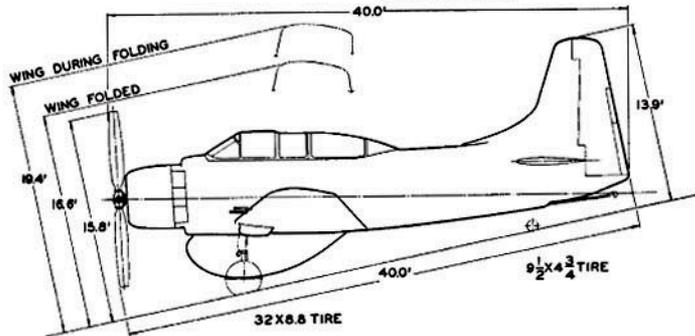
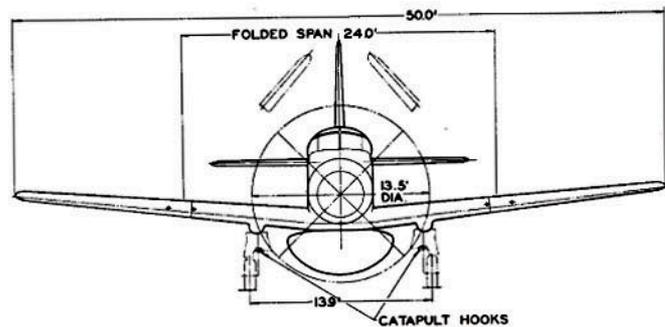
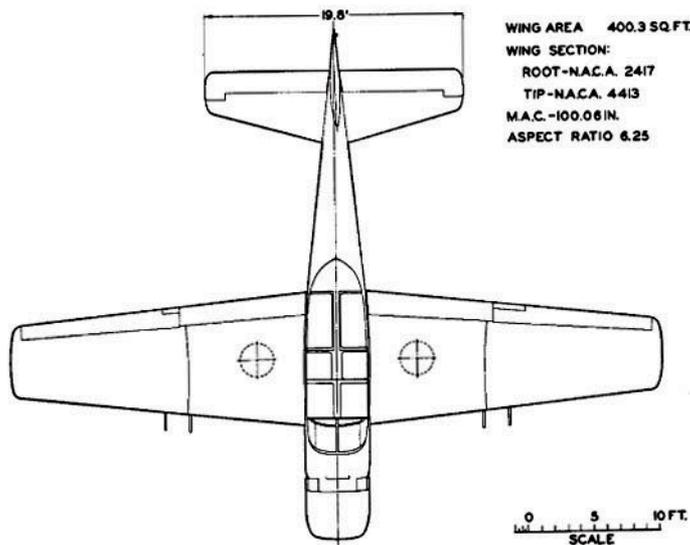




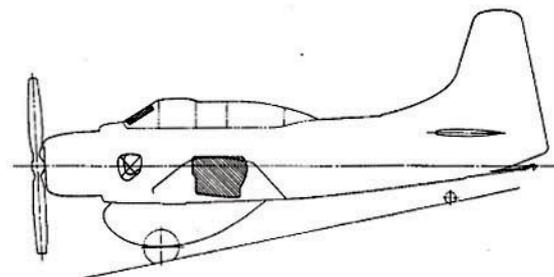
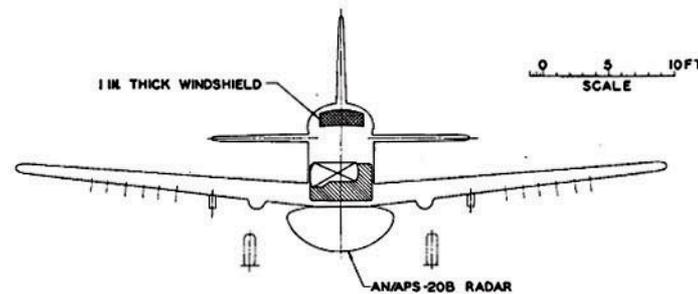
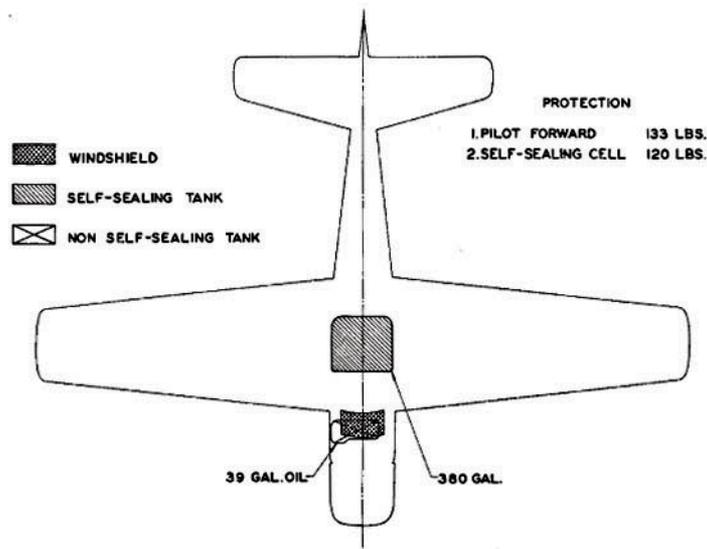
STANDARD AIRCRAFT CHARACTERISTICS

AD-5W SKYRAIDER

DOUGLAS AIRCRAFT COMPANY, INC., EL SEGUNDO DIVISION



DESCRIPTIVE ARRANGEMENT



ARMAMENT & TANKAGE

POWER PLANT

No. & Model..... (1)R-3350-26-WA
 Mfr..... Wright Aero
 Engine Spec. No. N-836-D
 Supchg..... Single Stage Two Speed
 Reduction Gear Ratio 4.375:1
 Prop. Mfr. Aero Products
 Prop. Des. A-642-G-805
 Prop. Blade Des. M20A2-162-0
 No. Blades/Prop. Dia. 4/13'6"

RATINGS

	BHP	@RPM	@Alt.
T.O.	2700	2900	S.L.
Mil.	2700	2900	3700
	2100	2600	14500
Norm.	2300	2600	6200
	1900	2600	17000

ORDNANCE

Although no ordnance is carried on search missions, the AD-5W airplane is equipped with inner-wing bomb racks identical to those on other AD-5 models and can carry the same stores. There is no centerline bomb station on the AD-5W. All provisions including controls are available in the outer wing for the installation of six Aero 14 racks per wing, and in the wing fold for four 20mm guns with 200 rounds of ammunition per gun.

MISSION AND DESCRIPTION

The principal mission of the AD-5W is that of airborne early warning and anti-submarine search from carrier or land bases. The AD-5W is a development of the proven AD-4 Series and incorporates improvements in equipment, arrangement, and performance and stability. Installation provisions for all armor and armament carried on other AD-5 models are retained.

The side-by-side seating arrangement of pilot and assistant pilot-navigator operator facilitates all-weather operation. The unified cockpit arrangement with the radar operator aft of the pilot provides interchange of crew positions and maintenance of electronic equipment in flight. AN/APS-20B radar is installed for search operations. Appropriate radar and communications relay equipment also are installed.

DEVELOPMENT

Contract approval dates:

NOa(s) 52-247, 19 December 1951, 64 airplanes
 NOa(s) 52-979, 24 April 1952, 84 airplanes
 NOa(s) 54-324, L.I., 16 October 1953,
 50 airplanes.

Production status:

In production. Delivery of last airplane schedule March 1956.

DIMENSIONS

Span	50.0 ft.
Length	40.0 ft.
Height	15.8 ft.
Tread	13.9 ft.
Prop. Gnd. Clr.	6.25 in.
Turn. Radius.....	32 ft.

WEIGHTS

Loadings	Lbs.	L.F.
Empty (A).....	12,092	
Basic.....	14,802	
Flt. Design.....	17,000	6.4
Combat.....	17,125	6.4
Max. T.O.....	25,000	
Arr. Landing.....	17,500	

FUEL AND OIL

Gal.	No. Tanks	Location
380*	1	Fuselage
150 or 300	2	Wing Drop
Fuel Grade		115/145
Fuel Spec.		MIL-F-5572

*Self Sealing Tank

Max. Usable Fuel 980 Gals.
 (limited by oil capacity)

OIL

Capacity	39 Gals.
Spec.	AN-0-8
Grade	1120

ELECTRONICS

UHF Trans-Rec. & Relay ..	AN/ARC-27A
Radio Altimeter	AN/APN-22
Marker Beacon	AN/ARN-12
IFF	AN/APX-6
IFF Coder	AN/APA-89
IFF	AN/APX-7
LF ADF	AN/ARN-6
UHF ADF	AN/ARA-25
Interphone	AN/AIC-4
Radar Relay	AN/ART-28
Radar Search.....	AN/APS-20
Radar GPI.....	AN/APA-57

Provisions

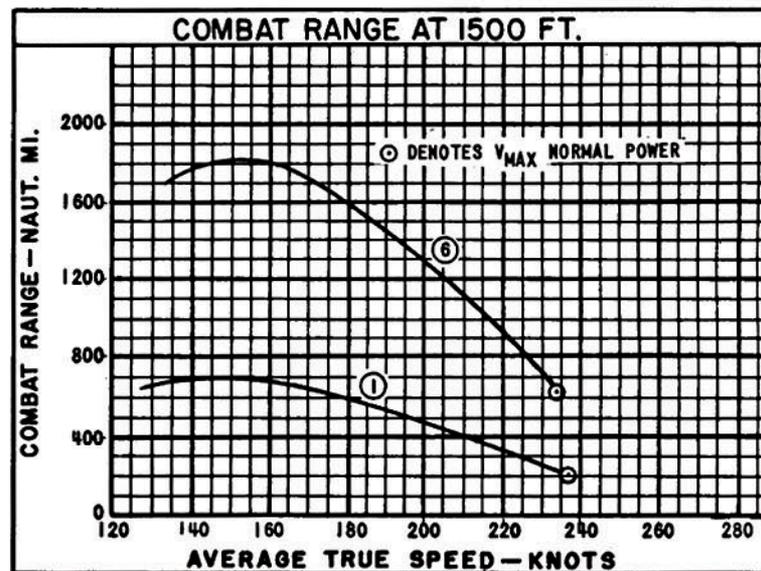
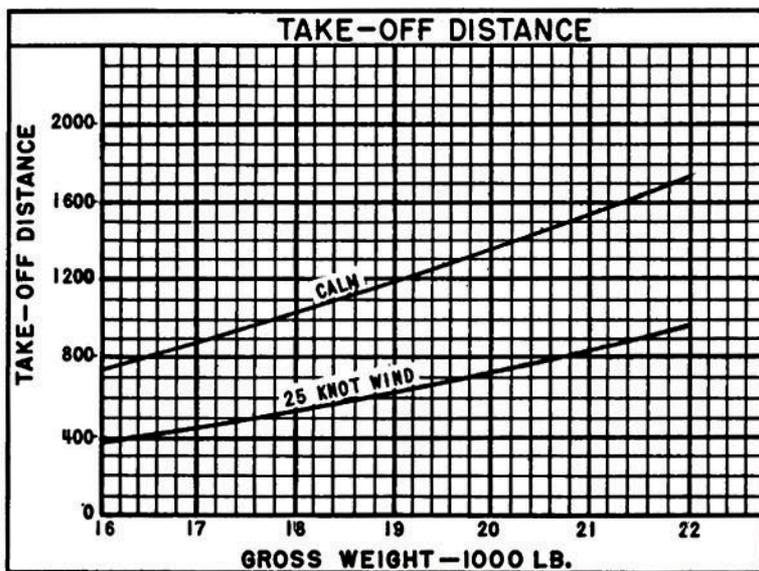
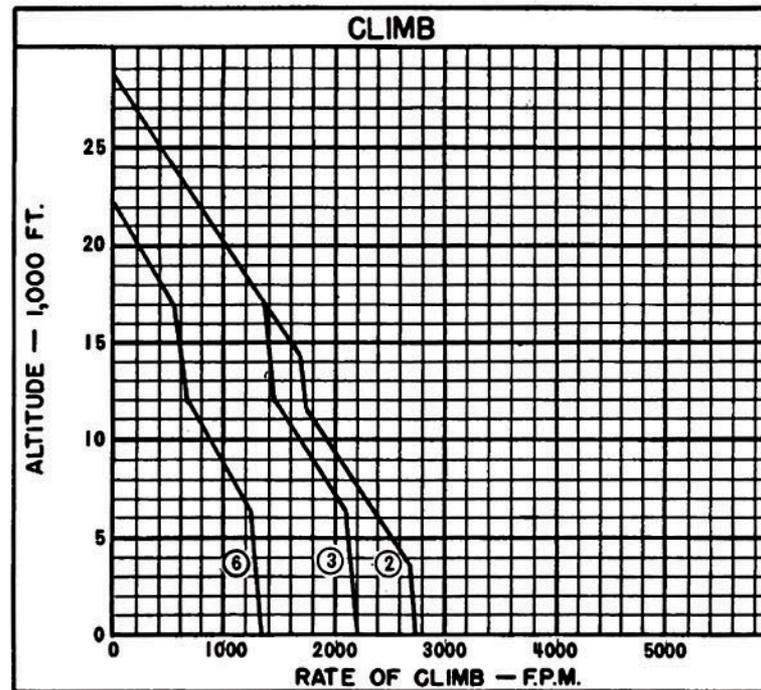
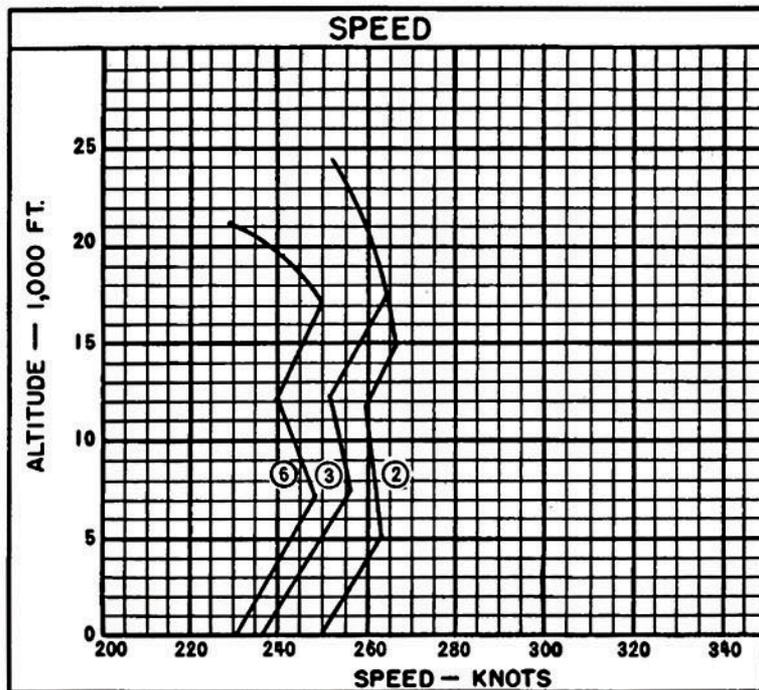
VHF Relay	AN/ARC-28
MHF Trans-Rec.....	AN/ARC-2

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION	(1) SEARCH 1500 ft. cruise altitude	(1) SEARCH 7000 ft. cruise altitude	(5) SEARCH 2-150 gal. fuel tanks (Aerola)	(6) SEARCH 2-300 gal. fuel tanks (Aerola)
TAKE-OFF WEIGHT lb.	18,037		20,041	22,047
Fuel lb.	2280		4080	5880
Payload (AN/APS-20) lb.				
Wing loading lb./sq.ft.	45.1		50.1	55.1
Stall speed - power-off kn.	87.9		92.7	97.2
Take-off run at S.L. - calm ft.	1045		1360	1760
Take-off run at S.L. - 25 kn.wind ft.	540		735	980
Take-off to clear 50 ft. - calm ft.	1830		2385	3150
Max. speed/altitude (A) kn./ft.	263/17,300		257/17,300	250/17,200
Rate of climb at S.L. (A) fpm	2030		1640	1330
Time: S.L. to 10,000 ft. (A) min.	5.2		6.5	8.3
Time: S.L. to 20,000 ft. (A) min.	12.8		17.1	24.2
Service ceiling (100 fpm) (A) ft.	26,800		23,800	21,100
Combat range n.mi.	685	658	1294	1798
Average cruising speed kn.	160	170	160	160
Cruising altitude(s) ft.	1500	7000	1500	1500
Combat radius (C) n.mi.	274	263	518	719
Average cruising speed kn.	160	170	160	160
Total Mission Time hr.	4.4	3.9	8.1	11.1
COMBAT LOADING CONDITION	(2) 60% FUEL	(3) 60% FUEL		
COMBAT WEIGHT lb.	17,125	17,125		
Engine power	MILITARY	NORMAL		
Fuel lb.	1368	1368		
Combat speed/combat altitude kn./ft.	253/1500			
Rate of climb/combat altitude fpm/ft.	2750/1500			
Combat ceiling (500 fpm) ft.	24,200			
Rate of climb at S.L. fpm	2760	2210		
Max. speed at S.L. kn.	250	237		
Max. speed/altitude kn./ft.	266/14,900	264/17,300		
LANDING WEIGHT lb.	(4) 15,989			
Fuel lb.	232			
Stall speed - power-off kn.	82.8			
Stall speed - with approach power kn.	77.1			

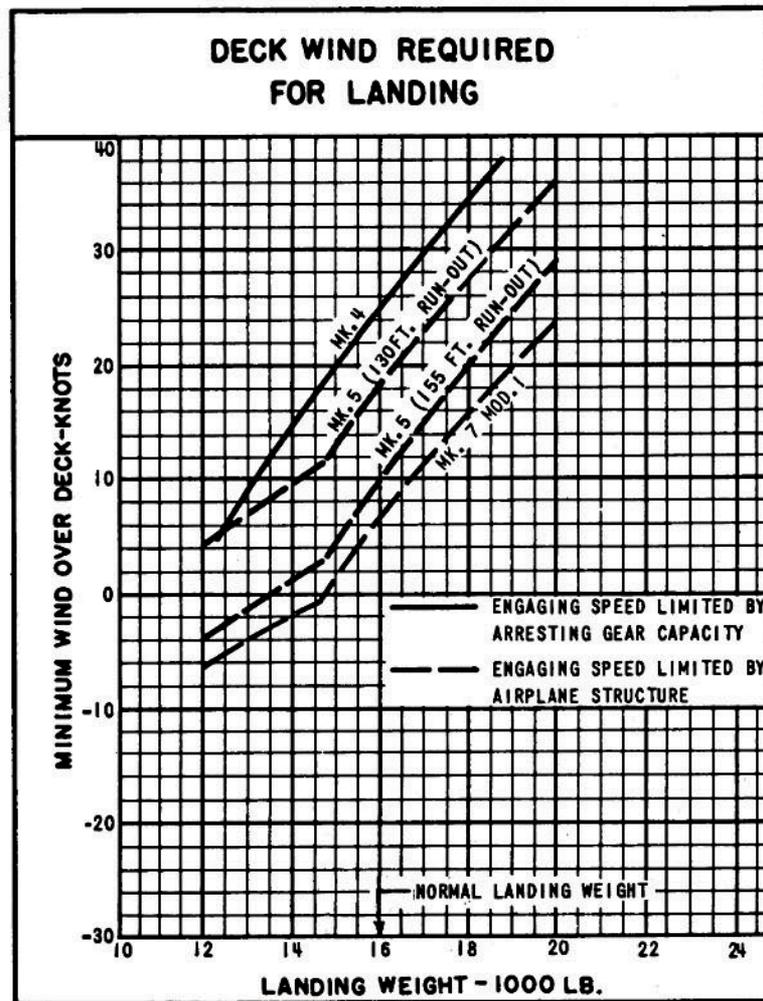
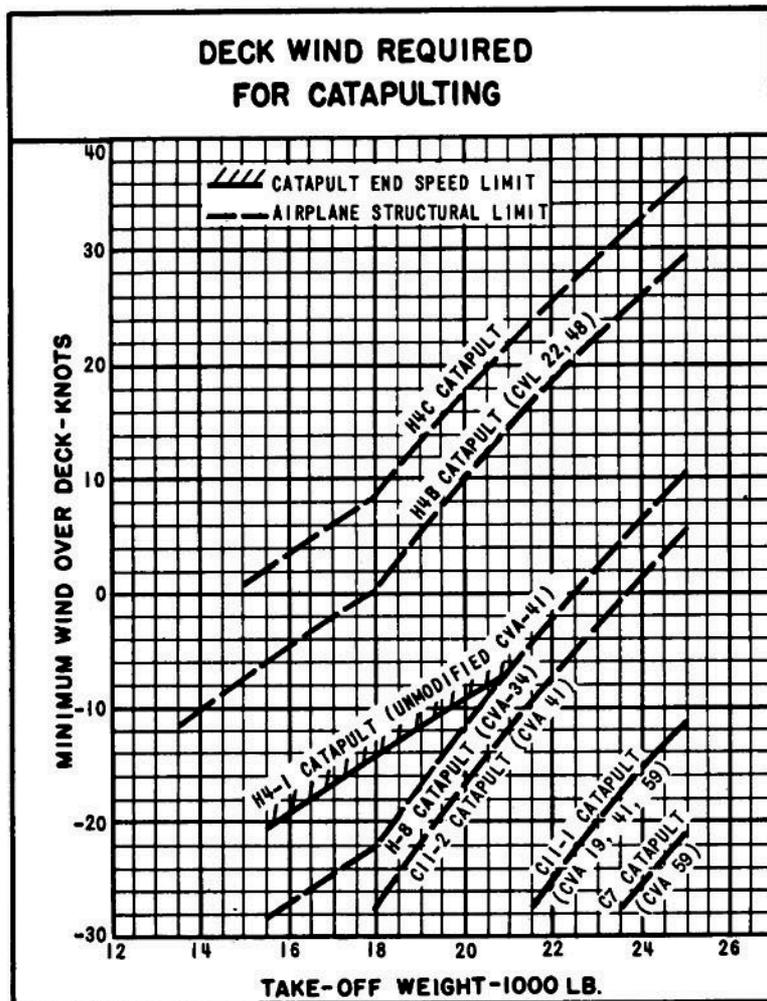
NOTES

- (A) Normal Rated Power.
 (B) Performance Basis: Performance is calculated and based on flight tests of the AD-5W.
 Combat range and radius are based on fuel consumption data from AD-4B, AD-5, and AD-6 flight tests and are increased 5%.
 (C) Combat Radius is 40% of Combat Range.
 (D) All loadings include inner wing racks.
 (E) This revision prepared to incorporate results of AD-5W flight tests.
 (F) Spotting: 20 aircraft can be spotted in an area 96 ft. wide and 200 ft. long.



○ DENOTES LOADING CONDITION COLUMN NUMBER

CARRIER SUITABILITY



NOTE:

The arrested landing approach speed equals 1.15 times the power-off stalling speed.

NOTES

COMBAT RANGE

Warm-Up, Taxi, Take-Off

Fuel for 10 min. at S.L. normal power.

Climb

At maximum rate of climb with normal power to 1500 ft.

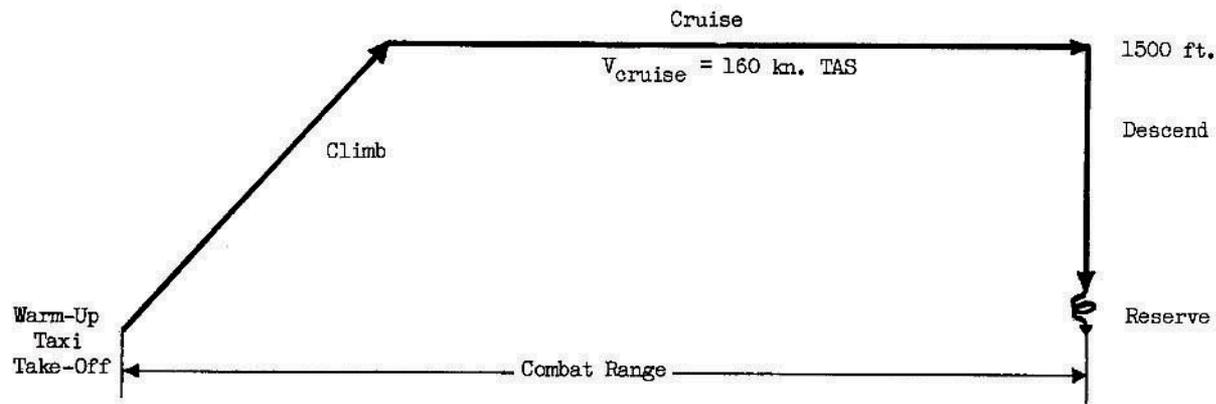
Cruise

At 1500 ft. at speed for maximum range operation, tanks dropped when empty.

Reserve

Fuel allowance: 5 percent of initial fuel plus 20 min. at speed for long range at sea level.

$$\text{Combat Range} = \text{Climb} + \text{Cruise}$$



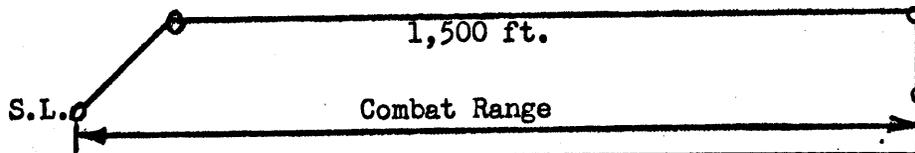
COMBAT RADIUS

Combat radius is 40 percent of combat range at 1500 ft. altitude.

CHARACTERISTICS SUMMARY

BASIC MISSION

AD-5W



PERFORMANCE

COMBAT RADIUS		COMBAT RANGE		SPEED	
275	naut. mi.	685	naut. mi.	250	knots at S.L. ft.
160	knots avg.	160	knots avg.	253	knots at 1,500 ft.
*4.4	hours			267	knots at 15,000 ft.
*Mission time					Combat Weight Military Power
CLIMB		CEILING		TAKE OFF	
2,070	ft./min.	26,500	ft.	1,025	ft. calm
Sea Level, T. O. wt. Normal Power		100 ft./min., T. O. wt. Normal Power		No assist	
2,740	ft./min.	24,400	ft.	540	ft. 25 knot wind
Sea Level, Combat wt. Military Power		500 ft./min., Combat wt. Military Power		No assist	
LOAD		WEIGHTS		STALLING SPEED	
Fuel	380 gal.	Empty	12,092 lbs.	87.9	knots
fixed	380 drop	Combat	17,125 lbs.	Flaps down, T. O. wt.	
Provisions for	600 gal. droppable fuel	Take-off	18,037 lbs.	TIME TO CLIMB	
				- ft. in - min.	
				Combat Wt., Max. Power	

NOTES

PERFORMANCE BASIS: Performance is calculated and based on contractor's flight tests of the AD-5W.

COMBAT RANGE & RADIUS are based on AD series flight test fuel consumption data increased 5%.

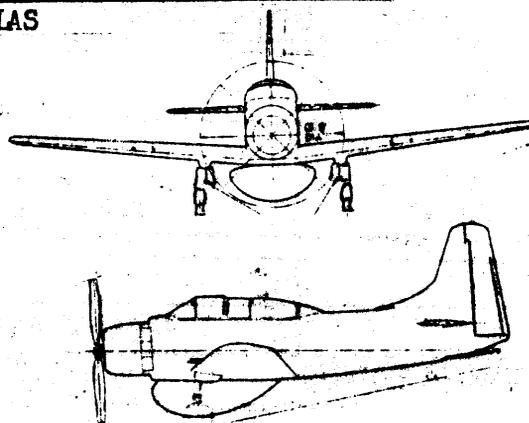
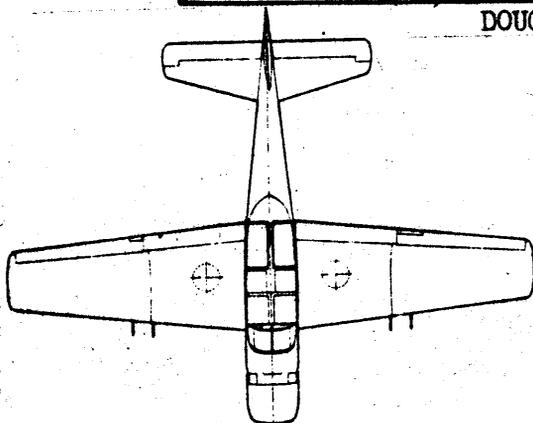
Reissue due to availability of contractor's flight test data.

CHARACTERISTICS SUMMARY

AEW VERSION

AD-5W

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- - - - -April 1954
 Service Date- - - - -November 1954

ENGINES	
1 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
Aileron boost
AN/APS-20B radar scanner
Max. cap. 980 gal.fuel

ARMAMENT
None

NAVAER 1519 A (REV. 1-59)

15 July 1956

AD-5W