NAVAIR 00-110AA1-2

Standard Aircraft Characteristics

NAVY MODEL
A-1G
AIRCRAFT

(AD-5N)

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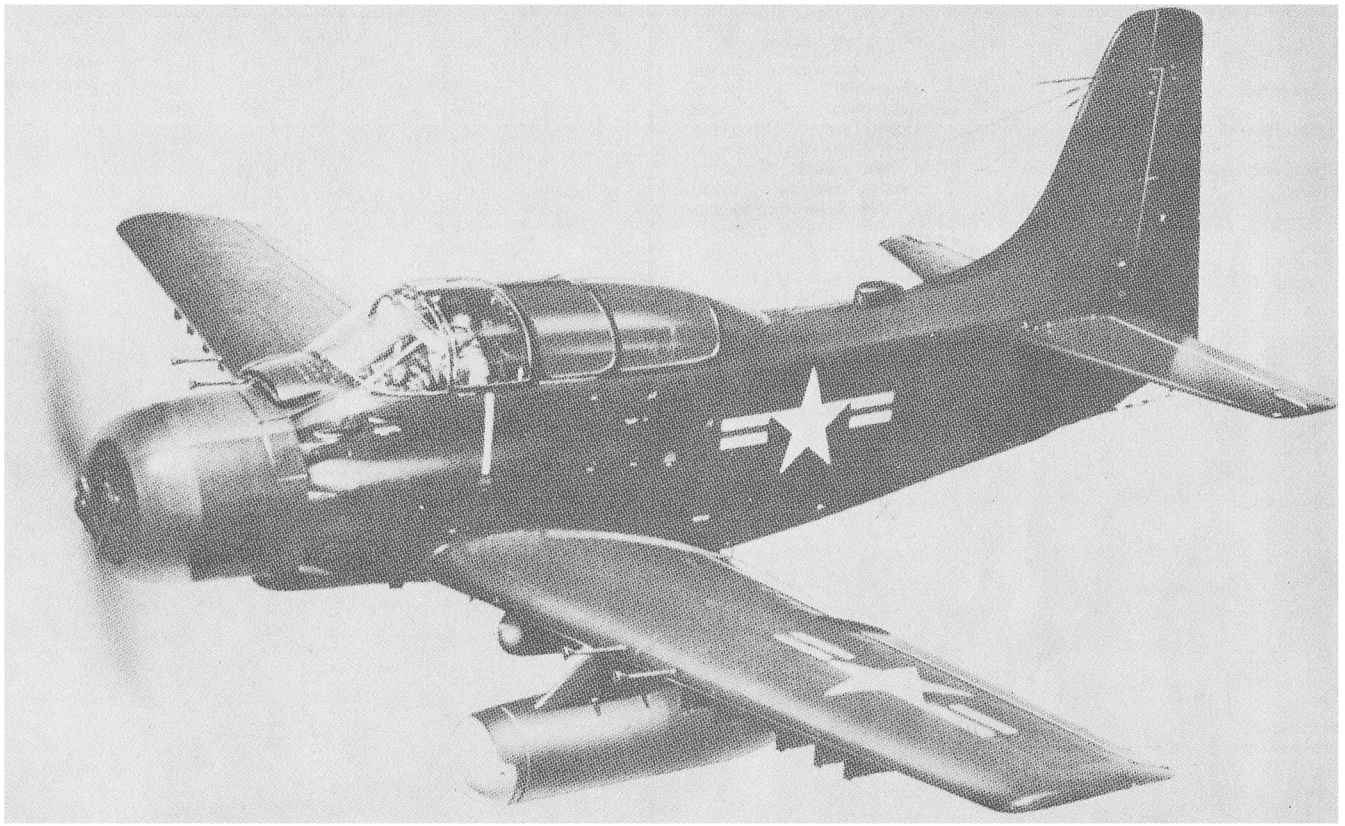
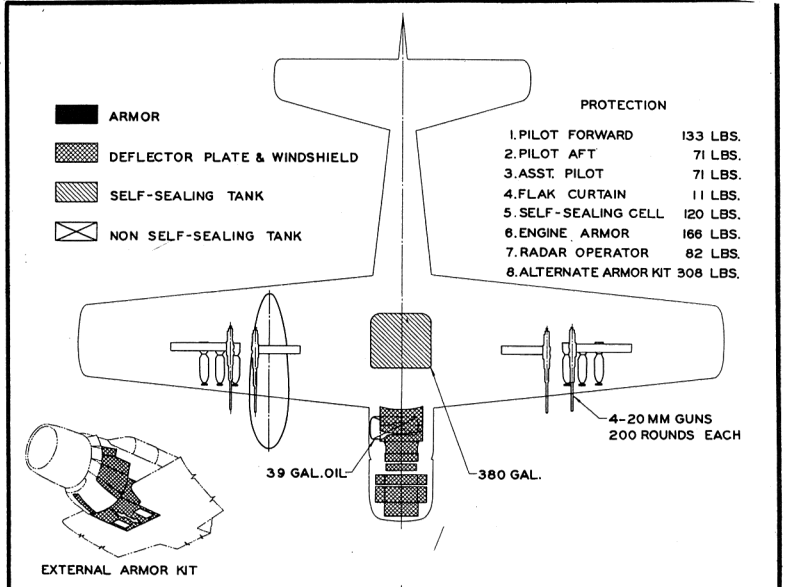
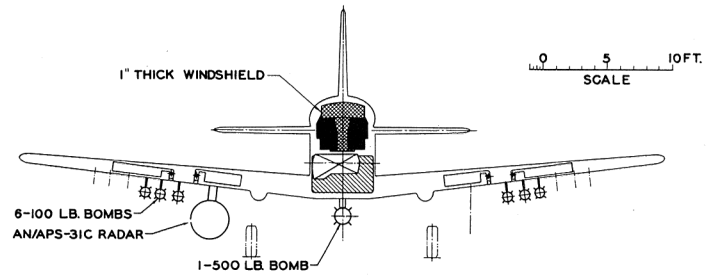


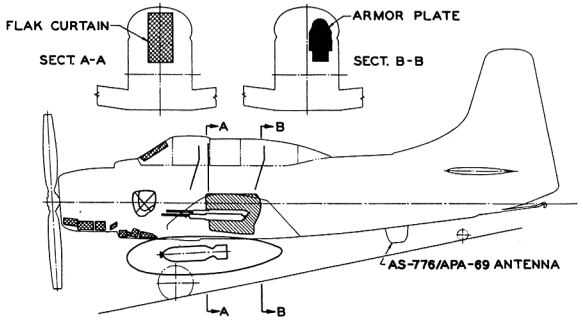
STANDARD AIRCRAFT CHARACTERISTICS

A-1G SKYRAIDER

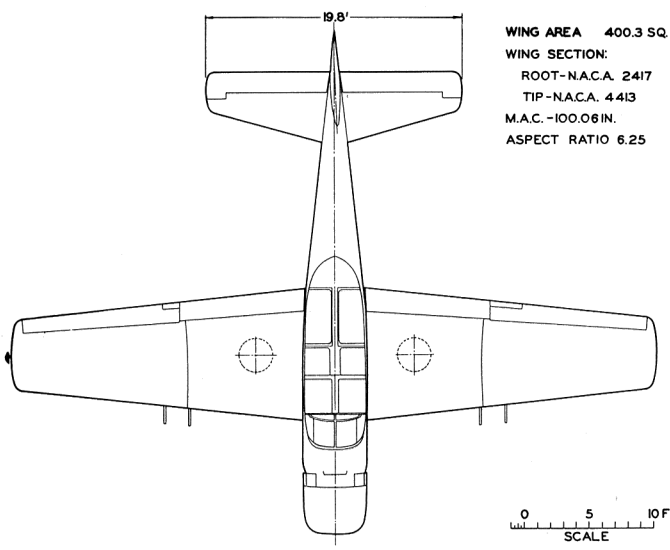
SERVICE

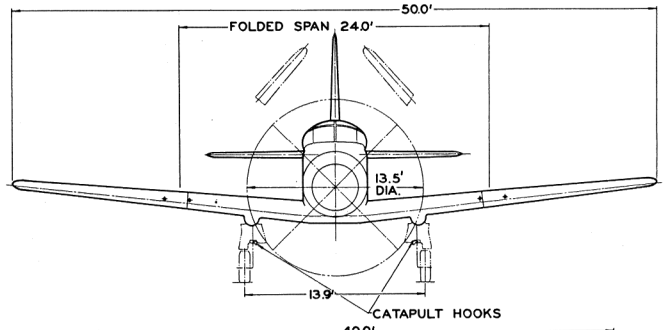


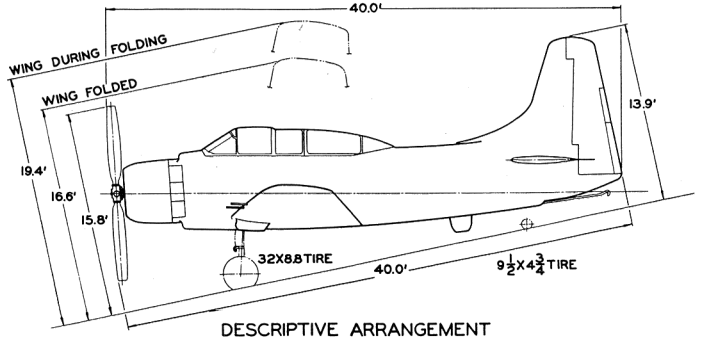




ARMAMENT & TANKAGE







DESCRIPTIVE ARRANGEMENT

SERVICE

POWER PLANT

No. & Model.....(1) R-3350-26-WA
Mfr.....Wright Aero
Superchg.....Single Stage Two Speed
Red. Gear Ratio..... .4375:1
Prop. Mfr.....Aero Products
Blade Des. No.....M20A2-162-0
No.Blades/Prop.Dia.....4/13'6"

RATINGS

	BHP	@ RPM	@ ALT.
T.O.	2,700	2,900	S.L.
MIL.	2,700	2,900	3,700
	2,100	2,600	14,500
NORM.	2,300	2,600	6,200
	1,900	2,600	17,000

Spec. No. N836-D

ORDNANCE

Maximum Bomb Load.....8000 lbs.

Centerline (1-Aero 3A Ejector)

Bombs.....1-2000 lb. 1-500 lbs.
1-1600 lb. 1-250 lbs.
1-1000 lb. 1-100 lbs.
Depth Bomb....1-350 lb.
Mines.....1-2000 lb. 1-500 lbs.
1-1000 lb.
Torpedoes.....One
Frag. Clust...1-500 lb. 1-100 lbs.
Incend. Cl....1-500 lb. 1-100 lbs.
Chem. Tanks...1-Aero 14A
Fuel Tanks....1-300 gal. 1-150 gal.
Prac. Bombs...1-Aero 4A Container
(Mk.47 Rack)..1-Aero 5A Container
Misc.Stores...1-Mk. 7 1-Mk. 91
1-Mk. 8 1-BOAR
1-Mk.12 1-Mk. 90
1-APT-16 Radar Store
1-Aero 2A Sono/fl. disp.

Inner Wing (2-Mk.51 Bomb Racks)

Bombs.....2-2000 lb. 2-500 lb.
2-1600 lb. 2-250 lb.
2-1000 lb. 2-100 lb.
Depth Bomb....2-350 lb.
Mines.....2-2000 lb. 2-500 lb.
2-1000 lb.

Continued on NOTES Page

MISSION AND DESCRIPTION

The principal mission of the AD-5N is that of night attack and radio countermeasures. It is also a bomber, minelayer, torpedo or scout airplane capable of operating from carrier or land bases. The AD-5N has complete installation provisions for all equipment required for anti-submarine operations and also contains structural provisions for any item of tactical equipment normally carried on any other AD-5 model. The AD-5N is a development of the AD series and incorporates a side-by-side seating for an assistant pilot. A radar operator is located aft of the pilot. The crew and all special tactical equipment is located within a unified cockpit area to permit interchange of crew positions and maintenance of electronics equipment in flight. The AD-5N incorporates increased armament, improved maintenance, and improved aerodynamic characteristics. A single dive brake is provided for dive bombing and maneuvering control. The airplane arrangement provides space for additional equipment as may be dictated by future tactical requirements.

DEVELOPMENT

First Flight.....August 1952
Service Use.....March 1954

DIMENSIONS

WING
AREA.....400.3 sq.ft.
SPAN.....50.0 ft.
MAC.....8.4 ft.
LENGTH.....40.0 ft.
HEIGHT.....15.8 ft.
TREAD.....13.9 ft.
PROP.GRD. CLEARANCE.....6 in.

WEIGHTS

LOADINGS	LBS.	L.F.
EMPTY	12,112	
BASIC	14,641	
DESIGN	17,000	6.4
COMBAT	18,505	5.9
MAX.T.O. (FIELD)	25,000	
(CAT.)	25,000	
MAX.LDG. (FIELD)	21,000	
(ARREST)	17,500	

ALL WEIGHTS ARE CALCULATED

FUEL AND OIL

GALS.	NO. TANKS	LOCATION
380*	1	Fuselage
150 or 300	1	Ctr. Drop
150 or 300	2	Wing Drop

Fuel Grade.....115/145
Fuel Spec.....MIL-F-5572
*Self Sealing Tank
Max. useable fuel 980 gal. (limited by oil cap.)

OIL

CAPACITY.....39 gals.
SPEC.....AN-O-8
GRADE.....1120

ELECTRONICS

UHF Trans.-Rec.....AN/ARC-27A
MHF Trans.-Rec.....AN/ARC-2
Radio Altimeter.....AN/APN-22
Marker Beacon.....AN/ARN-12
IFF.....AN/APX-6
IFF Coder.....AN/APA-89
LF ADF.....AN/ARN-6
UHF ADF.....AN/ARA-25
Interphone.....AN/AIC-4
Radar Search.....AN/APS-31C
LAB Radar Bombsight.....AN/APA-16
LAB R-R Adapter.....MX-476/APA-16
Sonobuoy Rec.....AN/ARR-26
Searchlight.....AN/AVQ-2A
ECM Rec.....AN/APR-9B

Continued on NOTES Page

SERVICE

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION			(1) ATTACK 1-500 lb. bomb 6-100 lb. bombs		(3) 1-1660 lb. Store 300 gal. Aero 1A Fuel Tank	(4) ASW ATTACK Mk.34 Torpedo AN/AVG-2 Search-light and Sono-buoy Dispenser	(5) ATTACK 1-1000 lb. Bomb 1-500 lb. Bomb 12-100 lb. Bombs
TAKE-OFF WEIGHT		lb.	20,517		23,069	21,320	22,117
Fuel		lb.	2,280		4,080	2,280	2,280
Payload		lb.	1,100		1,660	1,200	2,700
Wing loading		lb./sq.ft.	51.3		57.7	53.3	55.3
Stall speed - power-off		kn.	89.7		95.1	91.4	93.1
Take-off run at S.L. - calm		ft.	1,200		1,600	1,300	1,440
Take-off run at S.L. 25 kn. wind		ft.	600		830	670	740
Take-off to clear 50 ft. - calm		ft.	2,025		2,775	2,230	2,465
Max. speed/altitude	(A)	kn./ft.	257/17,300		257/17,300	245/17,100	240/17,100
Rate of climb at S.L.	(A)	fpm.	1,640		1,330	1,480	1,360
Time: S.L. to 10,000 ft.	(A)	min.	6.5		8.3	7.3	8.1
Time: S.L. to 20,000 ft.	(A)	min.	16.3		22.3	18.8	21.4
Service ceiling (100 fpm)	(A)	ft.	24,500		22,300	23,200	22,100
Combat range		n.mi.	575		1,135	510	475
Average cruising speed		kn.	165		170	165	165
Cruising altitude(s)		ft.	5,000		5,000	5,000	5,000
Combat radius		n.mi.	205		500	185	185
Average cruising speed		kn.	165		170	165	165
Total Mission time		hrs.	2.7		6.2	2.5	2.5
COMBAT LOADING CONDITION			(2) CLEAN 60% Fuel				
COMBAT WEIGHT		lb.	18,505				
Engine power	(B)		Military				
Fuel		lb.	1,368				
Combat speed/combat altitude		kn./ft.	263/Sea Level				
Rate of climb/combat altitude		fpm/ft.	2,580/Sea Level				
Combat ceiling (500 fpm)		ft.	24,300				
Rate of climb at S.L.		fpm.	2,580				
Max. speed at S.L.	(C)	kn.	263				
Max. speed/altitude		kn./ft.	280/15,100				
LANDING WEIGHT		lb.	17,371				
Fuel		lb.	234				
Stall speed - power-off		kn.	82.5				
Stall speed - with approach power		kn.	77.7				

NOTES

(A) Normal rated power.

(B) If the water injection kit is installed including 12½ gal. A.D.1. fluid the airplane weight is increased 136 lbs., the maximum available combat BHP is 3,150 horsepower and the sea level high speed is 278 knots and the sea level rate of climb is 3,140 ft./min.

(C) If the 1,660 lb. store is aboard, the sea level high speed is 272 knots with combat power and 258 knots with military power.

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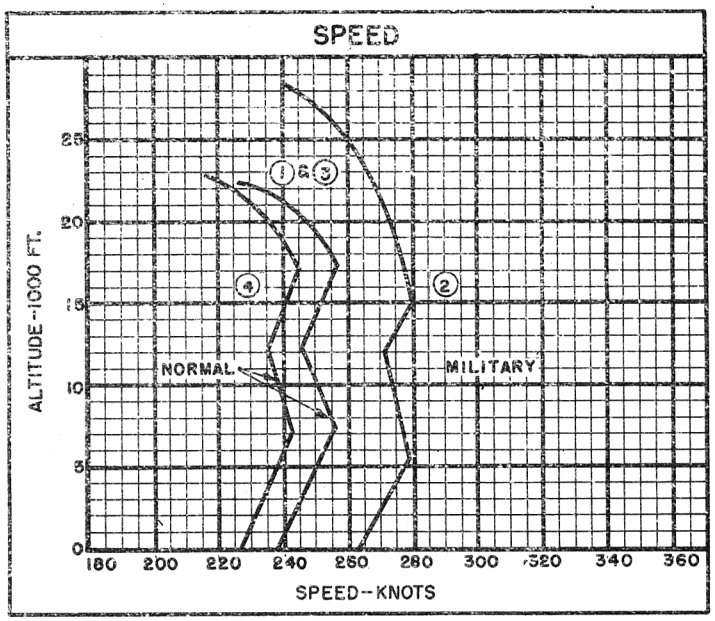
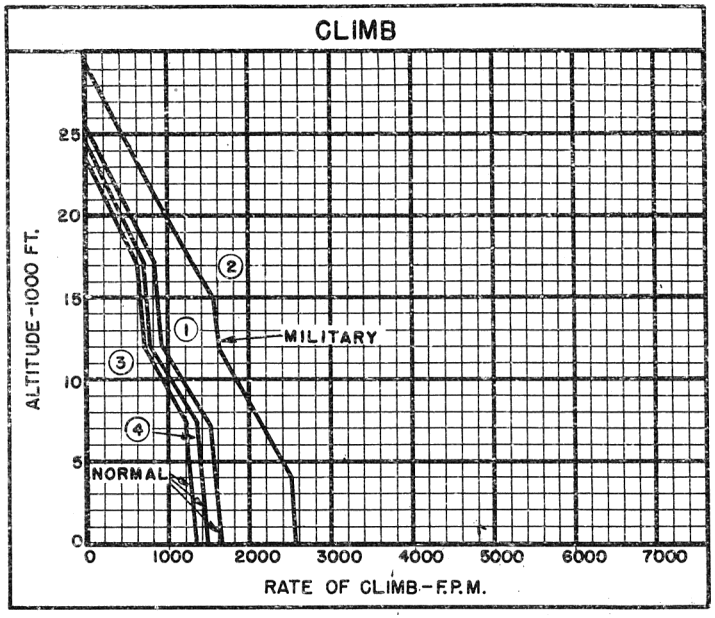
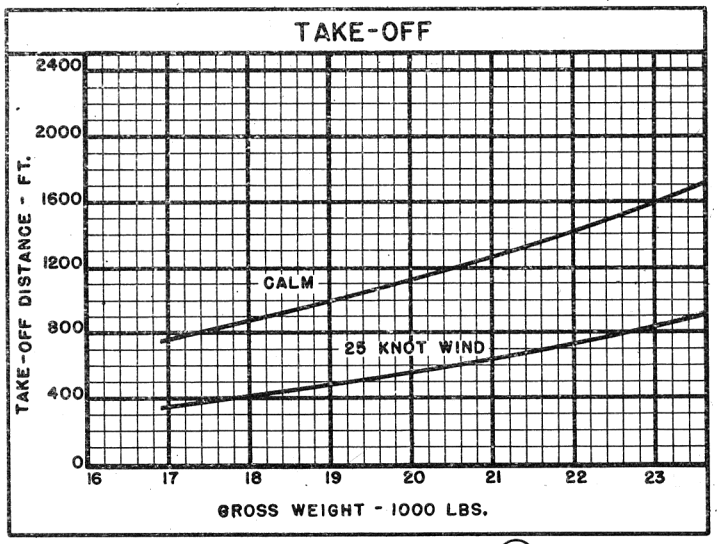
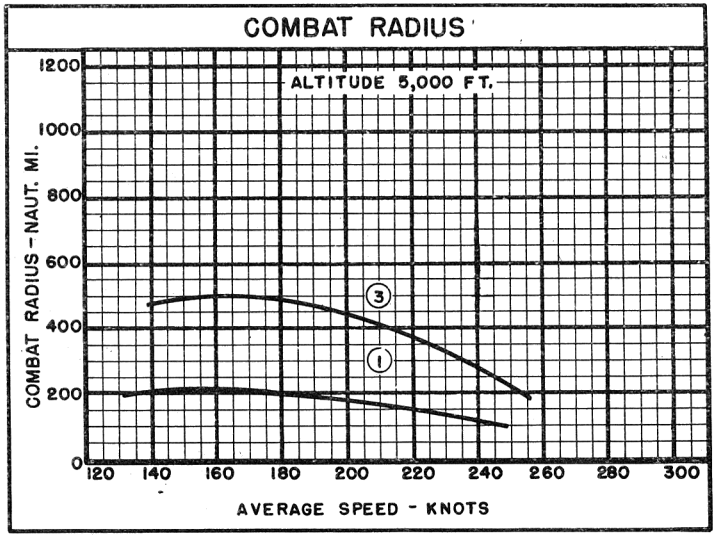








◯ LOADING CONDITION COLUMN NUMBER

NOTES

(Continued from PERFORMANCE SUMMARY Page)

PERFORMANCE BASIS: Performance is calculated and based on contractor's flight tests of Models AD-4B, AD-5 and AD-6.

COMBAT RADIUS AND RANGE are based on fuel consumption data from AD-4B, AD-5 and AD-6 flight tests and increased 5%.

All loadings include centerline and innerwing bomb racks, 12 Aero 14 racks, and four 20mm guns equipped with flash hiders.

(Continued from ELECTRONICS Page)

ECM DF.....AN/APA-69A
ECM Rec.....AN/APR-13

Provisions

VHF Trans.-Rec.....AN/ARC-1
Bomb Director.....MK-3 MOD-5

(Continued from ORDNANCE Page)

Torpedoes.....Two
Frag. Cl.....2-500 lb. 2-100 lb.
Incend. Cl.....2-500 lb. 2-100 lb.
Chem. Tanks.....2-Aero 14A
Fuel Tanks.....2-300 gal. 2-150 gal.
Prac. Bombs.....2-Aero 4A Container
2-Aero 5A Container
Rockets.....2-11.75 in.
Misc. Stores.....2-Aero 2A Sono/fl. disp.
1-APS-31B Radar Store 1-APS-19 Radar Store
1-MX-900A Window disp. 2-Para. flare cont.
1-Sono/Searchlight

Outer Wing (12-Aero 14 Racks)

Bombs.....6-500 lb. 12-100 lb.
Depth Bombs.....12-350 lb.
Frag. Bombs.....6-500 lb. 12-100 lb.
Incend. Cl.....6-500 lb. 12-100 lb.
Rockets.....12-HPAG 5 in.
12-HVAR 5 in.
12-Aero 3A Packages

FIXED GUNS/RDS. AMM.

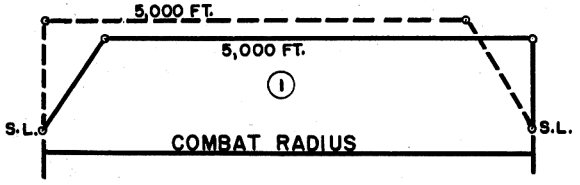
4-20mm type M3/200 rds. per gun Gun sight, Mk. 20 MOD 4
Mounted in wing leading edge Arm. Cont. Syst. (LABS) Aero 18C

SPOTTING: A total of 83 airplanes can be accommodated in a landing spot on the flight and hangar decks of a CVA-19 class angled deck carrier.

LOW ALTITUDE ATTACK AND GROUND SUPPORT BOMBER MISSION - COMBAT RADIUS PROBLEM

WARM-UP, TAXI, TAKE-OFF: 10 minutes at normal power.
CLIMB: On course to 5,000 feet with normal power.
CRUISE-OUT: At 5,000 feet at velocity for long range.
DESCEND: To sea level. (No fuel used, no distance gained.)
DROP BOMBS, FIRE ROCKETS.
COMBAT: 15 minutes at sea level. (5 minutes at military power and 10 minutes at normal power.)
CLIMB: On course to 5,000 feet with normal power.
CRUISE BACK: At 5,000 feet at velocity for long range.
RESERVE: 20 minutes at velocity 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



① LOADING CONDITION COLUMN NUMBER