

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		1	2		
LOADING CONDITION		SEARCH	SEARCH 2 EXT. TANKS		
GROSS WEIGHT	LBS.	14910	17167		
EMPTY WEIGHT SPECIFICATION	LBS.	12376			
FUEL/OIL	GALS.	270/20	570/37		
FIXED GUNS/AMMUNITION		NONE			
FLEXIBLE GUNS/AMMUNITION		NONE			
ENGINE POWER USED FOR PERFORMANCE		NORMAL	NORMAL		
WING LOADING	LBS./SQ.FT.	37.3	42.9		
POWER LOADING ①	LBS./BHP.	7.8	9.0		
V-MAX. SEA LEVEL	KN.	257	244		
V-MAX.	KN./FT.	289/19100	272/18900		
V-STALL GROSS WEIGHT ②	KN.	75.3	83.0		
V-STALL WITHOUT FUEL ②	KN.	71.1	74.3		
TIME-TO-CLIMB -10000FT.-	MIN.	4.1	5.2		
TIME-TO-CLIMB -20000FT.-	MIN.	9.4	12.5		
SERVICE CEILING	FT.	32500	29800		
TAKE-OFF DISTANCE -CALM-	FT.	592	894		
TAKE-OFF DISTANCE -15 KN-	FT.	379	599		
TAKE-OFF DISTANCE -25 KN-	FT.	263	433		
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF TIME	SECONDS				
RATE OF CLIMB -SL-	FT./MIN.	2580	2050		
MAX. RANGE / V-AV. ③	N MI./KN.	780/141	1435/140		
RANGE / V-AV -60% NSP-③-	N MI./KN.				
SEARCH RADIUS / V-AV -20% R-	N MI./KN.				
A.S.W. RADIUS / V-AV -20% R-	N MI./KN.				
SCOUT RADIUS See Page 2	N MI.		410		
COMBAT RADIUS Endurance - see Pg. 2	HRS	4.1	8.5		
ENGINE / PROP GEAR RATIO WAC.		R3350-26W / .4375			
ENGINE RATING BHP/RPM/ALT.	MILITARY	NORMAL	TAKE-OFF		
	2700/2900/SL-3700	2300/2600/56-6200	2700/2900/SL		
	2100/2600/11500-14500	1900/2600/12000-17000			
TANKAGE IN GALLONS		OIL	FUEL	OFFENSIVE ARMAMENT	
AUX. FIXED	PROTECTED		270	- None -	
	UNPROTECTED	37		Performance is based on flight tests of XBT2D-1 airplane.	
	TOTAL - FIXED INTERNAL	37	270	Range, radius and endurance are based on engine specification, normal mixture, fuel consumption data increased by 15% to conform with past experience.	
	DROPPABLE Wings - 2 @ 150		300		
	DROPPABLE				
TOTAL		37	570		
NOTE	① BHP AT MAX. CRIT. ALT.				
	② STALL - WITHOUT POWER				
	③ AT 1500' ALTITUDE				

DECLASSIFIED

PRELIMINARY

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Search Condition:

Two MK-51 wing bomb racks with sway bracing aboard. AN/APS-20A radar aboard.

Practical Scouting Radius Formula (Special Problem) Condition (2).

Radius is $1/3$ of distance in climb and cruise at 8000 ft. at cruise speed of 150 kn. Fuel for 20 minute warm-up, 1 minute T.O., and normal rated power climb to 8000 ft. used at start of flight. Fuel allowance for 60 minutes at V. for max. range at 1500 ft. for rendezvous, landing and reserve carried entire distance. External tanks carried entire distance.

Practical Endurance Formula - Conditions (1) and (2)

Endurance at 8000 ft. altitude at cruise speed of 150 kn. Fuel for 20 minute warm-up, 1 minute T.O., and normal rated power climb to 8000 ft. used at start of flight. Fuel allowance for 30 minutes at V. for max. range at 1500 ft. for rendezvous, landing and reserve carried entire distance. External tanks carried entire distance.

Minimum engine power and speed of 580 HP and 1100 rpm, respectively, has a slight effect on the range and endurance of Condition 1. The effect on endurance results from slightly more fuel required for reserve.

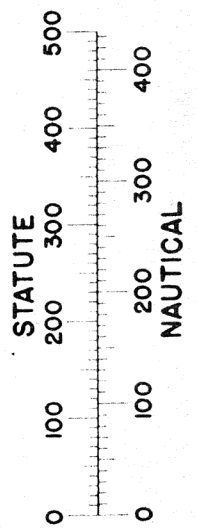
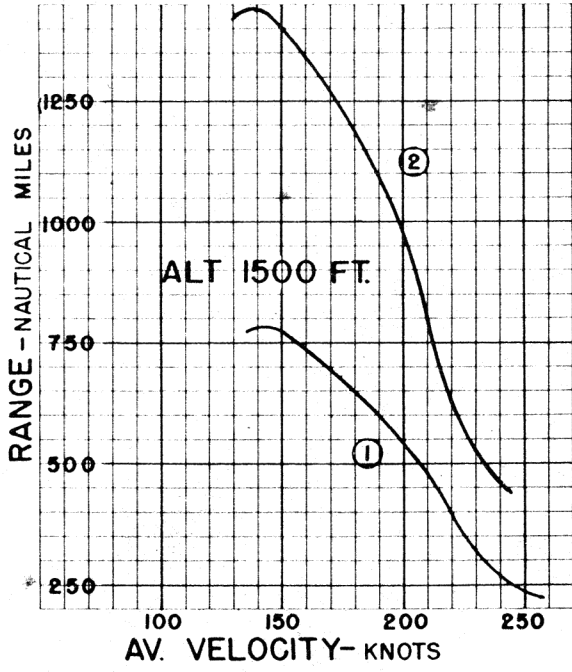
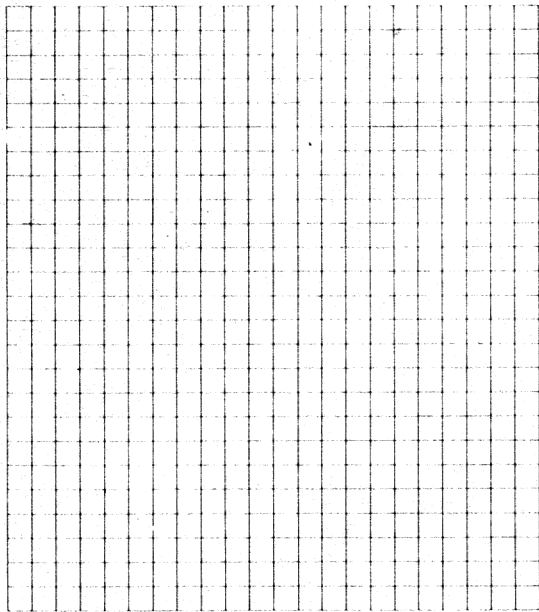
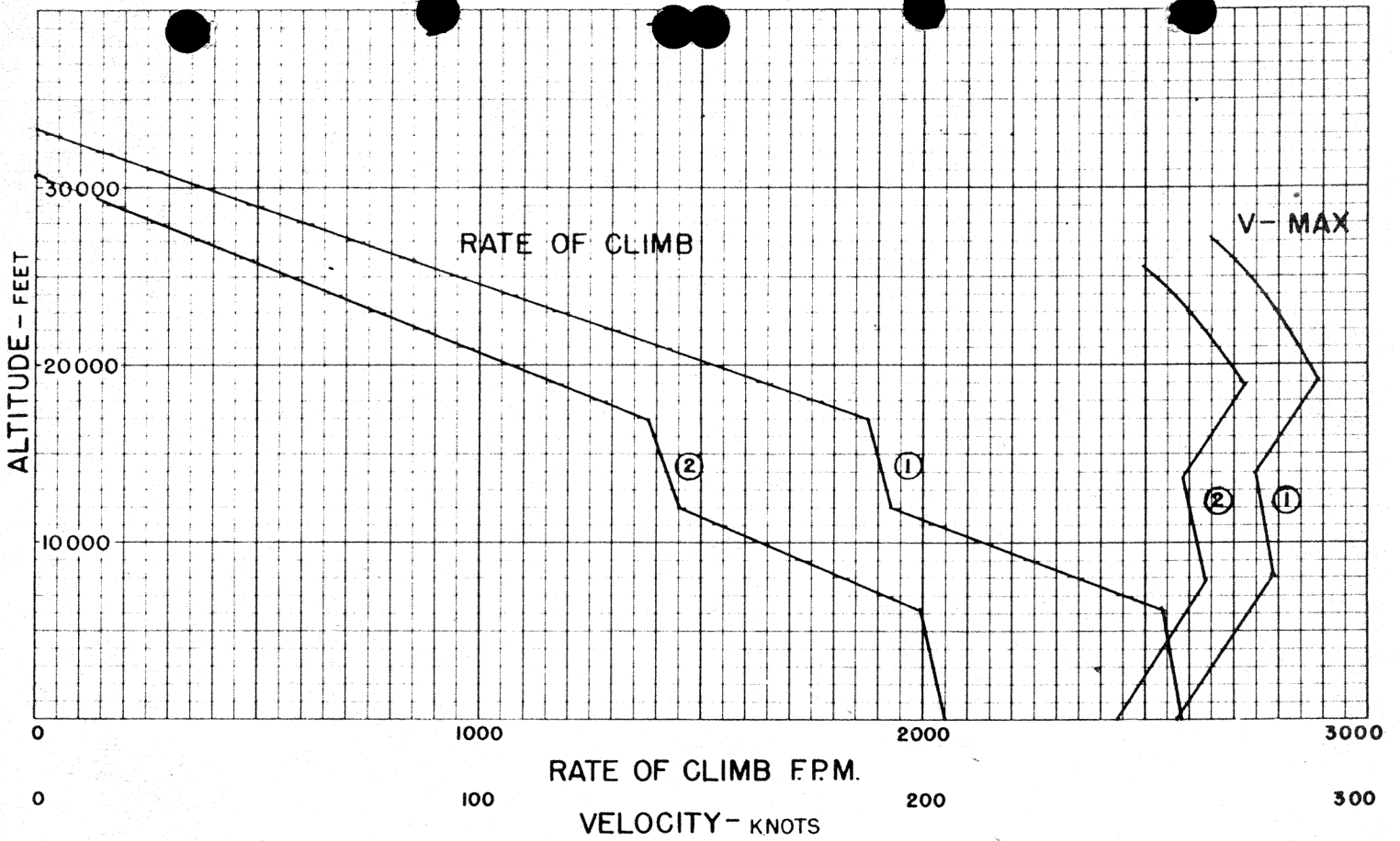
Spotting:

200 ft. length is required to spot 20 planes on the 96 ft. wide deck immediately aft of the forward ramp on CV-9 Class carriers.

The AD-2W airplane differs from the scout version of the AD-2 airplane in external configuration as follows:

- (1) Guns are removed.
- (2) AN/APS-20A radar is added.
- (3) The after portion of the canopy has been extended by a fairing which includes an air scoop.
- (4) Addition of four external antennae.

PRELIMINARY



○ LOADING CONDITION COLUMN NUMBER

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