Standard Aircraft Characteristics

NAVY MODEL
EA-1F
AIRCRAFT

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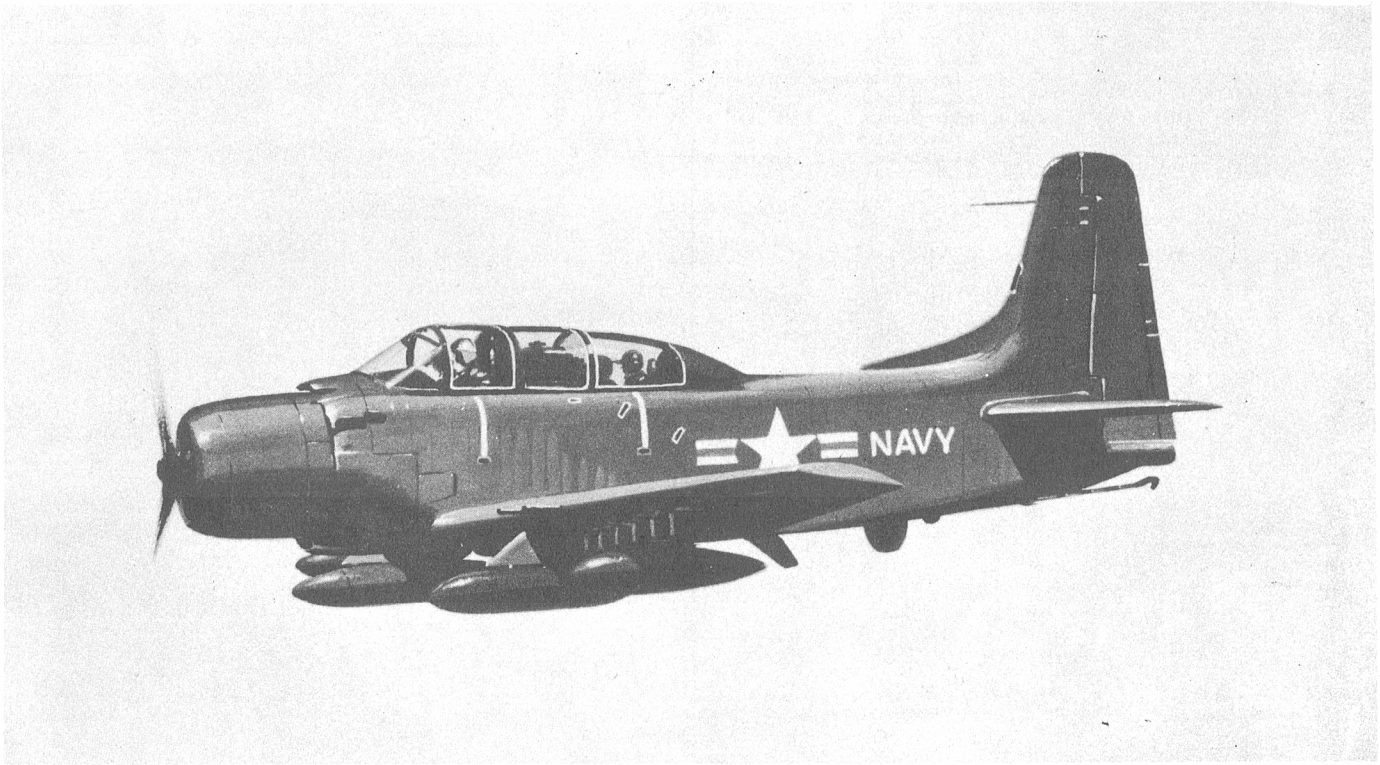
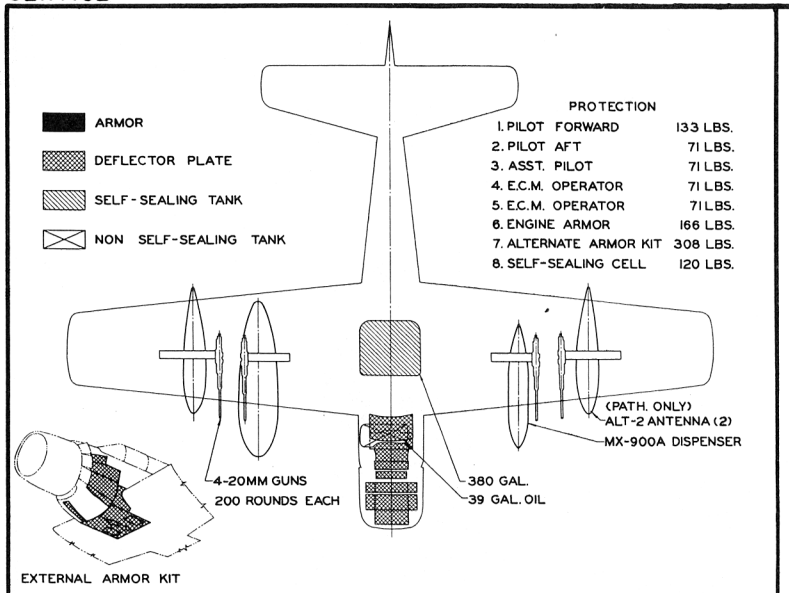
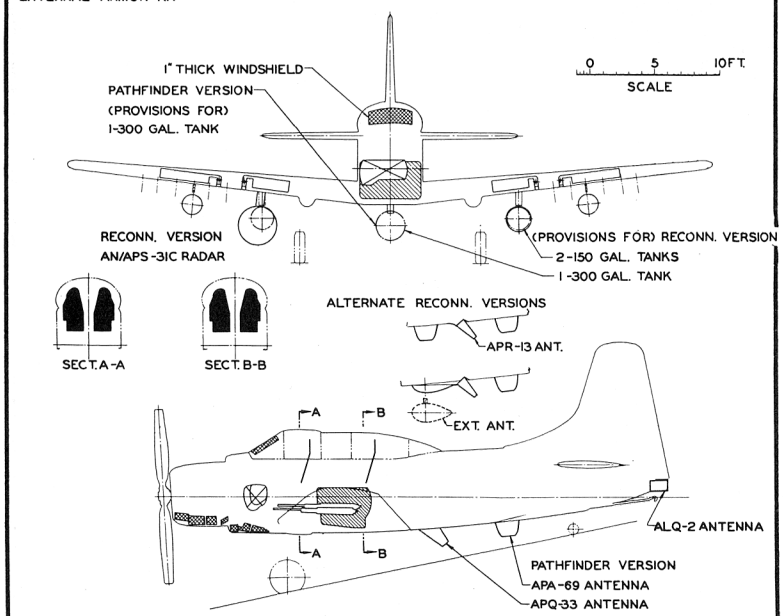


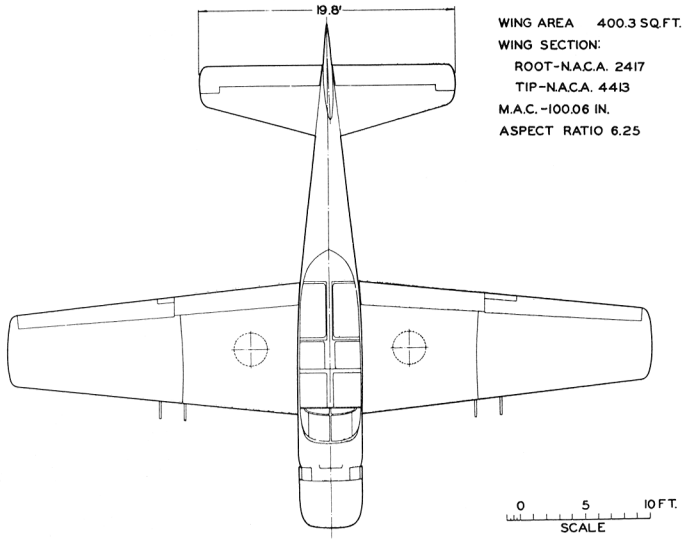
STANDARD AIRCRAFT CHARACTERISTICS

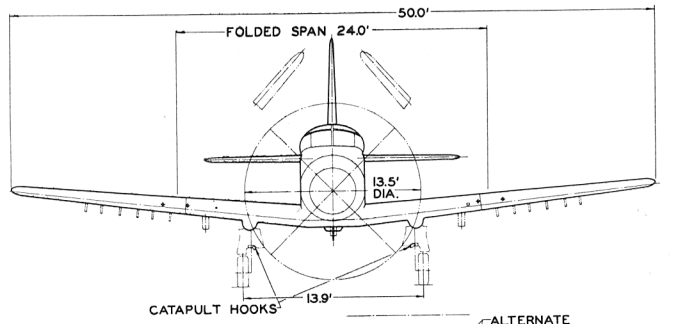
EA-1F SKYRAIDER

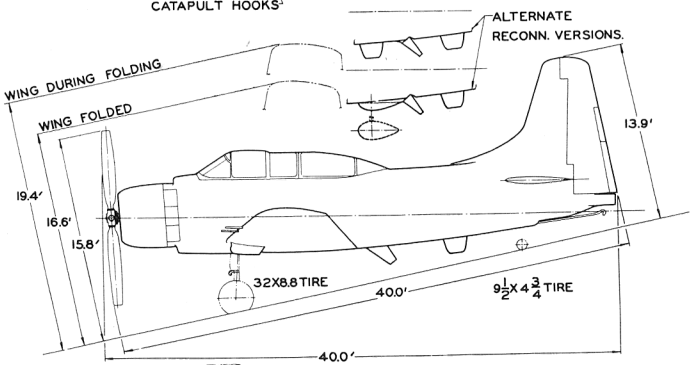




ARMAMENT & TANKAGE







DESCRIPTIVE ARRANGEMENT

POWER PLANT

NO. & MODEL.....(1)R-3350-26-WA
MFR.....Wright Aero
SUPERCHG.....Single Stage Two Speed
REDUCT.GEAR RATIO..... .4375:1
PROP. MFR.....Aero Products
BLADE DES. NO.....M20A2-162-0
NO. BLD./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

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

Provisions

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

MISSION AND DESCRIPTION

The AD-5Q is a dual purpose airplane, capable of two distinct missions; one, that of a radar reconnaissance airplane, detecting enemy radar installations and, secondly, that of a radar countermeasures airplane that jams enemy radar during an attack mission by a group of bombers.

The AD-5Q is a kit-modification to the AD-5N airplane. Crew consists of four: a pilot and navigator in the cockpit and two ECM operators in a rear compartment. The airplane is designed to operate from all classes of aircraft carriers or land bases.

The airplane is conventional in design and structure incorporating a single reciprocating engine, folding wings, conventional landing gear and catapult and arrested landing equipment. Provisions are incorporated for the carrying of fuel tanks and various stores required for the missions on the bomb racks, and for installation of 4-20mm guns in the inner wings.

DEVELOPMENT

First Flight.....October 1956
Service Use.....July 1957

DIMENSIONS

WING
AREA.....400.3 sq.ft.
SPAN.....50 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	12,097	
BASIC	15,932	
DESIGN	17,000	6.4
COMBAT	19,395	5.6
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

ORDNANCE

Does not normally carry ordnance.

Provisions for a total of 12 Aero 14 bomb racks on outer wings and 4-20mm wing guns with 200 rounds of ammunition each.

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION			(1) PATHFINDER 1-300 gal. Aero 1A Fuel Tank (B) and (F)	(3) PATHFINDER 2-300 gal. Aero 1A Fuel Tanks (B) and (G)	(4) RECONNAISSANCE (C)	(5) RECONNAISSANCE 1-300 gal. Aero 1A Fuel Tank (C)	(6) RECONNAISSANCE 1-300 gal. Aero 1A 2-150 gal. Aero 1A Fuel Tanks (C)
TAKE-OFF WEIGHT		lb.	21,351	23,142	18,598	20,590	22,596
Fuel		lb.	4,080	5,880	2,280	4,080	5,880
Payload		lb.	None	None	None	None	None
Wing loading		lb./sq.ft.	53.4	57.9	46.5	51.5	56.5
Stall speed - power-off		kn.	91.5	95.2	85.4	89.8	94.1
Take-off run at S.L. - calm		ft.	1,320	1,620	930	1,200	1,530
Take-off run at S.L. 25 kn. wind		ft.	690	875	455	615	800
Take-off to clear 50 ft. - calm		ft.	2,240	2,820	1,590	2,040	2,620
Max. speed/altitude	(A)	kn./ft.	252/17,200	247/17,200	268/17,400	261/17,300	252/17,200
Rate of climb at S.L.	(A)	fpm.	1,510	1,270	2,010	1,660	1,370
Time: S.L. to 10,000 ft.	(A)	min.	7.1	8.7	5.3	6.4	8.1
Time: S.L. to 20,000 ft.	(A)	min.	18.3	24.0	12.8	16.2	21.4
Service ceiling (100 fpm)	(A)	ft.	23,100	21,700	27,500	24,500	22,300
Combat range		n.mi.	1,180	1,685	680	1,285	1,800
Average cruising speed		kn.	165	165	165	165	165
Cruising altitude(s)		ft.	5,000	5,000	5,000	5,000	5,000
Combat radius		n.mi.	485	480	225	530 (D)	795 (E)
Average cruising speed		kn.	165	165	165	165	165
Mission time		hrs.	6.2	6.0	3.0	6.7	9.8
COMBAT LOADING CONDITION			(2) CLEAN Full Internal Fuel				
COMBAT WEIGHT		lb.	19,359				
Engine power			Military				
Fuel		lb.	2,280				
Combat speed/combat altitude		kn./ft.	251/Sea Level				
Rate of climb/combat altitude		fpm/ft.	2,320/Sea Level				
Combat ceiling (500 fpm)		ft.	22,000				
Rate of climb at S.L.		fpm.	2,320				
Max. speed at S.L.		kn.	251				
Max. speed/altitude		kn./ft.	264/5,100				
LANDING WEIGHT		lb.	17,416				
Fuel		lb.	337				
Stall speed - power-off		kn.	82.6				
Stall speed - with approach power		kn.	77.6				

NOTES

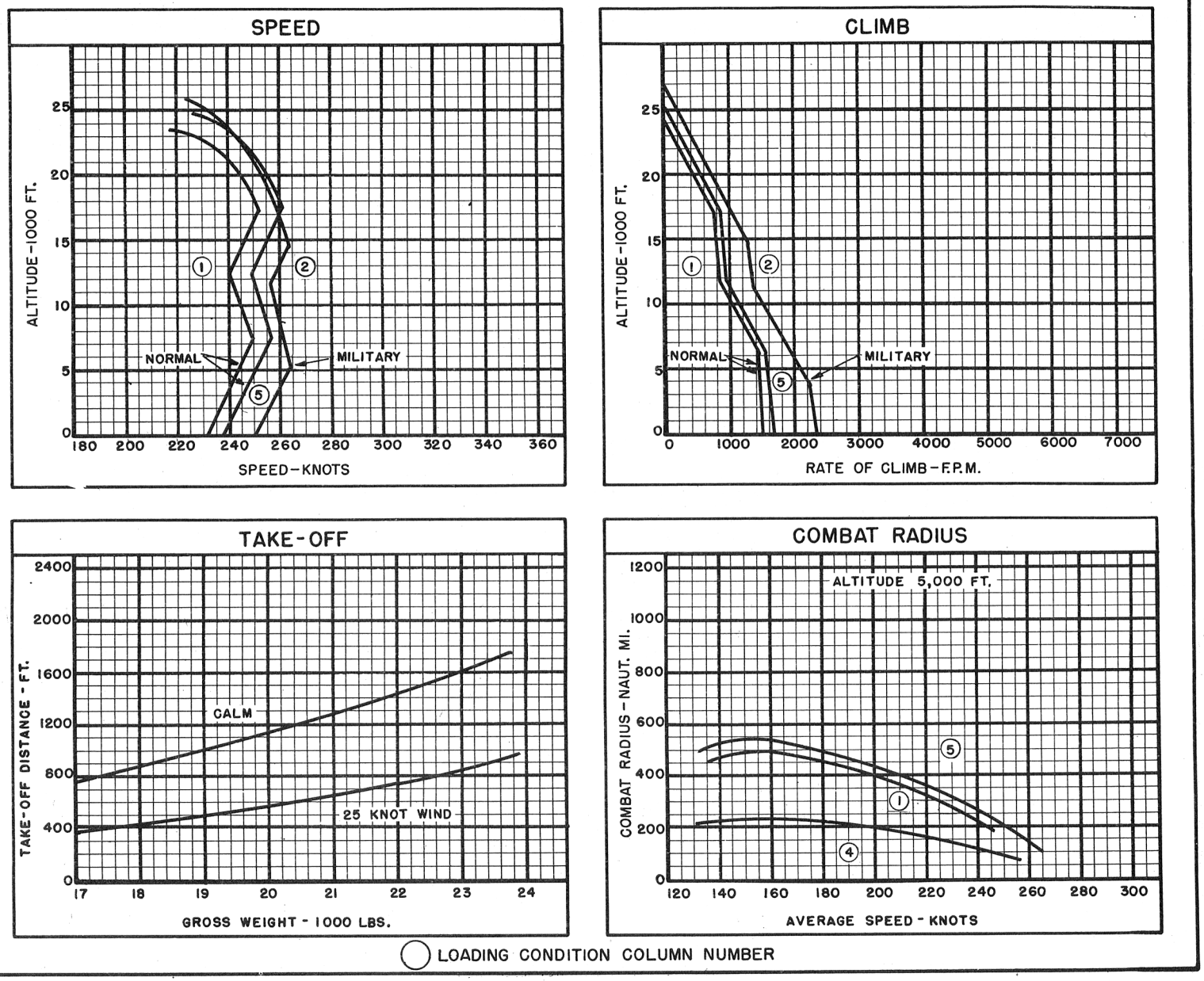
(A) Normal rated power.

(B) Pathfinder configuration includes following external antennae: AS/776/APA-69 radome, AT-321/APQ-33 blade, AS-694/AIQ-2, ARN-6, APX-6, and ARN-21.

(C) Reconnaissance configuration includes following external antennae: AS-776/APA-69 radome, AS-435/APA-69 radome, AS-694/AIQ-2, APR-13 blade, ARN-6, APX-6 and ARN-21.

(D) The combat radius with the extendable APA-69 is 513 n.mi. if the radome is extended for two hours and the 300-gallon fuel tank is retained.

Continued on NOTES Page


SPEED
ALTITUDE - 1000 FT.
25
20
15
10
5
0
180 200 220 240 260 280 300 320 340 360
SPEED - KNOTS
NORMAL
MILITARY
1
2
5
CLIMB
ALTITUDE - 1000 FT.
0 1000 2000 3000 4000 5000 6000 7000
RATE OF CLIMB - F.P.M.
NORMAL
MILITARY
1
2
5
TAKE-OFF
TAKE-OFF DISTANCE - F.T.
2400
2000
1600
1200
800
400
0
17 18 19 20 21 22 23 24
GROSS WEIGHT - 1000 LBS.
CALM
25 KNOT WIND
COMBAT RADIUS
ALTITUDE 5,000 FT.
COMBAT RADIUS - NAUT. MI.
1200
1000
800
600
400
200
0
120 140 160 180 200 220 240 260 280 300
AVERAGE SPEED - KNOTS
1
4
5
LOADING CONDITION COLUMN NUMBER

NOTES

Continued from PERFORMANCE SUMMARY Page

(E) The combat radius shown is based on retaining the external fuel tanks during the combat period. If the tanks and 1539 lbs. of fuel are dropped prior to the combat period, the combat radius is 526 n.mi. and the mission time is 6.6 hours.

(F) Includes two AN/ALT-2 Stores, MX-900A and AN/APS-31P.

(G) Includes two AN/ALT-2 Stores, AN/APS-31P.

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

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

All loadings include centerline and inner wing bomb racks, 12 Aero 14 racks and no guns.

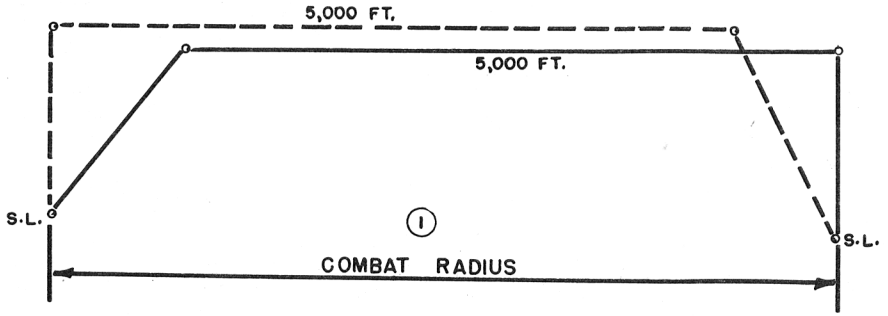
SPOTTING: A total of 83 airplanes can be accommodated in a landing spot on the flight and hangar decks of a CVA-19 class angled deck carrier.

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. (Drop external fuel tank when empty)
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



◯ LOADING CONDITION COLUMN NUMBER