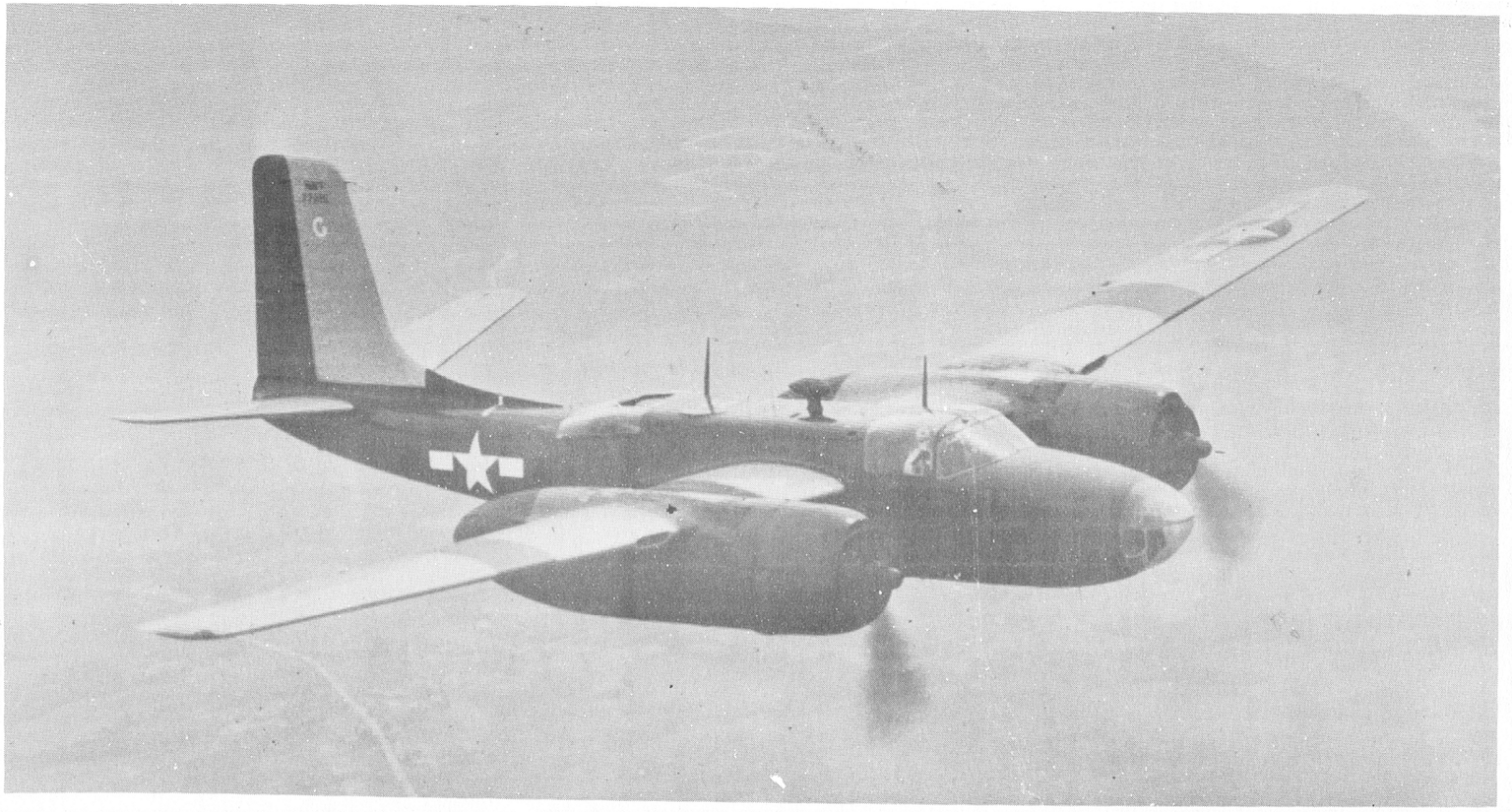
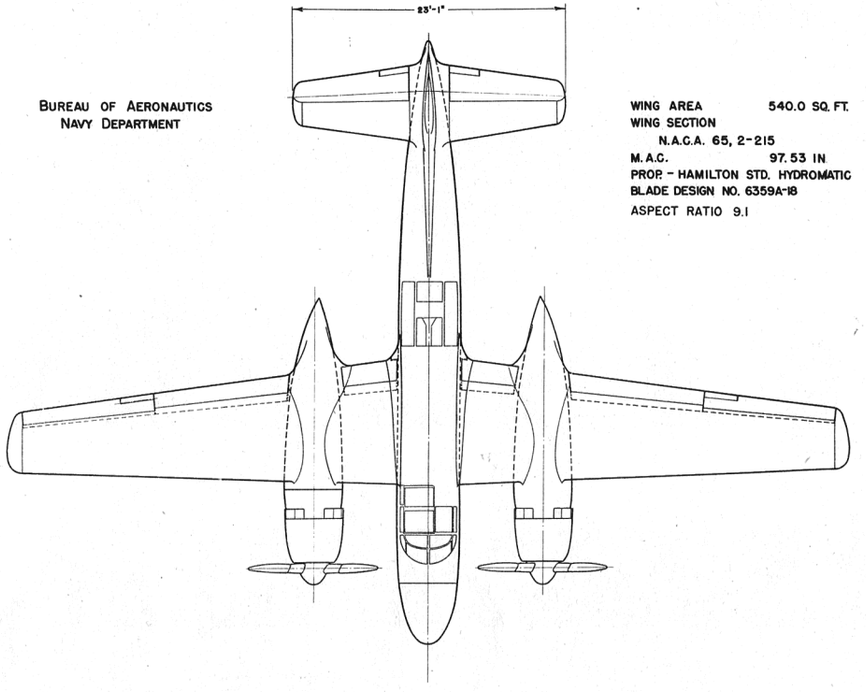


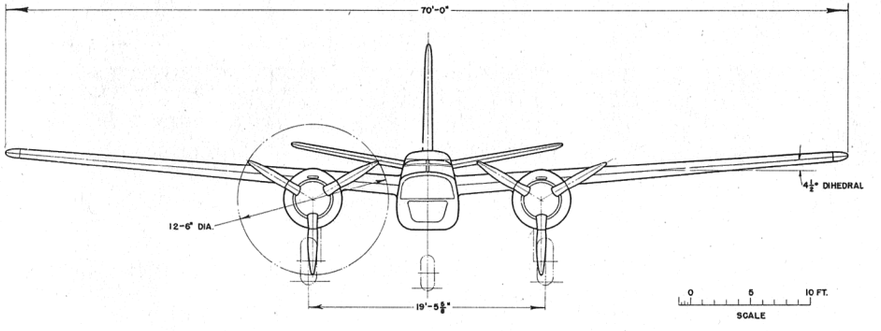
STANDARD AIRCRAFT CHARACTERISTICS

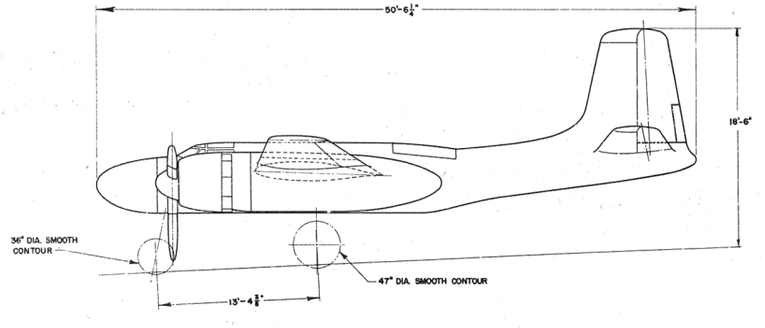
JD-1 "INVADER"

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

WING AREA 540.0 SQ. FT.
WING SECTION
N.A.C.A. 65, 2-215
M.A.C. 97.53 IN.
PROP. - HAMILTON STD. HYDROMATIC
BLADE DESIGN NO. 6359A-18
ASPECT RATIO 9.1







DESCRIPTIVE ARRANGEMENT

MISSION AND DESCRIPTION

Target tow and utility airplane converted from Air Force Model A-26, "Invader". Built by Douglas, it is a midwing monoplane with tricycle landing gear. Conversion work was accomplished at NAS, Norfolk. Two tow reels are installed normally with provisions for photographic and electronic equipment.

Structure is conventional, using a two-spar wing having double-slotted flaps electrically actuated. All movable control surfaces are sealed-gap type. C-1 auto-pilot is fitted.

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY	22435	
BASIC	23657	
DESIGN	26000	3.30
MAX. T.O.	34000	2.80
MAX. LAND	32000	

All weights are actual.

POWER PLANT

NO. & MODEL....(2)R-2800-71
MFR.....P. & W.
SUPERCH.....1 Stage, 2 Speed
PROP.GEAR RATIO.....2:1
PROP. MFR.....Ham. Std.
PROP.DES.NO.....6359A-18
NO.BL./DIA..... 3/12'-6"

RATINGS

	Bhp	@Rpm	@Alt.
T.O.	2000	2700	SL
MIL.	2000	2700	SL to 1500'
	1600	2700	13500'
NORMAL	1600	2400	SL to 5700'
	1450	2400	13000'

SPEC NO. A-8051-B

FUEL AND OIL

Gals.	No. Tanks	Location
925	5	Wing (Protect)

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

OIL

CAPACITY (Gals.).....60
SPEC.....AN-O-8
GRADE.....1100

ORDNANCE

12000' of 1/8" cable
Tow target MK 23 Mod. 0

DIMENSIONS

SPAN.....70'-0"
LENGTH.....50'-6"
WING AREA.....540 sq. ft.
M.A.C.....97.5"
TREAD.....19'-6"
HEIGHT.....18'-6"

ELECTRONICS

AUTO. D.F.....AN/ARN-7
TRANSMITTER.....AN/ART-13
VHF COMMAND.....AN/ARC-1
HF R/T.....AN/ARC-5
SEARCH.....AN/APS-3
IFF.....AN/APX-2
ALTIMETER.....AN/APN-1
LORAN.....AN/APN-4
MARKER BEACON.....AN/ARN-8

PERFORMANCE SUMMARY

LOADING CONDITION		(1) UTILITY TOW TARGET STOWED	(2) UTILITY TOW TARGET TRAILING		
TAKE-OFF WEIGHT	lbs	32000	32000		
Fuel	lbs	5550	5550		
Bombs	lbs				
PAYLOAD	lbs	1163	1163		
Wing/Power Loading (A)lbs/sq.ft.lbs/	bhp	59.3/11.0	59.3/11.0		
Stall Speed--Power off	kn	100.2	100.2		
Stall Speed--Power off - No Fuel	kn	91.2	91.2		
Stall Speed--Power on	kn	93.6	93.6		
Maximum Speed/Alt (B)	kn/ft	287/13200	255/12400		
Take-off Distance, deck -- calm	ft	1275			
Take-off Distance, deck 25 kn.	ft				
Take-off Distance, Airport	ft	2500			
Rate of climb -- sea level (B)	ft/min	1840	1620		
Service Ceiling (B)	ft	26800	23700		
Time-to-climb 10000 ft. (B)	min	6.1	7.2		
Time-to-climb 20000 ft. (B)	min	16.4	22.1		
Combat Range/V av 1500 ft.	n.mi/kn	1490/151	1200/140		
Combat Radius/V av ft.	n.mi/kn				
TIME ON STATION	Hrs		3.0		
LOADING CONDITION					
GROSS WEIGHT	lbs				
Engine power					
Fuel	lbs				
Bombs/Tanks					
Max. speed at sea level	kn				
Max. speed ft.	kn				
Combat speed/Alt.	kn/ft				
Rate of climb SL	ft/min				
Ceiling for 500 fpm R/C	ft				
Time-to-climb/Alt.	min/ft				

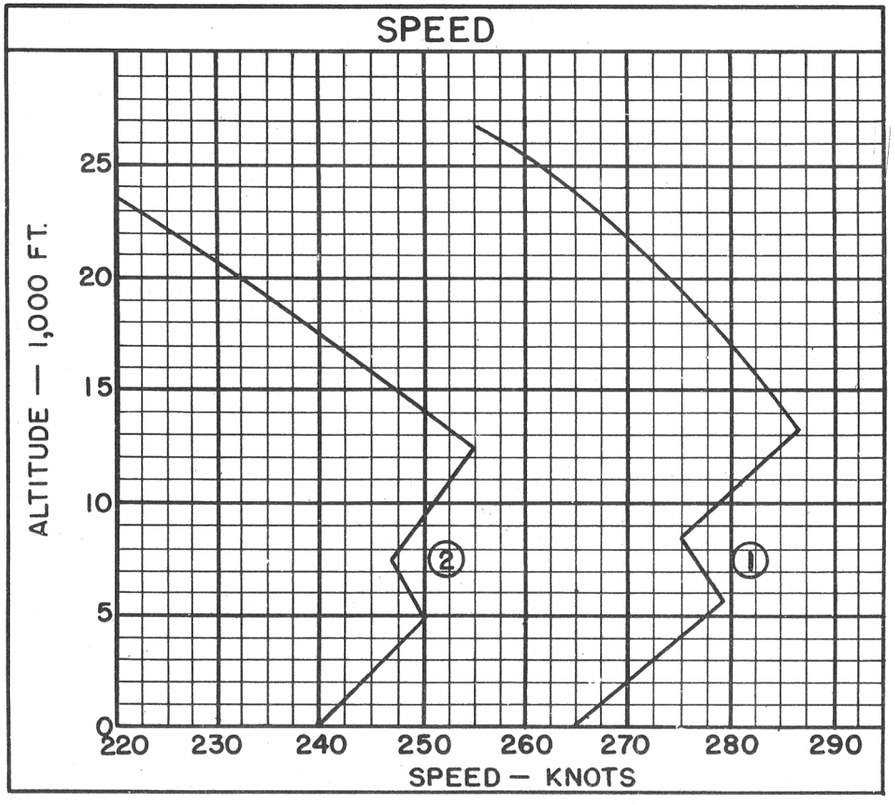
NOTES

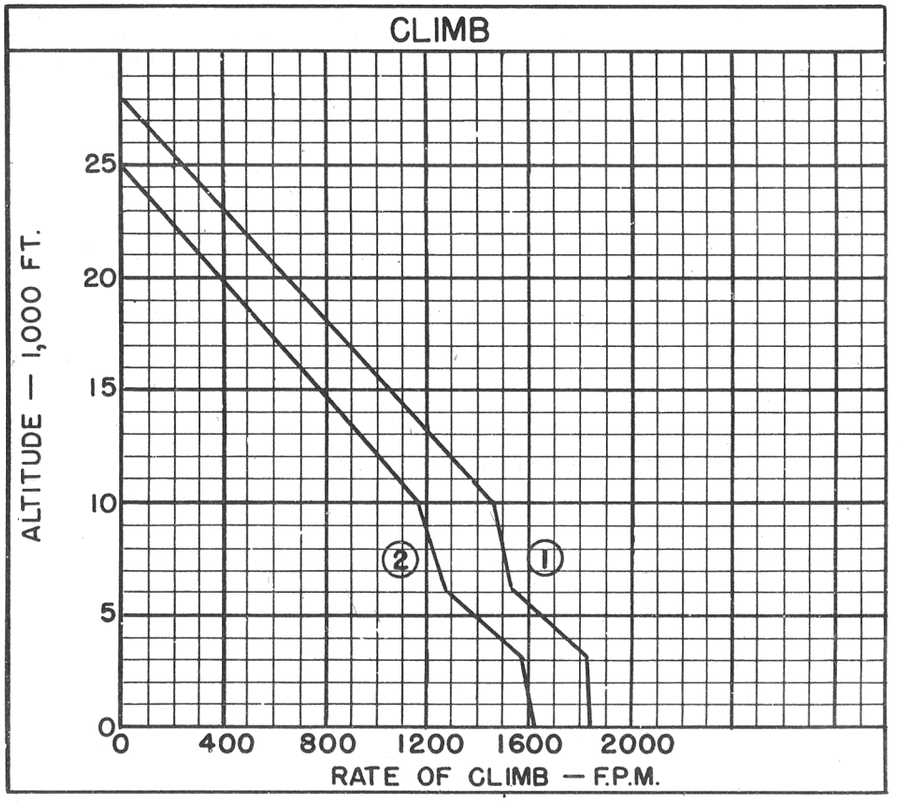
(A) BHP at Maximum Critical Altitude
(B) Normal BHP

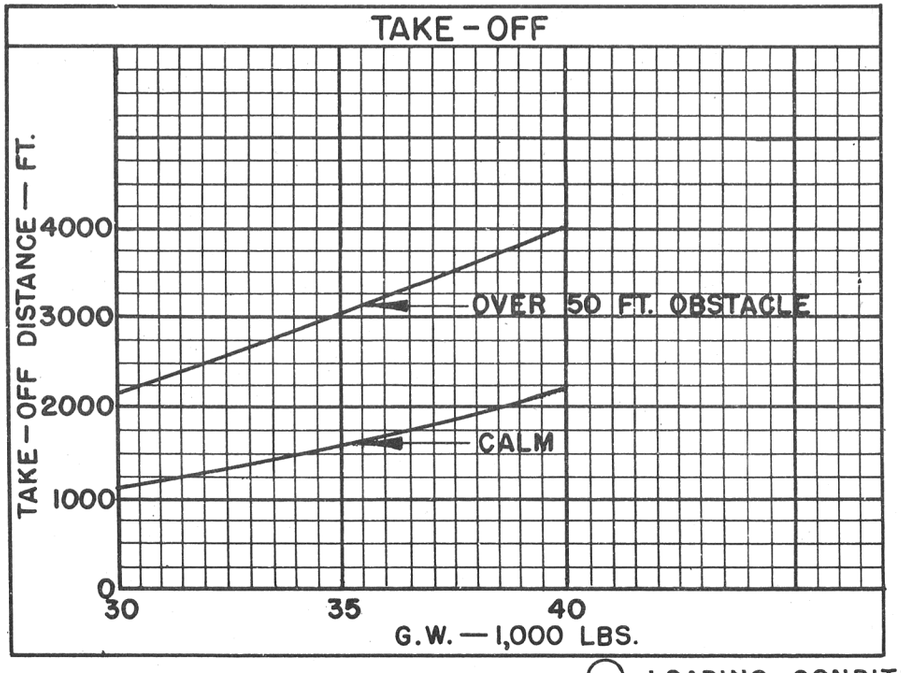
Performance is based on flight test. Range and indurance are based on flight test fuel consumption data increased by 5%.

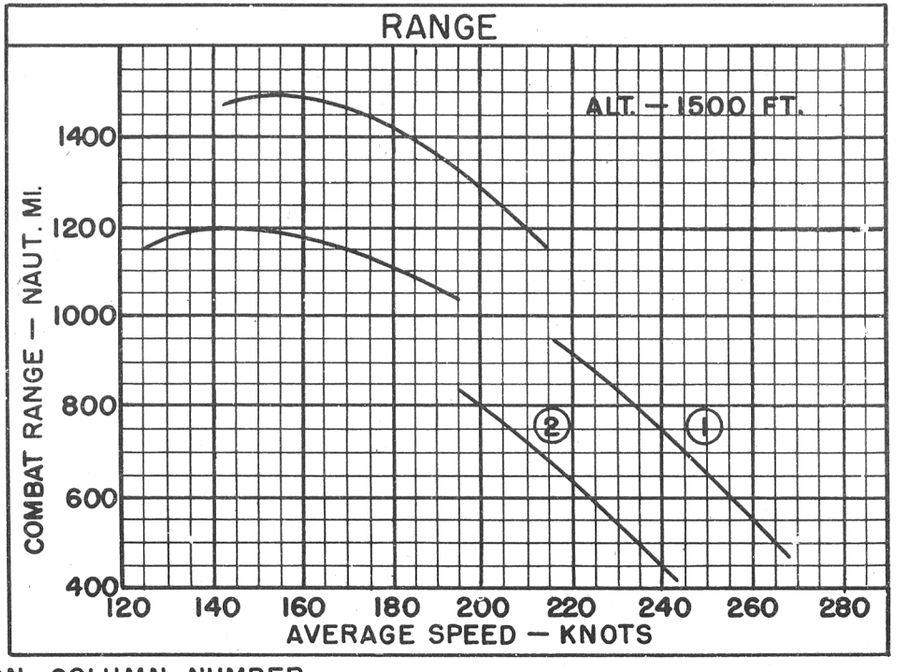
In "Trailing" configuration, tow target is carried at the end of a 12000 ft. 1/8" cable. Tow target MK23 MOD. 0 is used.

Notes continued on last page









◯ LOADING CONDITION COLUMN NUMBER

NOTES

Time on station is based on a radius of 100 n.mi. at 1500 ft. altitude at speed for maximum range. Fuel allowances are: 20 min/.5 rated RPM for start and warm-up, 1 min./rated T.O. Power for take-off, one hour/max. range speed for reserve. Time on station is at continuous utility power. Time on station is reduced 2.5 minutes for each 10 nautical miles of radius beyond 100 nautical miles.

All performance calculated with de-icer boots on wing and tail.

Engine ratings from Flight Test

	Bhp.	Rpm.	Alt.
T.O.	2000	2700	S.L.
Mil.	2000	2700	1500'
	1600	2700	13500'
Norm.	1600	2400	3500
	1450	2400	6000 to 10000