

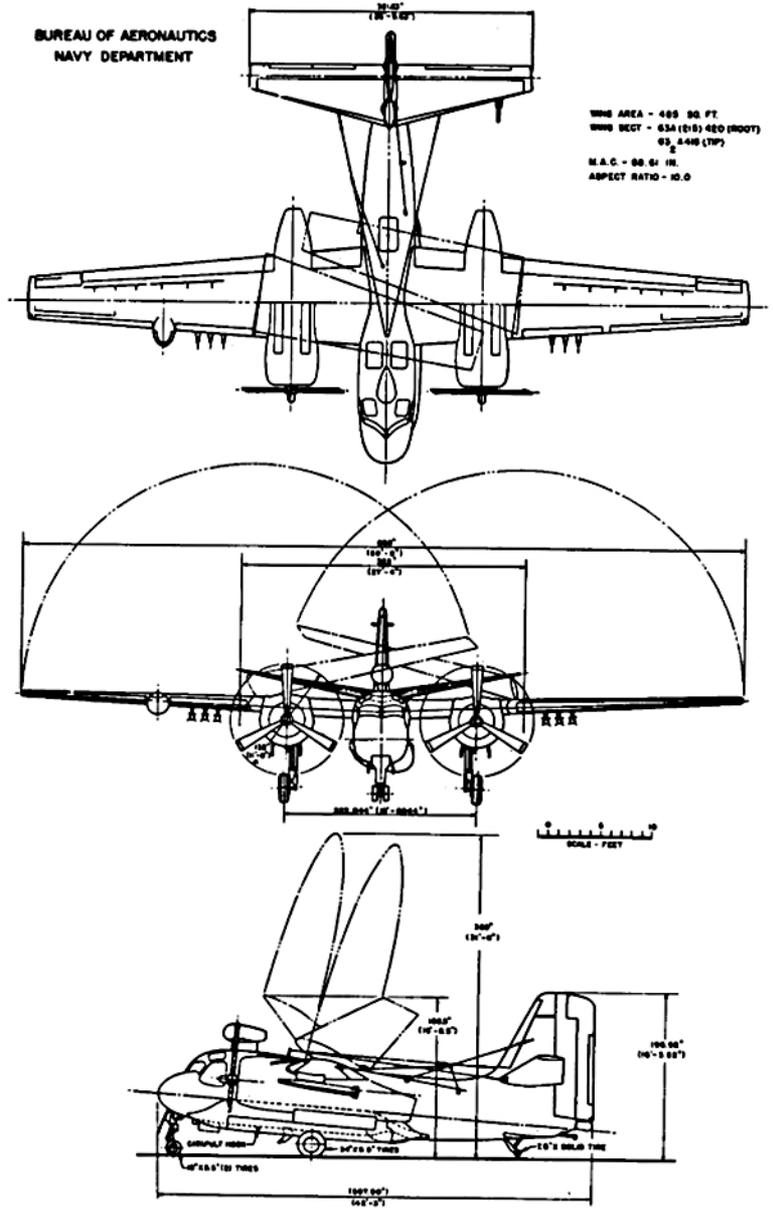


# STANDARD AIRCRAFT CHARACTERISTICS

## S-2C TRACKER

GRUMMAN

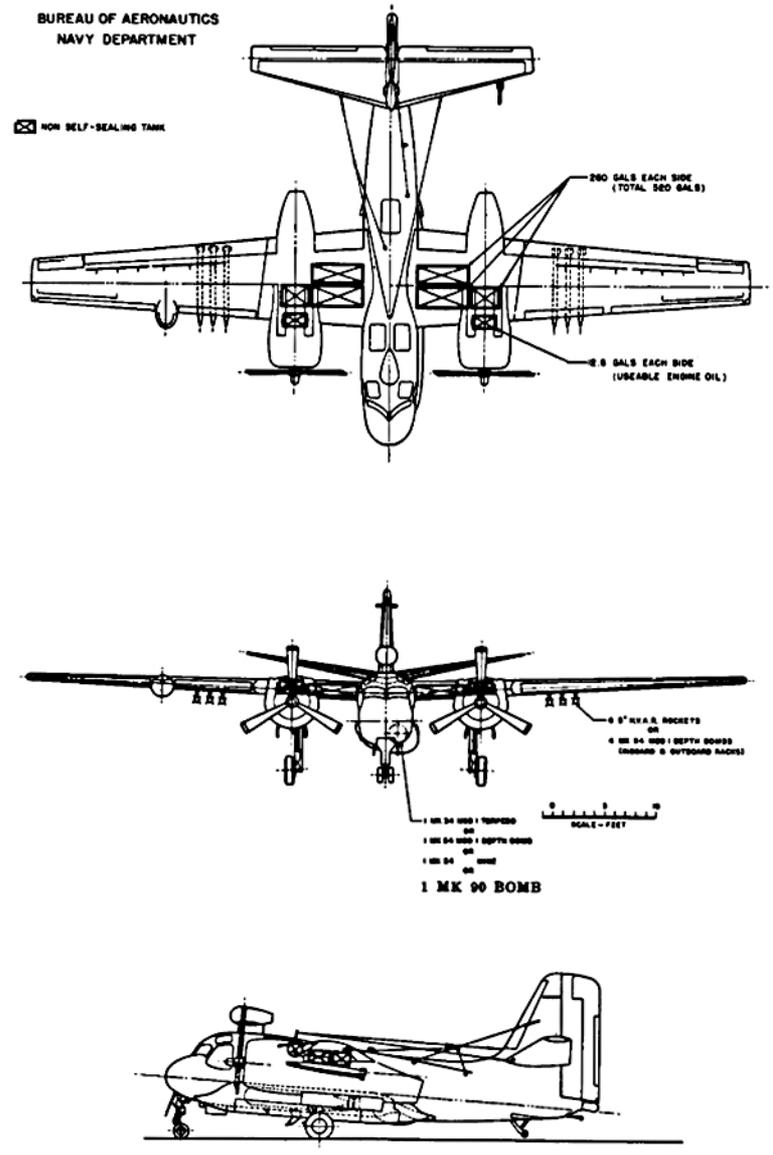
BUREAU OF AERONAUTICS  
NAVY DEPARTMENT



WING AREA - 480 SQ. FT.  
WING BEGT - 634 (DB) 420 (MOOT)  
OS - 4-48 (TW)  
M.A.C. - 90 5/8 IN.  
ASPECT RATIO - 10.0

DESCRIPTIVE ARRANGEMENT  
S2F-2

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT



☒ NON SELF-SEALING TANK

ARMAMENT & TANKAGE  
S2F-2

**POWER PLANT**

NO. & MODEL.....(2) R-1820-82  
 MFR.....Wright  
 SUPERCH.....1 Stage, 1 Speed  
 RED. GEAR RATIO.....0.5625  
 PROP. MFR.....Hamilton Std.  
 PROP. HLD. DES. NO.....6915A7(2)  
 NO. HLD/DIA.....3/11'-0"

**RATINGS**

	<u>BHP</u>	<u>@ RPM</u>	<u>@ ALT.</u>
T.O.	1,525	2,800	700
MIL.	1,425	2,700	2,400
NORM.	1,275	2,500	3,500

SPEC. NO. N867-A

**MISSION AND DESCRIPTION**

The S2F-2 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, copilot, MAD equipment operator and a radar operator. It is possible for the crew members to interchange positions in flight as well as service the electronic equipment.

The airplane is capable of operating from CVE-105 and larger class carriers or land bases.

Single slotted flaps are incorporated in the wing. Lateral control is provided by circular arc spoilers in conjunction with ailerons. Directional and longitudinal control are 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.

The S2F-2 differs from the S2F-1 externally by the incorporation of a blister bomb bay extension on the left side of the fuselage. Larger stores may be accommodated in the S2F-2 bomb bay.

**DEVELOPMENT**

First Flight.....May 1954  
 Service Use.....February 1955

**WEIGHTS**

<u>LOADINGS</u>	<u>LBS.</u>	<u>L.F.</u>
EMPTY.....	17,640.....	
BASIC.....	17,897.....	
DESIGN.....	23,246.....	3.0
MAX. T.O. (Field).....	25,500.....	
(Cat.).....	25,500.....	
MAX. LAND. (Field).....	24,500.....	
(Arrest).....	24,500.....	

ALL WEIGHTS ARE ACTUAL

**FUEL AND OIL**

<u>NO. TANKS</u>	<u>TOTAL GALS.</u>	<u>LOCATION</u>
2	520	Wing

FUEL GRADE.....115/145  
 FUEL SPEC....Applicable MIL-F-5572

**OIL**

CAPACITY (Gals.).....25.2  
 GRADE.....1100  
 SPEC.....Applicable MIL-L-6082

**ORDNANCE**DROPPABLE STORES

<u>BOMB BAY</u>	<u>NO.</u>
MK. 90 Depth Bomb	1
MK. 34-1 Torpedo	1
MK. 43-1 Torpedo	3
MK. 54-1 Depth Bomb	3

WING STORES

Depth Bombs MK. 54-1	4
5" HVAR	6
MK. 43-1 Torpedo	4

ENGINE NACELLE

AN/SSQ-2 Sonobuoys	16
AN/SSQ-1 Sonobuoys	4

FUSELAGE

Aero 1A Retro Ejector  
 with 20 Mk. 7 Marine Markers 1

FIRE CONTROL

Fixed Ring Rocket Sight

**DIMENSIONS**

<u>WING</u>	
AREA.....	485 Sq. ft
SPAN.....	69' - 8"
MAC.....	7' - 5"
LENGTH.....	42' - 0"
HEIGHT.....	16' - 4"
TREAD.....	18' - 6"
PROP. GRD. CLEARANCE.....	1' - 0"

**ELECTRONICS**

UHF TRANS-RECEIVER.....ARC-27A  
 HF TRANS-RECEIVER.....ARC-2A  
 NAV. TRANS-RECEIVER.....ARN-21  
 ICS.....AIC-8  
 MARKER.....ARN-8  
 RANGE RECEIVER.....R-23/ARC-5  
 ADF.....ARN-6  
 IFF.....AFX-6  
 ECM HOMING.....APA-69A  
 ECM RECEIVER.....APR-9B  
 SONO RECEIVER.....ARR-26  
 RADAR.....AFS-38A  
 ALTIMETER.....AFN-22  
 M. A. D.....ASQ-8  
 VOR RECEIVER.....ARN-30A  
 UHF DF.....ARA-25

PERFORMANCE SUMMARY					
TAKE-OFF LOADING CONDITION		(1)	ASM MK-90 Bomb	(3)	ASM MK-90 Bomb & 6-5" HVAR
TAKE-OFF WEIGHT	lb.		25,145		25,985
Fuel	lb.		3,120		3,120
Fayload	lb.		2,440		3,280
Wing loading	lb./sq.ft.		52		54
Stall speed - power-off	kn.		82		89
Take-off run at S.L. - calm	ft.		1,070		1,286
Take-off run at S.L. 17.5 kn. wind	ft.		620		744
Take-off to clear 50 ft. - calm	ft.		--		--
Max. speed/altitude	(A) kn./ft.		229/4,000		223/4,000
Rate of climb at S.L.	(A) fpm.		1,570		1,430
Time: S.L. to 10,000 ft.	(A) min.		7.5		8.5
Time: S.L. to ft.	min.		--		--
Service ceiling (100 fpm)	(A) ft.		21,100		19,700
Combat range	(B) n.mi.		745		700
Average cruising speed	(B) kn.		130		130
Cruising altitude(a)	(B) ft.		1,500		1,500
Combat radius	n.mi.		300		280
Average cruising speed	kn.		130		130
Mission time	hrs		5.74		5.38
COMBAT LOADING CONDITION		(2)			
COMBAT WEIGHT	(C) lb.		23,897		
Engine power			Military		
Fuel	lb.		1,872		
Combat speed/combat altitude	(B) kn./ft.		221/Sea Level		
Rate of climb/combat altitude	fpm/ft.		2,040/Sea Level		
Combat ceiling (500 fpm)	ft.		15,950		
Rate of climb at S.L.	fpm.		2,040		
Max. speed at S.L.	(B) kn.		221		
Max. speed/altitude	(B) kn./ft.		228/3,100		
LANDING WEIGHT	(C) lb.		22,337		23,177
Fuel	lb.		312		312
Stall speed - power-off	kn.		77.5		83.9
Stall speed - with approach power	kn.		64.9		68.9

## NOTES

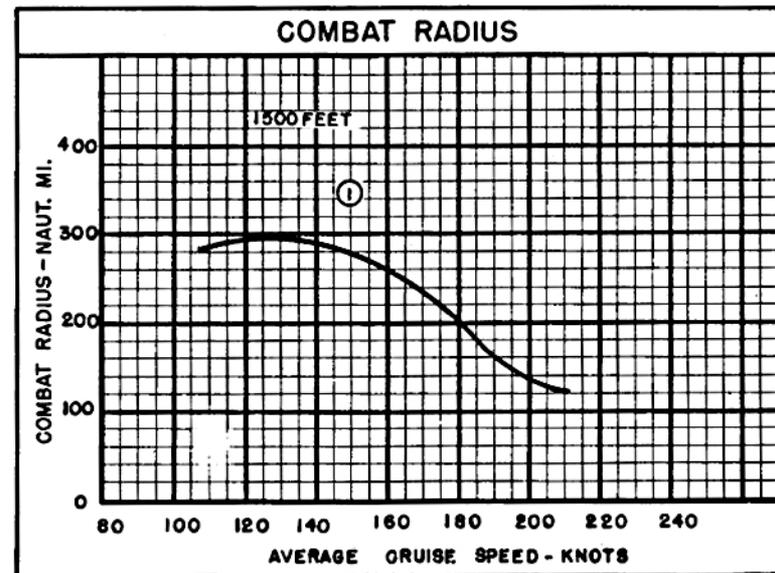
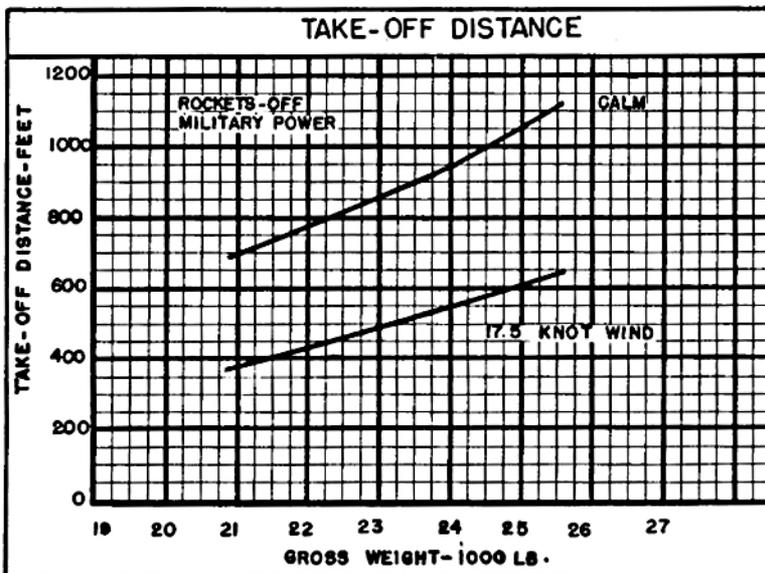
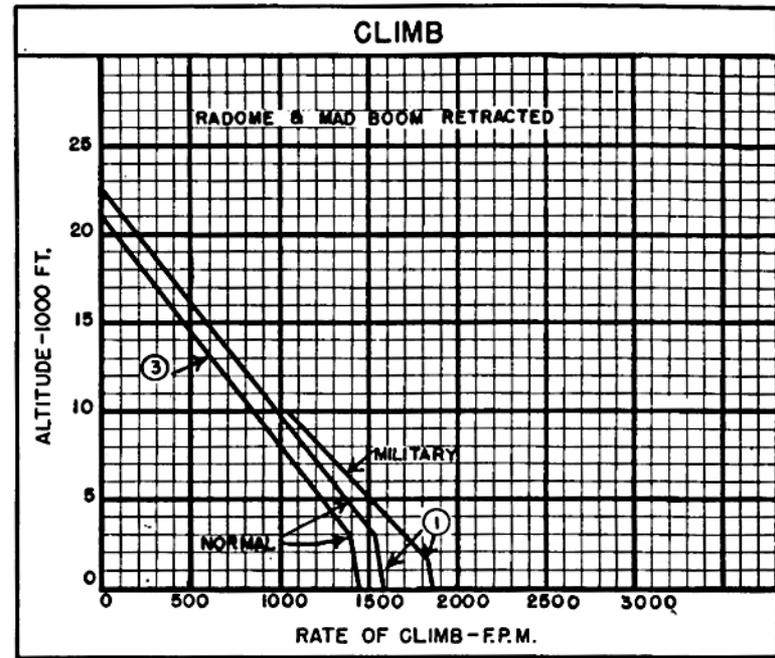
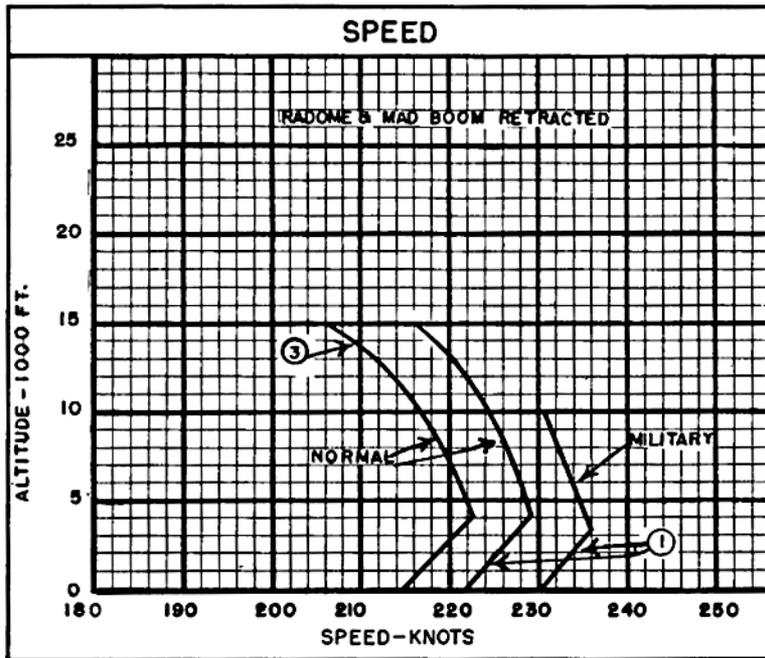
(A) Normal rated power.

(B) Radome and MAD Boom extended. Maximum speed increases approximately 10 knots when Radome &amp; MAD Boom are retracted.

(C) Combat and landing weights are with the MK-90 Bomb and 6-5" HVAR's retained.

PERFORMANCE BASIS: NATC and contractor's flight test data.

RANGE AND RADIUS are based on flight test fuel consumption data 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.

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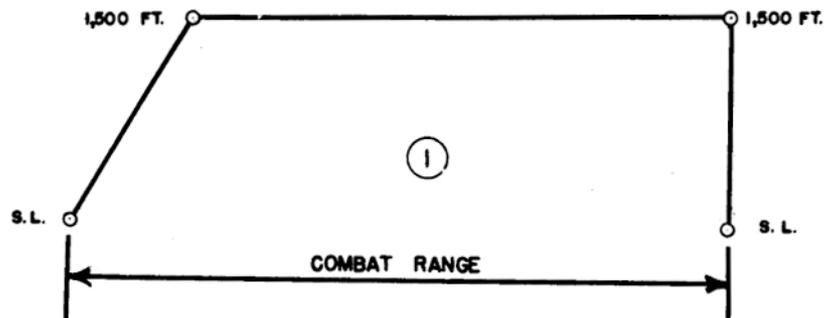
COMBAT RANGE & ENDURANCE PROBLEM - ASW FIXED WING (RECIPROCATING)

WARM-UP, TAXI, TAKE-OFF: 10 minutes at normal rated power at sea level.

CLIMB: To 1,500 feet (Radome & MAD Boom retracted).

CRUISE: At speed for best range at 1,500 feet (Radome & MAD Boom extend).

RESERVE: Fuel for 20 minutes at speed for best range at sea level plus 5% of initial fuel.



Combat Radius is 40 percent of combat range @ 1,500 ft.

○ LOADING CONDITION COLUMN NUMBER