

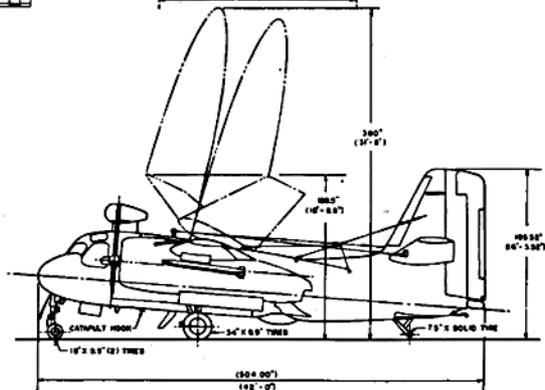
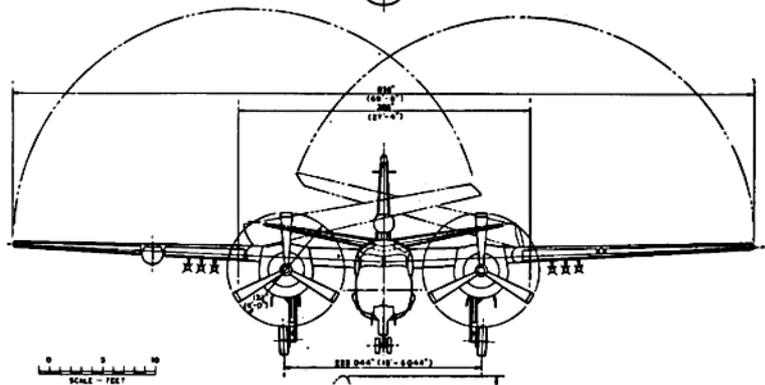
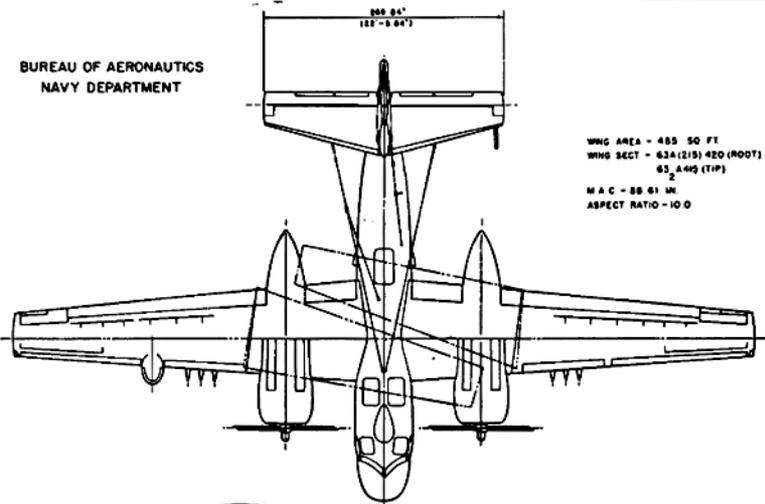


STANDARD AIRCRAFT CHARACTERISTICS

S-2A TRACKER

GRUMMAN

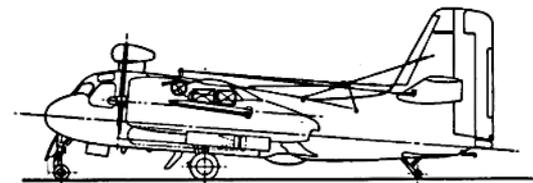
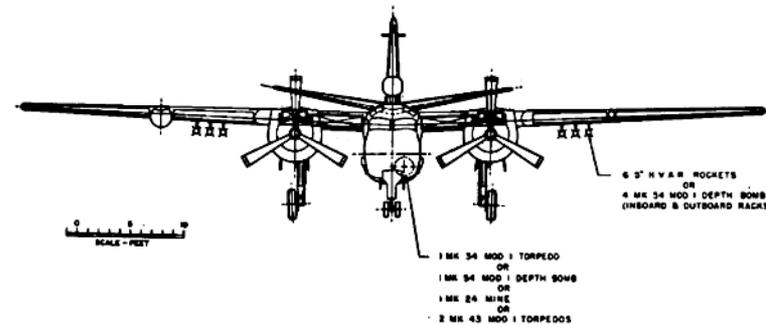
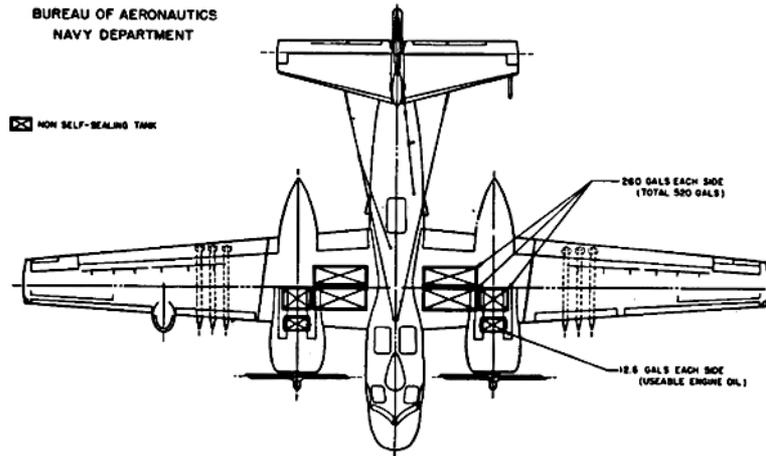
BUREAU OF AERONAUTICS
NAVY DEPARTMENT



DESCRIPTIVE ARRANGEMENT
S2F-1

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

☒ NON SELF-SEALING TANK



ARMAMENT & TANKAGE
S2F-1

POWER PLANT

NO & MODEL.....(2) R-1820-82
 MANUFACTURER.....Wright
 SUPERCHARGER.....1 Stage, 1 Speed
 REDUCTION GEAR RATIO.....0.5625
 PROP. MFR.....Hamilton Std.
 PROP. DESIGN NO.....6915A7(2)
 NO. BL./DIA.3/11' - 0"

RATINGS

	RHP	%RPM	%ALT.
T. O.	1,525	2,800	700'
MIL.	1,425	2,700	2,400'
NORM.	1,275	2,500	3,500'

SPEC. NO. N367-A

ELECTRONICS

UHF TRANS - REC.....AN/ARC-27A
 HF TRANS-REC.....AN/ARC-2A
 ICS.....AN/AIC-8
 MARKER BEACON.....AN/ARN-8
 RANGE RECEIVER.....R-23/ARC-5
 RADIO COM-PAES (ADP).....AN/ARC-6
 IFF.....AN/APX-6
 ECM HOMING.....AN/APA-69A
 ECM RECEIVER.....AN/APR-9B
 SONO RECEIVER.....AN/ATR-26A
 RADAR.....AN/APS-38A
 RADIO ALTIMETER.....AN/APH-22
 MAD.....AN/ASQ-8
 UHF DF.....AN/ARA-25
 NAV. TRANS-RECEIVER.....AN/ARN-21
 or
 VOI. RECEIVER.....AN/ARN-30A
 CODER GROUP.....AN/APA-89
 GROUND POS. INDICATOR...AN/APA-57B
 or
 AN/ASA-13 in later S2F's
 SEARCH LIST SET.....AN/AVQ-2A-2C
 WIRE RECORDER.....IC/VRW-7
 SONOBUOY INDICATOR SYSTEM

..... AN/AQA-1 or IA

MISSION AND DESCRIPTION

The S2F-1 is a twin engine ASW airplane, whose mission is to search for, detect and destroy enemy submarines. The airplane has accommodations for a crew of four; pilot, co-pilot, MAD equipment operator and a radar operator. It is possible for the crew members to interchange positions in flight as well as service electronic equipment.

The airplane is capable of operating from CVE-105 and larger class carriers or land bases. The S2F-1 can maintain a positive single engine rate-of-climb at catapult end speed.

Lateral control is provided by circular arc spoilers in conjunction with ailerons. Directional and longitudinal control is provided by conventional elevators and rudders. Directional control for single engine operation is augmented by means of a power actuated surface located between the fin and the rudder surfaces. The same surface, actuated electrically, is used as a directional trimming device. Lateral and longitudinal trim are accomplished by conventional trim tabs.

DEVELOPMENT

First Flight.....December 1952
 Service Use.....February 1954

DIMENSIONS

WING AREA485 Sq. Ft.
 SPAN.....69' - 8"
 LENGTH.....42' - 0"
 HEIGHT.....16' - 3.5"
 TRAD18' - 6"
 MAC.....7' - 4.5"

WEIGHTS

LOADING	LBS.	L. F.
EMPTY	17,357	
BASIC	17,600	
DESIGN	23,042	3.0
MAX. T. O. (FIELD)	24,500	
(CAT.)	24,500	
MAX. LAND. (FIELD)	24,500	
(ARREST)	23,500	

ALL WEIGHTS ARE ACTUAL

FUEL AND OIL

GALS.	NO. TANKS	LOCATION
520	2	WING
FUEL GRADE.....115/145		
FUEL SPEC.....Applicable MIL-F-5572		

OIL

CAPACITY (USABLE GALS.).....25.2
 GRADE.....1,100
 SPEC.Applicable MIL-L-6082

ORDNANCE

DROPPABLE STORES

Bomb Bay	NO.
MK. 34 - 1 Torpedo	1
MK. 43 - 1 Torpedo	2
MK. 54 - 1 Depth	1
MK. 24 - Mine	1
Wing	
AN/AVQ - 2 Searchlight	1
Wing Stores	
Depth Bombs - MK. 54 - 1	4
5" HVAR	6
Engine Nacelle	
AN/SSQ-2 Sonobuoys (in ea. nacelle)	10
Fuselage	
Aero 1A/1B Retro Ejector with 20 Mk. 7 Marine Markers	
FIRE CONTROL	
Fixed Ring & Read Sight	

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) ASW MK. 34-1 Torpedo	(3) 6-5" HVAR Plus ASW Mk. 34-1 Torpedo		
TAKE-OFF WEIGHT	lb.	23,470	24,408		
Fuel	lb.	3,120	3,120		
Payload	lb.	1,160	2,000		
Wing loading	lb./sq.ft.	48.99	50.32		
Stall speed - power-off	kn.	79.5	86.1		
Take-off run at S.L. - calm	ft.	820	1,020		
Take-off run at S.L. - 17 kn. wind	ft.	475	600		
Take-off to clear 50 ft. - calm	ft.	--	--		
Max. speed/altitude (A)	kn./ft.	237/4,000	227/4,000		
Rate of climb at S.L. (A)	fpm.	1,170	1,600		
Time: S.L. to 10,000 ft. (A)	min.	6.7	7.5		
Time: S.L. to ft.	min.	--	--		
Service ceiling (100 fpm)	ft.	22,800	22,000		
Combat range	n.mi.	841	786		
Average cruising speed	kn.	130	130		
Cruising altitude(s)	ft.	1,500	1,500		
Combat radius	n.mi.	335	315		
Average cruising speed	kn.	130	130		
Combat Endurance		6.5	6.0		
Average cruising speed		130	130		
COMBAT LOADING CONDITION		(2)			
COMBAT WEIGHT (C)	lb.	22,222			
Engine power		Military			
Fuel	lb.	1,872			
Combat speed/combat altitude (B)	kn./ft.	229/Sea Level			
Rate of climb/combat altitude	fpm/ft.	2,330/Sea Level			
Combat ceiling (500 fpm)	ft.	17,500			
Rate of climb at S.L.	fpm.	2,330			
Max. speed at S.L. (B)	kn.	229			
Max. speed/altitude (B)	kn./ft.	236/3,100			
LANDING WEIGHT (C)	lb.	20,662	21,600		
Fuel	lb.	312	312		
Stall speed - power-off	kn.	74.5	81.0		
Stall speed - with approach power	kn.	62.5	66.6		

NOTES

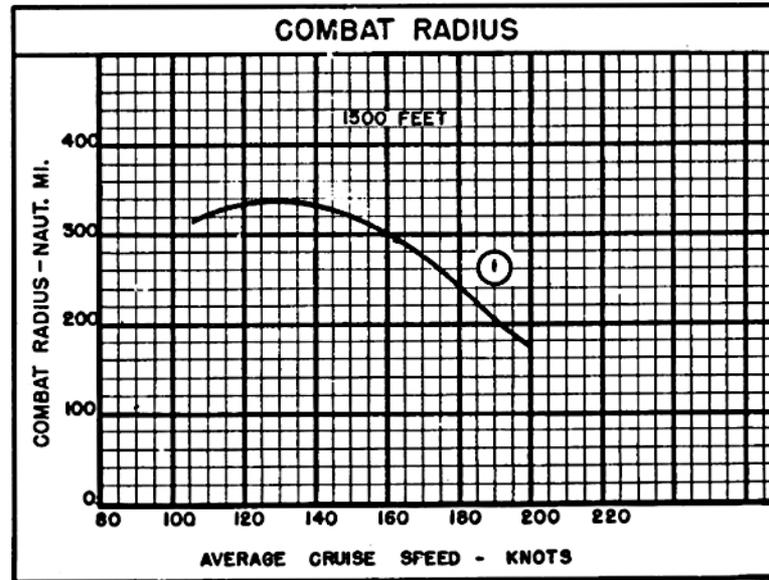
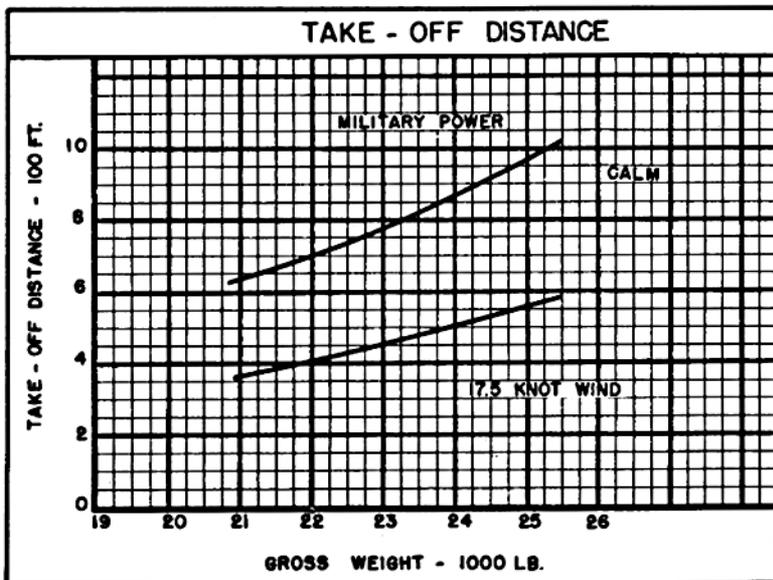
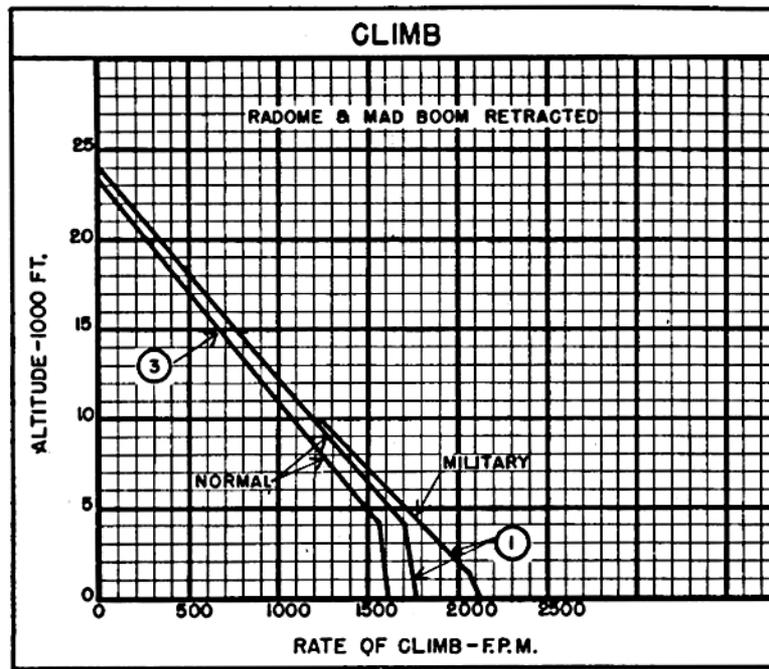
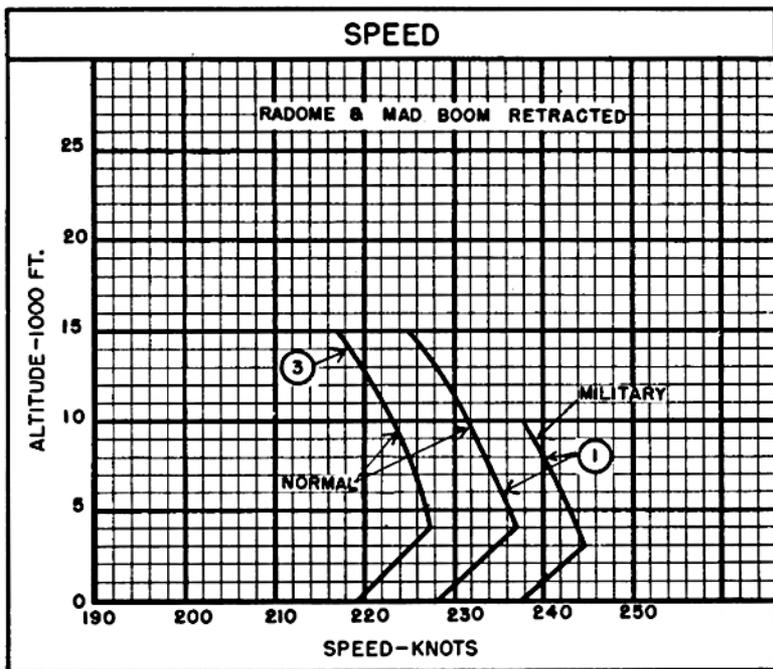
(A) Normal rated power.

(B) Radome and MAD boom extended. Max. speed increases approximately 10 knots when radome and MAD boom are retracted.

(C) Combat and landing weights are with MK. 34-1 Torpedo and 6 - 5" HVAR's retained.

PERFORMANCE BASIS: NATC and contractors flight test data.

RANGE AND RADIUS are based on flight test data. Range and radius increased by 5%.



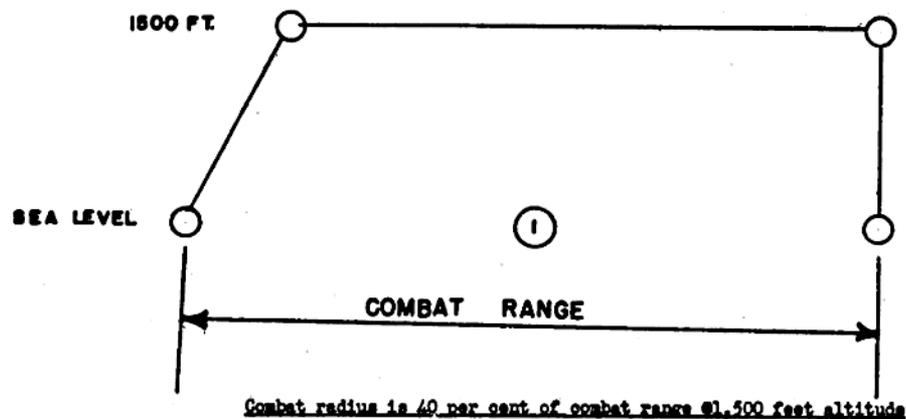
○ LOADING CONDITION COLUMN NUMBER

NOTES

SPOTTING: A total of 76 airplanes can be accommodated in a landing spot on the flight and hangar decks of a CVA-19 class angled deck carrier.

COMBAT RANGE AND ENDURANCE PROBLEM - ASW FIXED WING (RECIPROCATING)

WARM-UP, TAXI, TAKE-OFF: 10 minutes at normal rated power at sea level.
 CLIMB: To 1,500 feet at normal rated power (radome and MAD boom retracted).
 RANGE AND ENDURANCE: Cruise at 130 knots at 1,500 feet. (Radome and MAD boom extended.)
 RESERVE: 10% of initial fuel load.



LOADING CONDITION COLUMN NUMBER