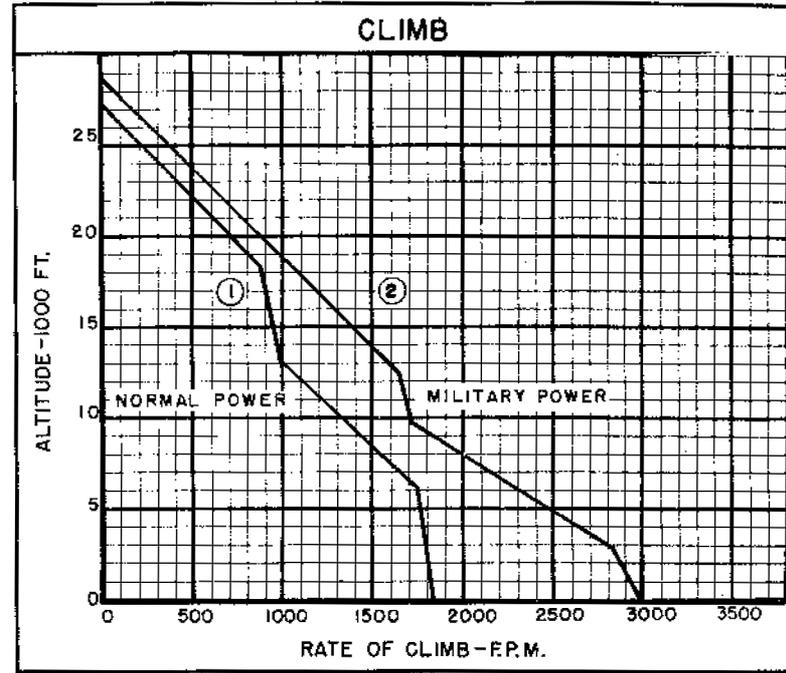
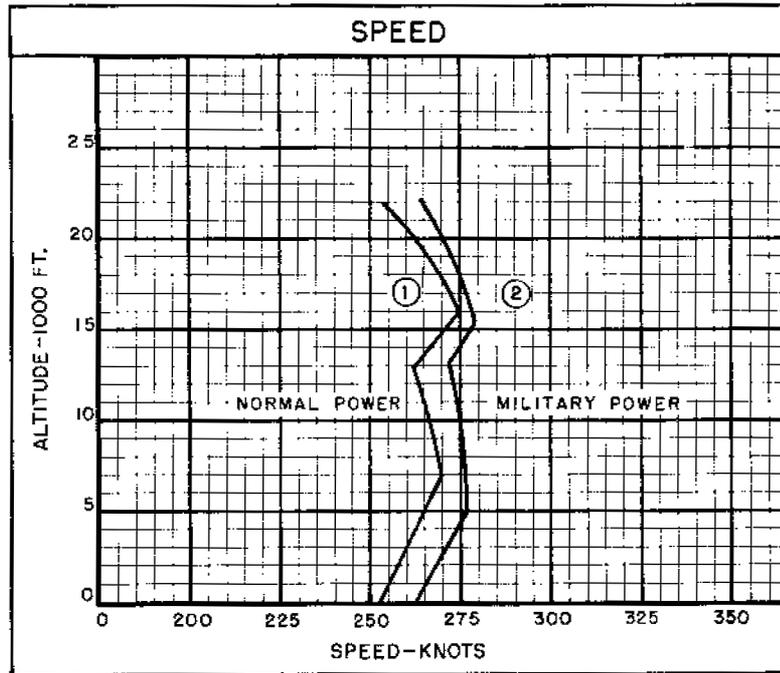
## NOTES

(A) Normal rated power.

(B) Fuel dropped with external tanks prior to combat (1,232 lb.)

All loadings include all main racks, 12 Aero 14 E racks.

REASON FOR REISSUE - Performance based on Contractor's flight tests of Models AD-4B, AD-5 and AD-6 airplanes.



○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics MAYAER 1335E (Rev. 1-55)

# NOTES

SPOTTING: A maximum operating spot aboard a CVA-19 (canted deck) class carrier consists of 42 aircraft on the flight deck with elevators and landing area clear and 41 aircraft on the hangar deck with hangar bay five doors and elevators clear. Total 83 aircraft.

## LOW ALTITUDE ATTACK AND GROUND SUPPORT PROBLEM

WARM-UP, TAKE-OFF, ACCELERATE: 10 minutes at normal rated power at sea level.

CLIMB: To 5000 feet at normal rated power.

CRUISE-OUT: At speed for long range at 5000 feet.

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

DROP BOMBS AND FIRE ROCKETS

COMBAT: 5 minutes at maximum power plus 10 minutes at normal rated power at sea level.

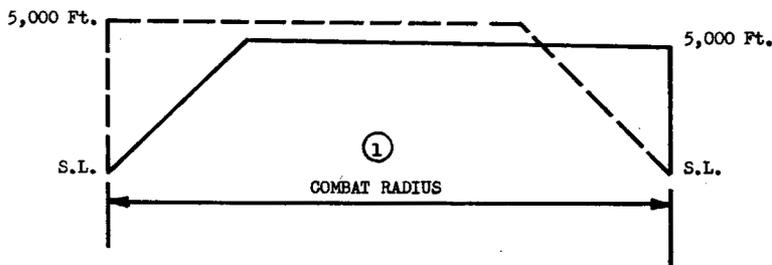
CLIMB: To 5000 feet with normal rated power.

CRUISE-BACK: At speed for long range at 5000 feet.

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

COMBAT RADIUS = CLIMB + CRUISE OUT + CLIMB + CRUISE BACK

MISSION TIME = TIME REQUIRED FOR CLIMB + CRUISE OUT + COMBAT + CLIMB + CRUISE BACK



LOADING CONDITION COLUMN NUMBER