

STANDARD AIRCRAFT CHARACTERISTICS
SB2C-5 "HELLDIVER"

MISSION AND DESCRIPTION

A carrier based dive bomber widely used in combat during the last three years of World War II, and in carrier complements until 1947 when its replacement by the AD series began. The plane is still employed in air groups where replacement has not been effected.

Dive brakes enable steep angle dive attack and structural design allows high angle rocket firing and strafing.

Structure is conventional. Flaps are split type, perforated.

DIMENSIONS

SPAN.....49'-9"
 LENGTH.....36'-8"
 HEIGHT.....14'-9"
 WING AREA.....422 sq. ft.
 M.A.C.....109.3"
 TREAD.....16'-0"

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY.....	10589.....	
BASIC.....		
DESIGN.....	17000.....	6.5
COMBAT.....	14415.....	7.5
MAX.T.O.....		
MAX.LAND.....	17000.....	

All weights are actual.

FUEL AND OIL

Gals. - No. Tanks - Location
 355.....5..Wing (protected)
 200.....2..Wing (drop)
 100.....1..B.B. (drop) (open door)

FUEL GRADE.....100/130
 FUEL SPEC.....AN-F-48

OIL

CAPACITY (Gals.).....37
 SPEC.....AN-O-8
 GRADE.....1120

ELECTRONICS

RANGE RECEIVER.....AN/ARC-5
 VHF COMMAND.....AN/ARC-1
 HOMING.....AN/ARR-2A
 IFF.....AN/APX-2B
 RADAR.....AN/APS-4
 ALTIMETER.....AN/APN-1
 BOMB DIRECTOR.....AN/ASG-10A

POWER PLANT

NO. & MODEL.....(1) R-2600-20
 MFR.....WAC
 SUPERCH.....1 Stage, 2 Speed
 PROP.GEAR RATIO.....16:9
 PROP. MFR.....Curtiss
 PROP.DES.NO.....SPA-9-200
 NO.BL./DIA.....4/12'-2"

RATINGS

	Bhp. @ Rpm.	@ Alt.
T.O.	1900 2800	S.I.
MIL.	1750 2600	3200'
	1450 2600	15000'
NORMAL	1600 2400	5000'
	1350 2400	14800'

SEE NOTE

SPEC NO. N-776-B

ORDNANCE

No.	Size	GUNS		Rds.
		Location		
2	20mm.	Wing		400
2	30 Cal.	Aft		2000

SIGHT

MK. 8-6 Illuminated Sight

BOMBS

Type	Size	Location	No.
Bomb	2000#	B.B.	1
Bomb	1000#	B.B.	1
Bomb	500#	B.B.	2
Bomb	100#	B.B.	3
D.B.	325#	B.B.	2
Torp.	MK13-3	B.B.	1
Bomb	1000#	Wings	2
Bomb	500#	Wings	2
Bomb	100#	Wings	2
D.B.	325#	Wings	2

ROCKETS

8-5" HVAR on MK. 5 Rocket Launchers



PERFORMANCE SUMMARY

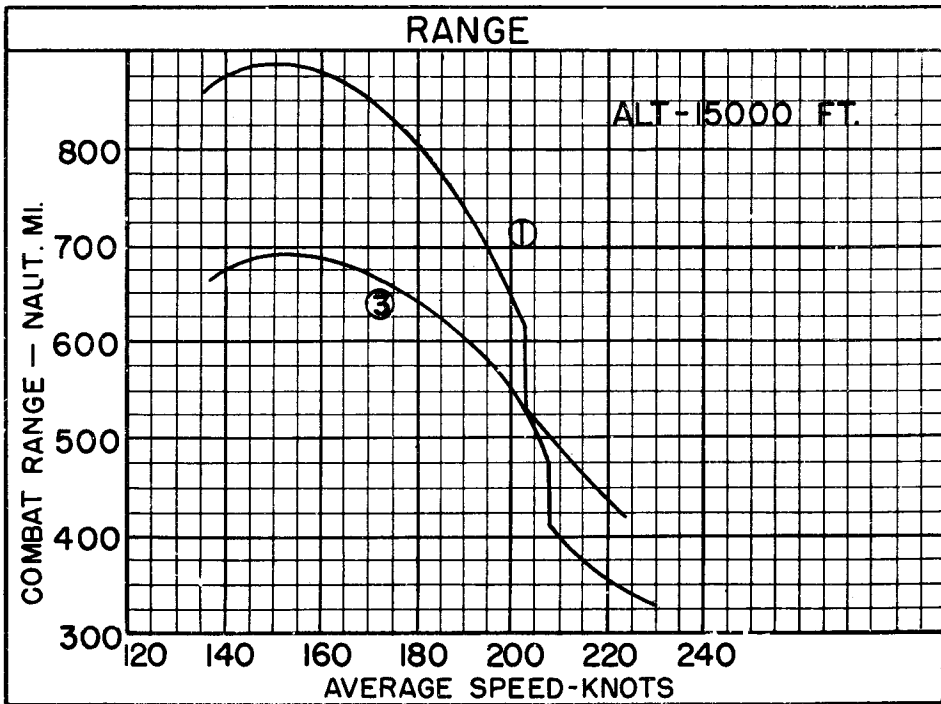
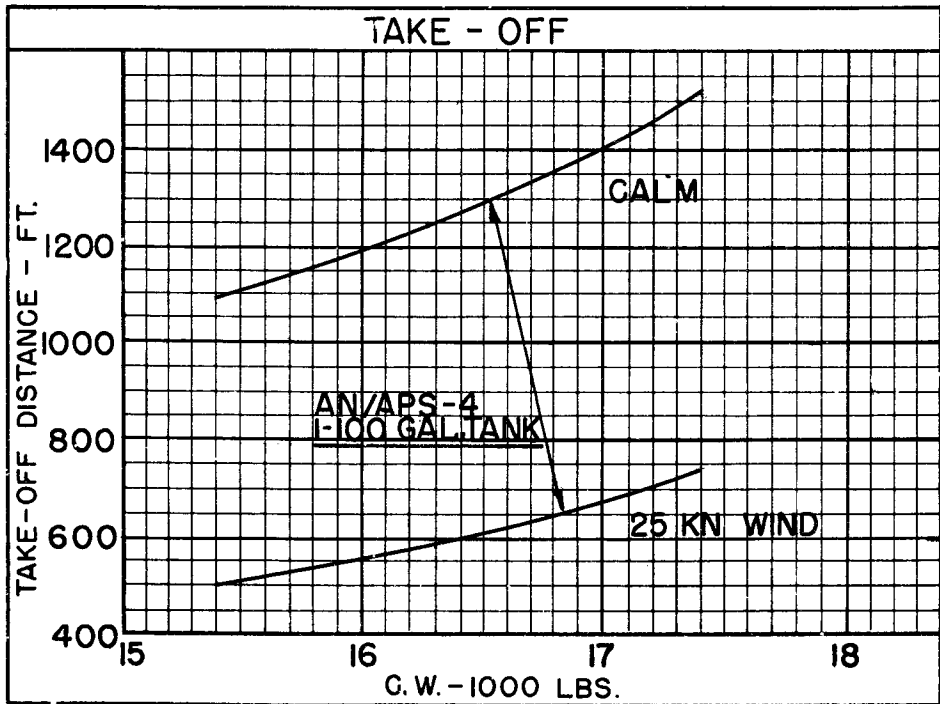
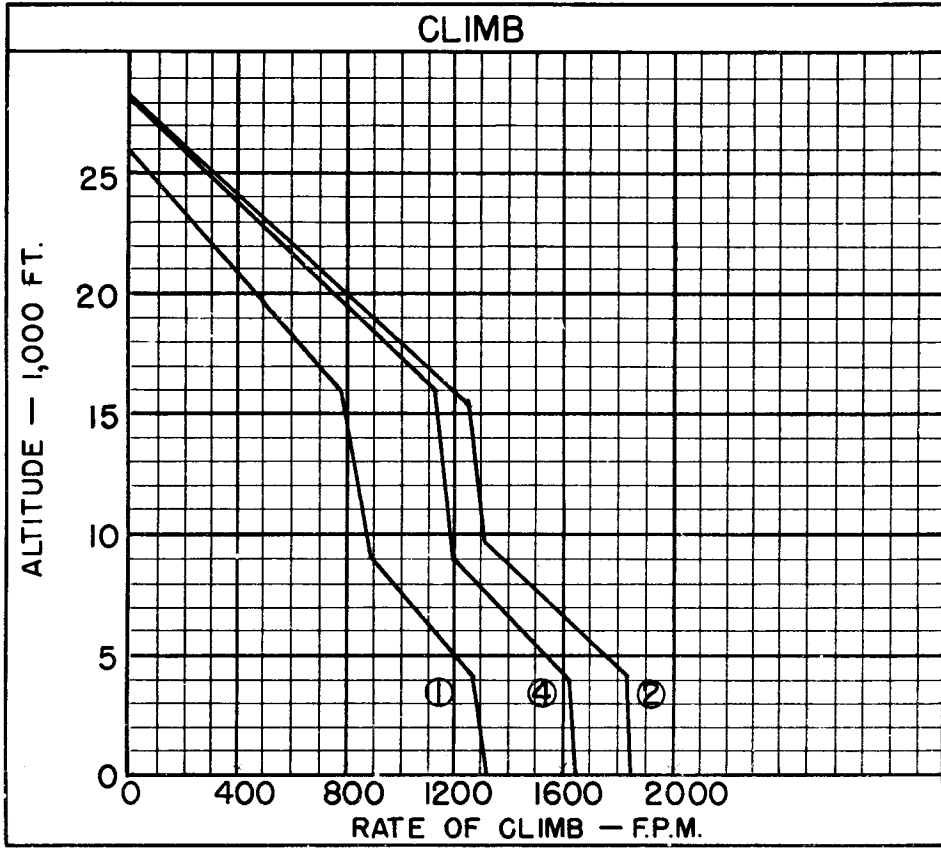
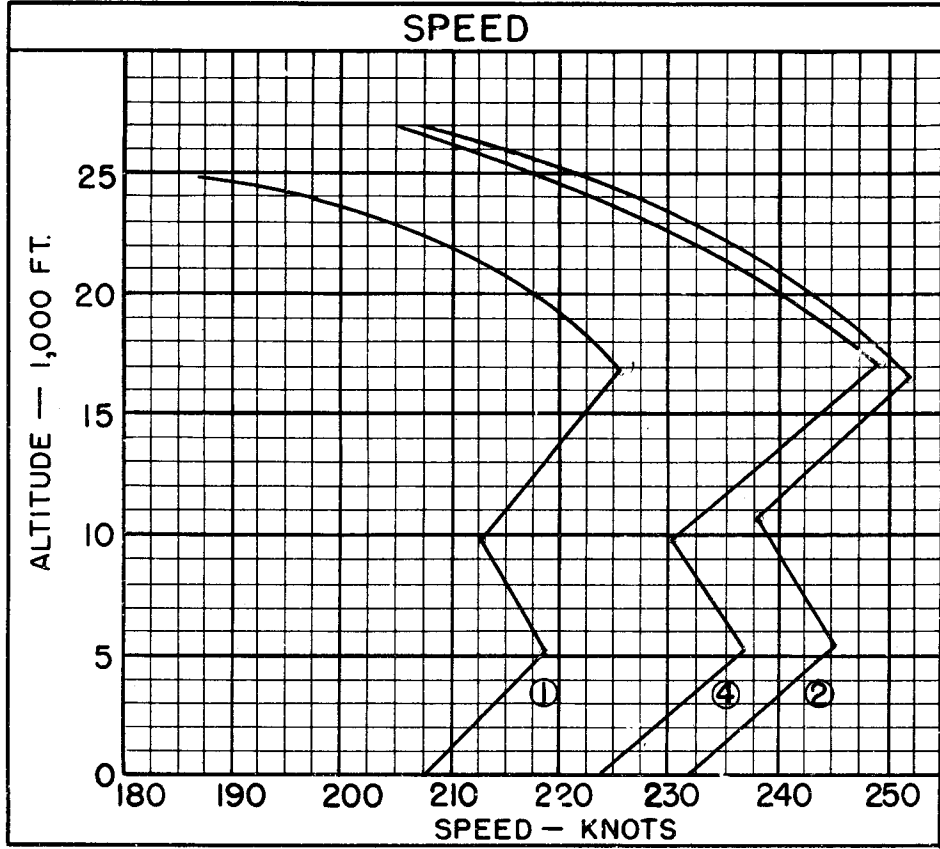
LOADING CONDITION		(1) Bomber 1-1000# AN/APS-4 1-100 Gal. Tank	(3) Bomber 1-1000# 2-250#	
TAKE-OFF WEIGHT	lbs	16287	15915	
Fuel - Fixed/Drop	lbs	2130/600	2130	
Bombs	lbs	1000	1500	
	lbs			
Wing/Power Loading (A)	lbs/sq.ft. lbs/ bhp	38.6/12.0	37.7/11.8	
Stall Speed--Power off	kn	77.8	77.0	
Stall Speed--Power off - No Fuel	kn	71.0	71.6	
Stall Speed--Power on	kn	66.2	65.5	
Maximum Speed/Alt (B)	kn/ft	226/16900	232/16900	
Take-off Distance, deck -- calm	ft	1243	1142	
Take-off Distance, deck 25 kn.	ft	584	531	
Take-off Distance, Airport	ft			
Rate of climb -- sea level (B)	ft/min	1320	1380	
Service Ceiling (B)	ft	24700	25300	
Time-to-climb 10000 ft. (B)	min	8.8	8.3	
Time-to-climb 20000 ft. (B)	min	22.4	20.6	
Combat Range/V av 15000	ft. n.mi/kn	890/150	690/155	
Combat Radius/V av	ft. n.mi/kn	345/175	260/175	
LOADING CONDITION		(2) Combat	(4) Combat	
GROSS WEIGHT	lbs	14415	14415	
Engine power		Military	Normal	
Fuel	lbs	2130	2130	
Bombs/Tanks				
Max. speed at sea level	kn	232	224	
Max. speed/ACA ft.	kn	252/16500	249/17100	
Combat speed/Alt.	kn/ft	235/1500	228/1500	
Rate of climb SL	ft/min	1850	1650	
Ceiling for 500 fpm R/C	ft	23300	22900	
Time-to-climb/Alt.	min/ft	14.9/20000	16.2/20000	

NOTES

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

Performance is based on flight test of the SB2C-5 airplane. Range and radius are based on flight test fuel consumption data of the SB2C-5 airplane increased by 5%.

NOTES CONTINUED ON LAST PAGE



NOTES

Combat Condition: Two MK51-7 wing bomb racks aboard. Bombs, rocket launchers and AN/APS-4 radar not aboard
 The addition of 8 MK5-1 launchers reduces Condition 2 Vmax at SL to 229 kn. and Vmax/ACA to 249 kn/16400 ft.

Two MK51-7 wing bomb racks and sway bracing aboard in all conditions. AN/APS-4 radar on wing bomb rack in Condition (1) only.

BOMBER COMBAT RADIUS FORMULA NO. B-1 CONDITIONS NOS. -(1) & (3)					RADIUS-CLIMB/CRUISE-OUT-CRUISE BACK		
<u>WARM-UP</u> 20 min.	<u>RENDEZVOUS</u> 20 min. at sea level	<u>CLIMB</u> to 15000 ft.	<u>CRUISE-OUT</u> at 15000 ft. 180 kts. TAS	<u>DROP TANKS</u> <u>DESCEND</u> to 1500 ft.	<u>COMBAT</u> 15 min. at 1500 ft.	<u>CRUISE-BACK</u> at 1500 ft. 170 kts.TAS	<u>RESERVE</u> 60 min. at Vel. for Max. Range
<u>TAKE-OFF</u> .1 min.	at 60% N.S.P. Auto.Lean.	at N.R.P. Auto Lean.	Auto Lean.	DROP BOMBS FIRE ROCKETS	5 min. Mil. 10 min.Nor.Pr.	Auto. Lean.	Auto.Lean.

Engine ratings from Flight Test:

	<u>Bhp.</u>	<u>Rpm.</u>	<u>Alt.</u>
T.O.	1900	2800	S.L.
Mil.	1750	2600	4400
	1450	2600	15400
Norm.	1600	2400	4200
	1350	2400	16000