

## F/A-18 Hornet

On 6 June 1974, the Navy released to the aerospace industry a pre-solicitation notice for the development of a new fighter and attack aircraft. Six manufacturers responded. On 28 August, the Chief of Naval Operations released the operational requirement for a strike fighter aircraft. The intent was to produce a fighter that would supplement the F-14 Tomcat and eventually replace both the F-4 Phantom II and the light attack A-7 Corsair II. This was to be done at the least expense possible, and Congress directed that the aircraft was to be a derivative of the YF-16/YF-17 then under evaluation by the Air Force.

On 2 May 1975, the Navy announced the selection of McDonnell Douglas' F-18 aircraft design. The General Electric Corporation was awarded a contract to develop the aircraft's engine. McDonnell Douglas was selected as the prime contractor. The Northrop Corporation was selected to build the after fuselage portion of the aircraft.

By the end of the 1980s, the F/A-18 Hornet, had proved to be a truly multi-mission tactical aircraft. It brought to the fleet a light-attack capability and a potent fighter complement to the F-14 in the outer air battle.

First flight	18 Nov 1978
First reported in squadron	VFA-125
Number delivered as of 1 Oct 1993	859

### *Model Designations Accepted from the Manufacturer (New Builds)*

**F/A-18A:**

The original version. Single seat, capable of carrying bombs and air-to-air guided missiles.

**F/A-18B:**

Training version of the F/A-18A with combat capability. This designation replaced TF/A-18A.

**F/A-18C:**

Single seat with maximum level speed of more than Mach 1.8. The F/A-18C differs from F/A-18A in its ability to carry the AMRAAM missile, the infra-red Maverick missile, and the Airborne Self-Protection Jammer (ASPJ). There is also an enhanced avionics suite and night attack capability. Specifications for the F/A-18C are as follows:

Dimensions:

Wing Span	37 ft 6 in
Length	56 ft
Height	15 ft 3 1/2 in

Weight:

Empty	23,050 lbs
Maximum fuel weight, internal and external	17,592 lbs



*An F/A-18A Hornet takes off from Lambert-St. Louis International Airport on its first flight, November 1978.*

Take off weight for fighter mission	36,710 lbs
Take off weight for attack mission	49,224 lbs

Armament:

nine external stations for missiles and bombs  
M61 20 mm six-barrel gun in nose

Engines:

two General Electric F404-GE-400

**F/A-18D:**

Two seat version of the F/A-18C with reconnaissance capability.

**TF/A-18A:**

Training version with combat capability. This designation was replaced with F/A-18B.

### *Modifications to Existing Airframes*

**F/A-18D (RC):**

Tactical reconnaissance version.

### **Other Designations**

**CF-18:**

Version for Canada.

**EF-18A and EF-18B:**

Versions for Spain.

**AF-18A and ATF-18A:**

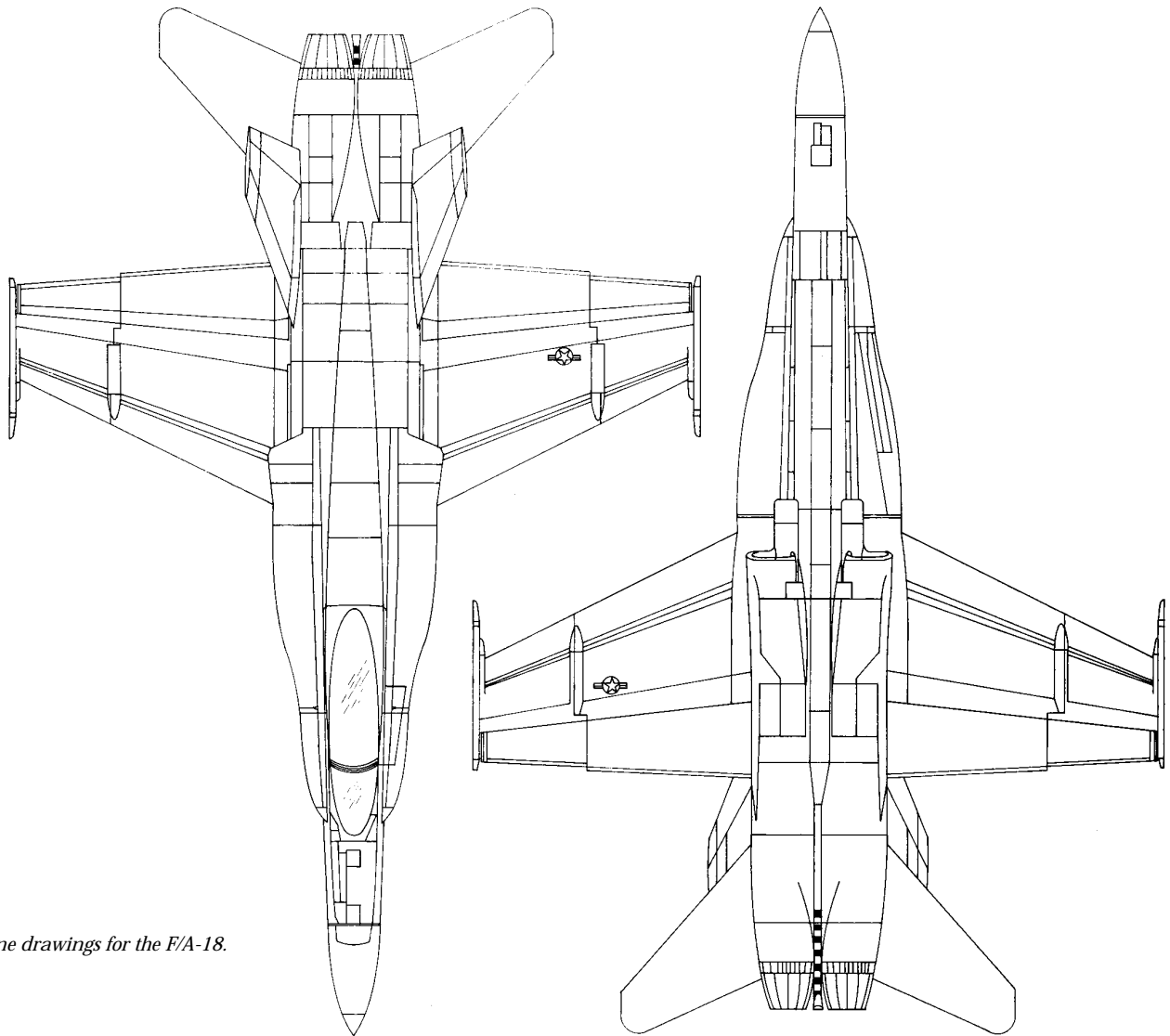
Versions for Australia.

### *Bureau Numbers*

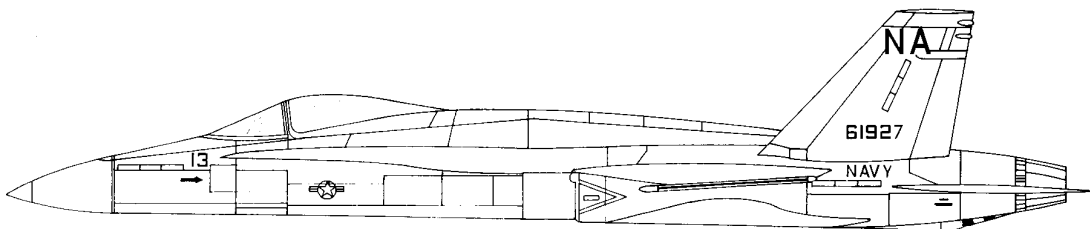
F/A-18A	160775-160785
F/A-18A	161213-161216
F/A-18A	161248
F/A-18A	161250-161251
F/A-18A	161353
F/A-18A	161358-161359
F/A-18A	161361-161367

F/A-18A	161519-161528	TF/A-18A	162419
F/A-18A	161702-161703	TF/A-18A	162427
F/A-18A	161705-161706	TF/A-18A	162842
F/A-18A	161708-161710	TF/A-18A	162850
F/A-18A	161712-161713	TF/A-18A	162857
F/A-18A	161715-161718	TF/A-18A	162864
F/A-81A	161720-161722	TF/A-18A	162870
F/A-18A	161725-161726	TF/A-18A	162885
F/A-18A	161728-161732	TF/A-18A	163104
F/A-18A	161734-161739	TF/A-18A	163110
F/A-18A	161741-161745	TF/A-18A	163115
F/A-18A	161747-161761	TF/A-18A	163123
F/A-18A	161925-161931	F/A-18C	163427-163433
F/A-18A	161933-161937	F/A-18C	163435
F/A-18A	161939-161942	F/A-18C	163437-163440
F/A-18A	161944-161946	F/A-18C	163442-163444
F/A-18A	161948-161987	F/A-18C	163446
F/A-18A	162394-162401	F/A-18C	163448-163451
F/A-18A	162403-162407	F/A-18C	163453
F/A-18A	162409-162412	F/A-18C	163455-163456
F/A-18A	162414-162418	F/A-18C	163458-163459
F/A-18A	162420-162426	F/A-18C	163461-163463
F/A-18A	162428-162477	F/A-18C	163465-163467
F/A-18A	162826-162841	F/A-18C	163470-163478
F/A-18A	162843-162849	F/A-18C	163480-163481
F/A-18A	162851-162856	F/A-18C	163483-163485
F/A-18A	162858-162863	F/A-18C	163487
F/A-18A	162865-162869	F/A-18C	163489-163491
F/A-18A	162871-162884	F/A-18C	163493-163499
F/A-18A	162886-162909	F/A-18C	163502-163506
F/A-18A	163092-163103	F/A-18C	163508-163509
F/A-18A	163105-163109	F/A-18C	163699
F/A-18A	163111-163114	F/A-18C	163701-163706
F/A-18A	163116-163122	F/A-18C	163708-163719
F/A-18A	163124-163175	F/A-18C	163721-163762
TF/A-18A	161217	F/A-18C	163764-163770
TF/A-18A	161249	F/A-18C	163772-163777
TF/A-18A	161354-161357	F/A-18C	163779-163782
TF/A-18A	161360	F/A-18C	163985
TF/A-18A	161704	F/A-18C	163987-163988
TF/A-18A	161707	F/A-18C	163990
TF/A-18A	161711	F/A-18C	163992-163993
TF/A-18A	161714	F/A-18C	163995-163996
TF/A-18A	161719	F/A-18C	163998-164000
TF/A-18A	161723	F/A-18C	164002-164004
TF/A-18A	161727	F/A-18C	164006
TF/A-18A	161733	F/A-18C	164008
TF/A-18A	161740	F/A-18C	164012-164013
TF/A-18A	161746	F/A-18C	164015-164016
TF/A-18A	161924	F/A-18C	164018
TF/A-18A	161932	F/A-18C	164020-164021
TF/A-18A	161938	F/A-18D	163434
TF/A-18A	161943	F/A-18D	163436
TF/A-18A	161947	F/A-18D	163441-163442
TF/A-18A	162402	F/A-18D	163445
TF/A-18A	162408	F/A-18D	163447
TF/A-18A	162413	F/A-18D	163454

F/A-18D	163457	F/A-18D	163720
F/A-18D	163464	F/A-18D	163763
F/A-18D	163468	F/A-18D	163771
F/A-18D	163479	F/A-18D	163778
F/A-18D	163482	F/A-18D	163986
F/A-18D	163486	F/A-18D	163989
F/A-18D	163488	F/A-18D	163991
F/A-18D	163492	F/A-18D	163994
F/A-18D	163500-163501	F/A-18D	163997
F/A-18D	163507	F/A-18D	164005
F/A-18D	163510	F/A-18D	164009
F/A-18D	163700	F/A-18D	164011
F/A-18D	163707	F/A-18D	164019



*Line drawings for the F/A-18.*



## FH (FD) Phantom

In January 1943, the Navy's decision to build an all jet-powered, carrier-based aircraft led to a contract award to the McDonnell Aircraft Company, St. Louis, Missouri. McDonnell had never designed an aircraft for the Navy, and the Navy had never before sought a jet aircraft. Following the procedure of the day, the Navy assigned a manufacturer's letter to McDonnell for its incorporation into the aircraft's designation. At the time, all usable letters were in use, so the Navy—almost presciently-assigned McDonnell the letter D which was already used by Douglas. On 6 June 1947, the letter was later changed to H; the Phantom was first designated FD and later FH.

The aircraft first flew on 26 January 1945. VF-17A made the first acceptance on 23 July 1947. VMF-122



*The XFD-1 Phantom in flight, later redesignated FH.*

was the last squadron to report a Phantom on 1 July 1950. A total of 61 aircraft were accepted.

### *Model Designations Accepted from the Manufacturer (New Builds)*

#### **XFD-1:**

Experimental version of the FD-1. The designation was never changed to XFH-1.

#### **FD-1:**

Production version of the FD-1. Basically the same as the XFD-1 but with some redesign of the vertical tail structure. Designation was later changed to FH-1.

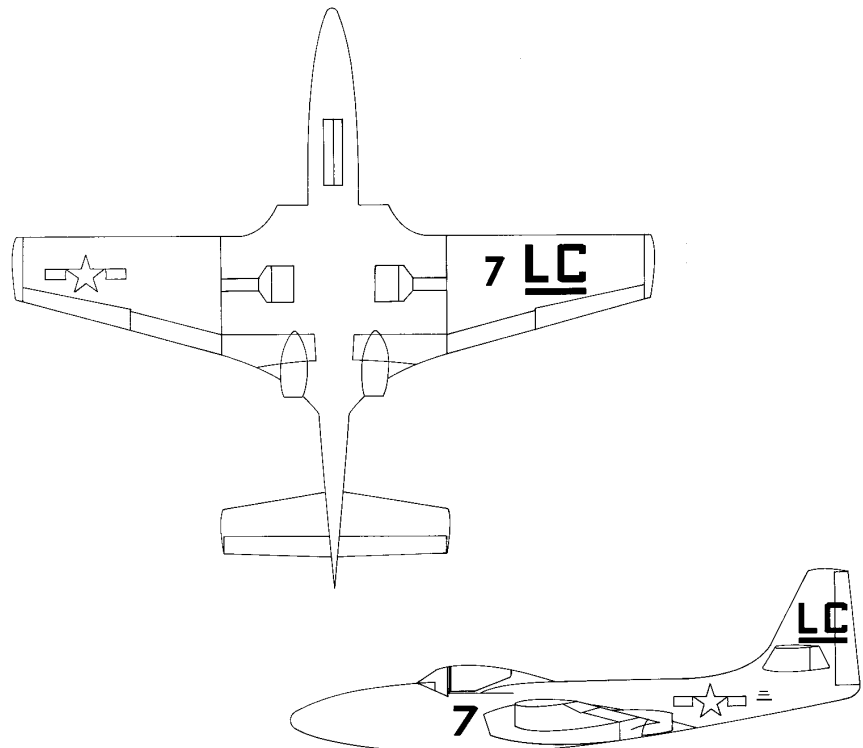
Characteristics of XFD-1:

Crew	One
Power Plant	Two 1,560 lb Westinghouse J60 engines
Combat Range	475 nautical miles
Weight	
Gross	8,626 lbs
Empty	6,156 lbs
Dimensions	
Wing Span	42 ft
Length	37 ft 2 in
Height	13 ft 2 in
Ordnance:	None in experimental version. Four fixed .50 cal. guns in FD-1.

### **Bureau Numbers**

XFD-1	48235-48236
FD-1	111749-111848 (111809-111848 canceled)

*Line drawings for the FH.*



## FJ-3/4 (F-1) Fury

North American's straight-wing Navy FJ-1 of the 1940s led to the swept wing F-86 Sabre; it seemed a logical development for the company to later produce a swept-wing, carrier-based fighter. It would be designated FJ-2 and would first fly on 27 December 1951. All FJ-2s were powered by a single General Electric J47-GE-2 engine with 6,000 pounds thrust; all were assigned to the Marine Corps. The later carrier-based variant was designated FJ-3 and was powered by a single Wright J65-W-4 engine with 7,800 pounds thrust; it first flew in 1953. The FJ-4 had a redesigned fuselage and wings with greater fuel capacity but the same engine as the FJ-3. The FJ-4 was used primarily by the Marine Corps. In 1962, the FJ-3 and FJ-4 were redesignated F-1C and F-1E, respectively. The last Fury was delivered in May 1958. The Fury was last reported in squadron on 30 September 1962.



An XFJ-4 Fury in flight, November 1954.

### Model Designations Accepted from the Manufacturer (New Builds)

#### FJ-3 (F-1C):

Single-engine, sweptwing, single-place, high-performance day fighter. Characteristics of FJ-3 (F-1C) are as follows:

Crew	One
Power Plant	7,800 pound Wright J65-W-4A
Combat Range	990 nautical miles
Weight	
Empty	12,815 lbs
Basic	13,790 lbs
Design	16,482 lbs
Combat	16,632 lbs
Maximum Takeoff	19,390 lbs (catapult)
Maximum Landing	15,000 lbs (arrested)
Dimensions	
Wing	
Area	288 sq ft
Span	37 ft 1 in
Length	38 ft 7 in

Height	13 ft 8 in
Tread	9 ft
Ordnance on FJ-3 beyond Bureau Number 136118:	
	Four 20 mm guns in forward fuselage with 646 rounds.
	Wing stations to carry: 5 inch rockets; 250, 500 and 1,000 lb bombs; 260 lb fragmentation bomb; two AIM-9 missiles

#### FJ-3M (MF-1C):

FJ-3 equipped to carry AIM-9 Sidewinder missile.

#### XFJ-4:

Experimental version of FJ-4.

#### FJ-4 (F-1E):

Production improvement of the FJ-3.

#### FJ-4B (AF-1E):

FJ-4 with provisions for attack missions.

### Other Designations

#### FJ-3D (DF-1C):

FJ-3 modified for control of Regulus missile.

#### FJ-3D2 (DF-1D):

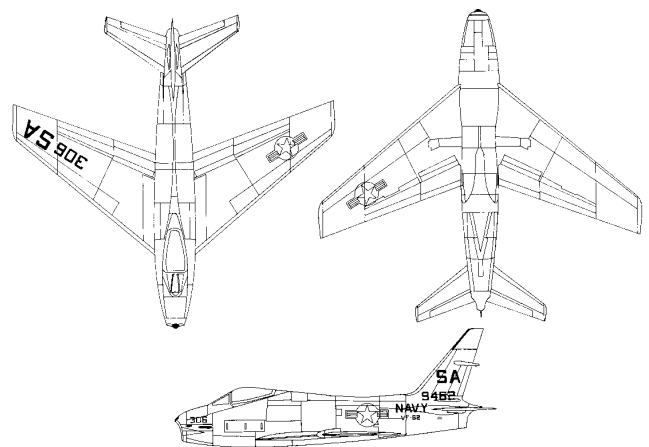
FJ-3 capable of controlling the F9F-6K and KDA-1.

#### FJ-4F:

FJ-4 with provision for rocket assist.

### Bureau Numbers

FJ-3 (F-1C)	135774-136162, 139210-139278, 139324-139423 (canceled)
FJ-3M (MF-1C)	141364-141443
XFJ-4	139279-139280
FJ-4 (F-1E)	139281-139323, 139424-139530
FJ-4B (AF-1E)	139531-139555, 141444-141489, 143493-143676 (143644-143676 canceled)



Line drawings for the FJ Fury.

## FM Wildcat

Built by the Eastern Aircraft Division of General Motors to Grumman's F4F Wildcat design, an FM first flew in August 1942. Eastern was made a second production source for this aircraft to allow Grumman to concentrate on the Wildcat's successor, the F6F Hellcat. In all, Eastern delivered 5,927 FMs to the Navy, including those for use by the Allies. An FM was last reported in squadron in November 1945.

### *Model Designations Accepted from the Manufacturer (New Builds)*

#### **FM-1:**

Based on F4F-4, the FM-1 had a gross weight 75 pounds greater than that of the F4F-4. Characteristics of the FM-1 are as follows:

Crew	One
Power Plant	Pratt & Whitney R-1830-86 with 1,200 hp
Combat Radius	324 nautical miles
Weight	
Gross	8,837 lbs
Empty	5,895 lbs
Dimensions	
Wing	
Area	260 sq ft
Span	38 ft
Length	28 ft 10 in
Height	12 ft 2 in
Ordnance:	Four forward-firing .50 cal. guns
with	1,720 rounds.



*An FM-2 Wildcat in flight, April 1944.*

#### **FM-2:**

Based on a Grumman prototype designated XF4F-8, the FM-2 was powered by one Wright R-1820-56 engine of 1,350 hp and had a tail fin slightly taller than the FM-1's.

### *Other Designations:*

#### XFM-2:

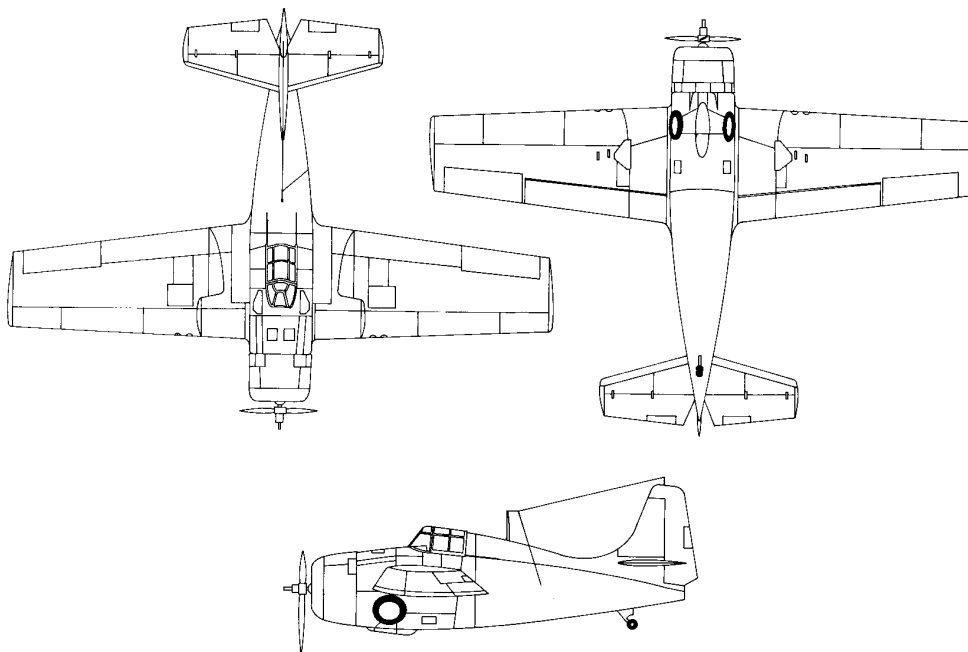
F4F-4 converted to facilitate production engineering of the FM-2.

#### FM-2P:

FM-2 equipped for reconnaissance.

### *Bureau Numbers*

FM-1	14992-15951, 46738-46837
FM-2	15952-16791, 46838-47437, 55050-55649, 56684-57083, 73499-75158, 86297-87719 (86974-87719 canceled)



*Line drawings for an FM-2.*

## OV-10 Bronco

In October 1964, the Navy awarded a contract to North American to design a Light Armed Reconnaissance Aircraft (LARA) for the Marine Corps. Two years later, the LARA had developed into a tri-service program to provide a Counter-Insurgency (COIN) aircraft for the United States Armed Forces. HML-267 accepted the first article for the Marine Corps in February 1968. A total of 356 Broncos were accepted for Navy and Marine Corps use and for foreign military sales.

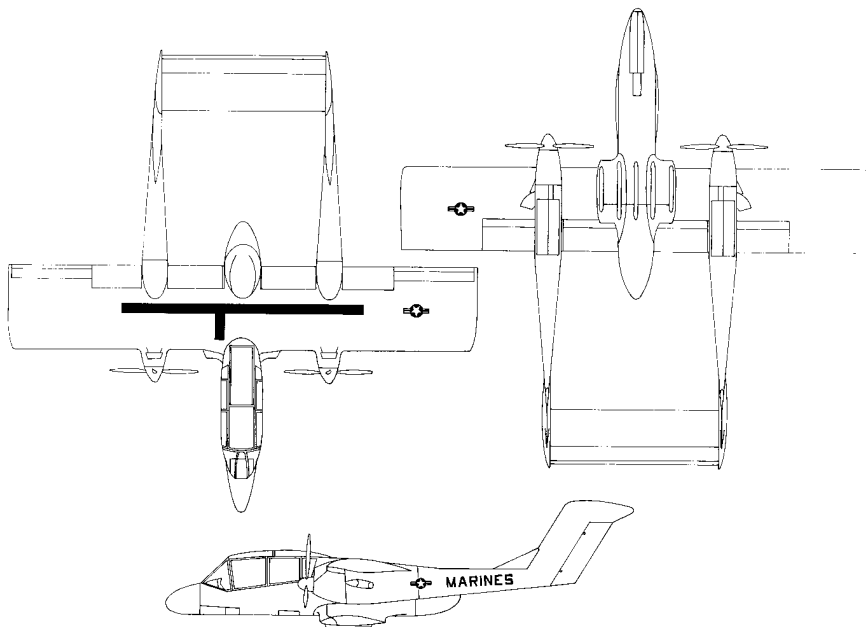
### *Model Designations Accepted from the Manufacturer (New Builds)*

#### **YOV-10A:**

Prototype of the Bronco.



*A full-scale mock-up of the OV-10 at the North American factor, circa mid-1960s.*



*Line drawings for the OV-10A.*

#### **OV-10A:**

Production version of the Bronco. It was the only variant accepted for the Marine Corps. Characteristics of the OV-10A are as follows:

Crew	Two
Power Plant	Two 715-shp Garrett Air Research turboprops
Combat Range	789 nautical miles
Weight	
Maximum Takeoff	14,444 lbs
Empty	6,921 lbs
Dimensions	
Wing Span	40 ft 4 in
Wing Area	291 sq ft
Length	41 ft 6 in
Height	15 ft 1 in
Ordnance:	Four 7.62-mm guns, AIM-9 Sidewinders, rockets, bombs, gun pods.

### *Other Designations*

#### **OV-10D:**

The result of an improvement program to produce what was referred to as the OV-10D Plus configuration. Begun in 1988, the -10D included the Service Life Extension Program, which comprised a wide range of engineering change proposals to update the aircraft and improve its performance. Some structural changes were made and avionics equipment was added. The aircraft was night vision capable.

### *Bureau Numbers*

YOV-10A	152879-152885
OV-10A	155390-155503, 613552, 674652, 674623, 683809, 683799, 683796, 674626

## PB4Y Liberator

*(and its other names and designations)*

By 1942, the Royal Air Force (RAF) was using Consolidated's U.S. Army land-based B-24 Liberator on long-range patrol against German submarines and surface vessels. The RAF's success in this deployment was sufficient to induce the U.S. Navy to acquire a quantity of the type. The B-24D entered Navy inventory as the PB4Y-1 Liberator when VP-51 accepted the first articles in October 1942. The B-24 remained in U.S. Navy service until VJ-62 last reported a P4Y-1P in squadron. At the time of the redesignation in 1962, the only variant of the aircraft remaining in Navy use was the target drone P4Y-2K, which was redesignated QP-4B. A total of 977 -1s and 739 -2s were procured.

Records show that at sometime the PB4Y-1s and PB4Y-2s were both called Liberator, although it was probably the intention always to refer to all -1s as Liberator and all -2s as Privateer. The P4Y-2s, which were PB4Y-2s redesignated, were all called Privateer. The Coast Guard flew some Privateers under the designation P4Y-2G. Other Navy acquisitions included the transport version designated RY-1, RY-2 and RY-3—all of which were called Liberator Express.

### *Model Designations Accepted from the Manufacturer (New Builds)*

#### **PB4Y-1:**

Land-based bomber used mainly for ASW. Dual tail fin. Powered by four Pratt & Whitney R-1830-43s.



*A naval reserve P4Y-2 from NAS Glenview at Gibraltar.*

#### **PB4Y-2:**

Single tail fin, longer fuselage than the -1, additional armament and powered by four Pratt & Whitney R-1830-94s. Redesignated P4Y-2. Characteristics of the PB4Y-2 are as follows:

Crew	11
Power Plant	Four Pratt & Whitney R-1830-43.
Combat Range	1,920 nautical miles
Weight	
Maximum Takeoff	64,000 lbs
Empty	37,464 lbs
Dimensions	
Wing Span	110 ft
Wing Area	1,048 sq ft
Length	74 ft 9 in
Height	29 ft 2 in
Ordnance:	Twelve .50 cal. guns: 2 in the nose turret, 2 in the tail turret, 4 in the waist, 2 in the forward deck and 2 in the after deck. Total of 6,800 rounds. Provisions for four 2,000 pound or eight 1,000 pound or twelve 500 pound bombs; or twelve 324 pound depth charges; or four 2,000 pound or eight 1,000 pound mines.

#### **PB4Y-2B:**

PB4Y-2 modified to launch and control the ASM-N-2 Bat glide bomb. Redesignated P4Y-2B.

#### **PB4Y-2M:**

Demilitarized version of the PB4Y-2 used for weather reconnaissance.

#### **PB4Y-2S:**

Antisubmarine version of the PB4Y-2. Redesignated P4Y-2S.

### *Other Designations*

#### **PB4Y-1P:**

PB4Y-1 equipped for photoreconnaissance. Redesignated P4Y-1P.

#### **PB4Y-1Z:**

PB4Y-1 converted for administrative purposes.

#### **XPB4Y-2:**

Experimental version of the PB4Y-2.

#### **PB4Y-2C:**

PB4Y-2 with an Emerson turret in lieu of the ERCO turret in the bow.

#### **P4Y-2G:**

P4Y-2 flown by the U.S. Coast Guard.

#### **P4Y-2S2:**

Improved version of the P4Y-2S.



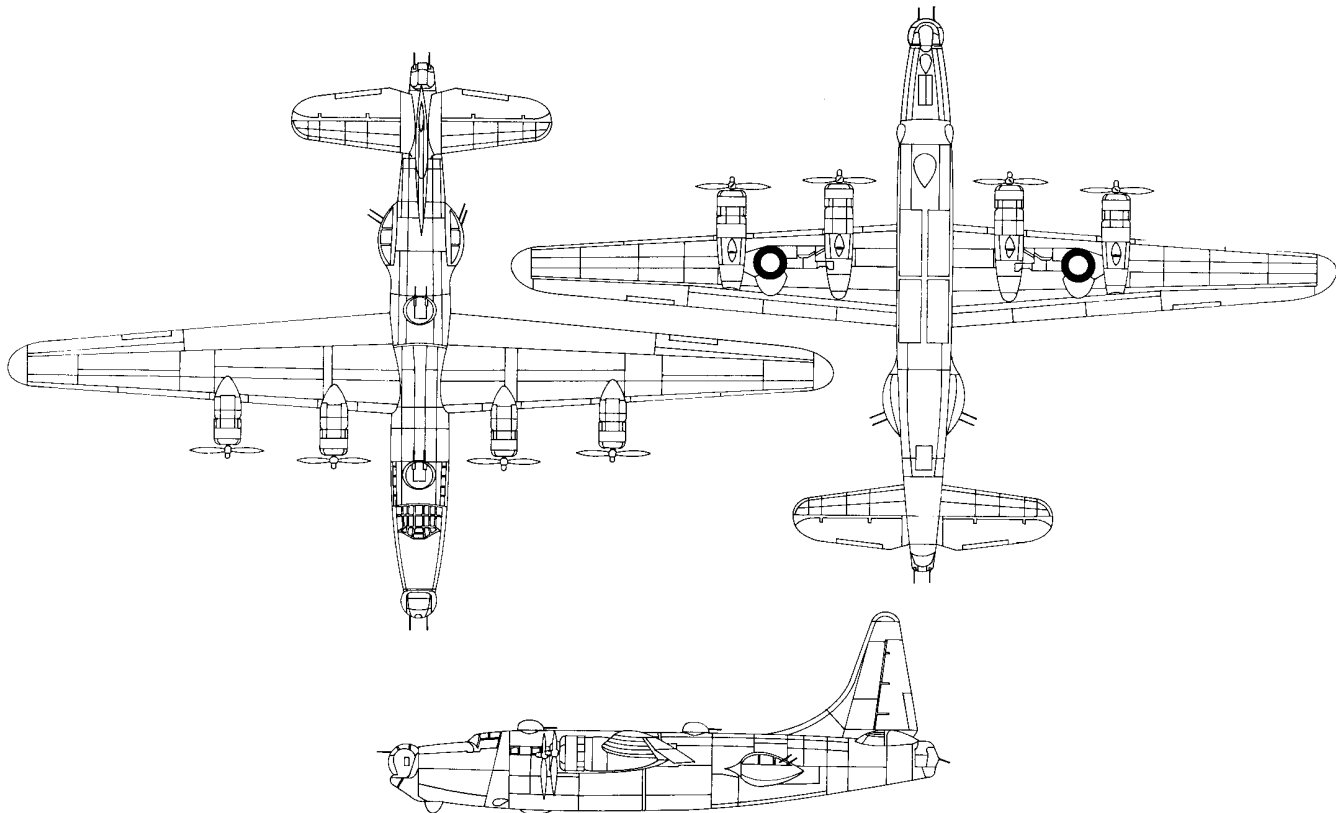
**P4Y-2K:**

Equipped as a target drone.

**Bureau Numbers**

PB4Y-1 31936-32085, 32087-32094, 32097-32335,  
38773-38979, 46725-46737, 63915-63991  
(63960-63991 canceled), 65287-65396,  
90132-90271, 90462-90271  
XPB4Y-2 32086, 32095-32096

PB4Y-2 59350-59924 (59554 canceled), 59926,  
59929-59937, 59939-59944, 59946-59948,  
59950-59954, 59970-60009, 66245-66394,  
(66325-66394 canceled), 66795-67054 (all  
canceled), 76839-77138 (all canceled)  
PB4Y-2B 59925  
PB4Y-2S 59927  
PB4Y-2M 59928, 59938, 59945, 59949, 59955-59969



*Line drawings for the PB4Y-2.*

## SB2A Buccaneer

In 1934, the Brewster Aeronautical Corporation designed the XSBA-1 for the Navy and built one article. On 4 April 1939, the Navy awarded Brewster a contract for another Scout Bomber. This contract led to the SB2A Buccaneer. The Navy accepted a total of 771 SB2As of which 468 were for foreign military use. The Navy eventually used some of these aircraft for training, but if any of the 771 SB2As ever saw combat, no record of it has yet been found.



*An SB2A Buccaneer.*

First contract	4 April 1939
First flight	17 June 1941
First reported in squadron	31 January 1943, VMF(N)-531
Last delivery	February 1944
Last reported in squadron	30 Nov 1943 by VMF(N)-532
Number accepted	771

### SB2A-1:

Specifications for the SB2A-1 are as follows:

Weights:

Empty	9,491 lbs
Gross	14,565 lbs

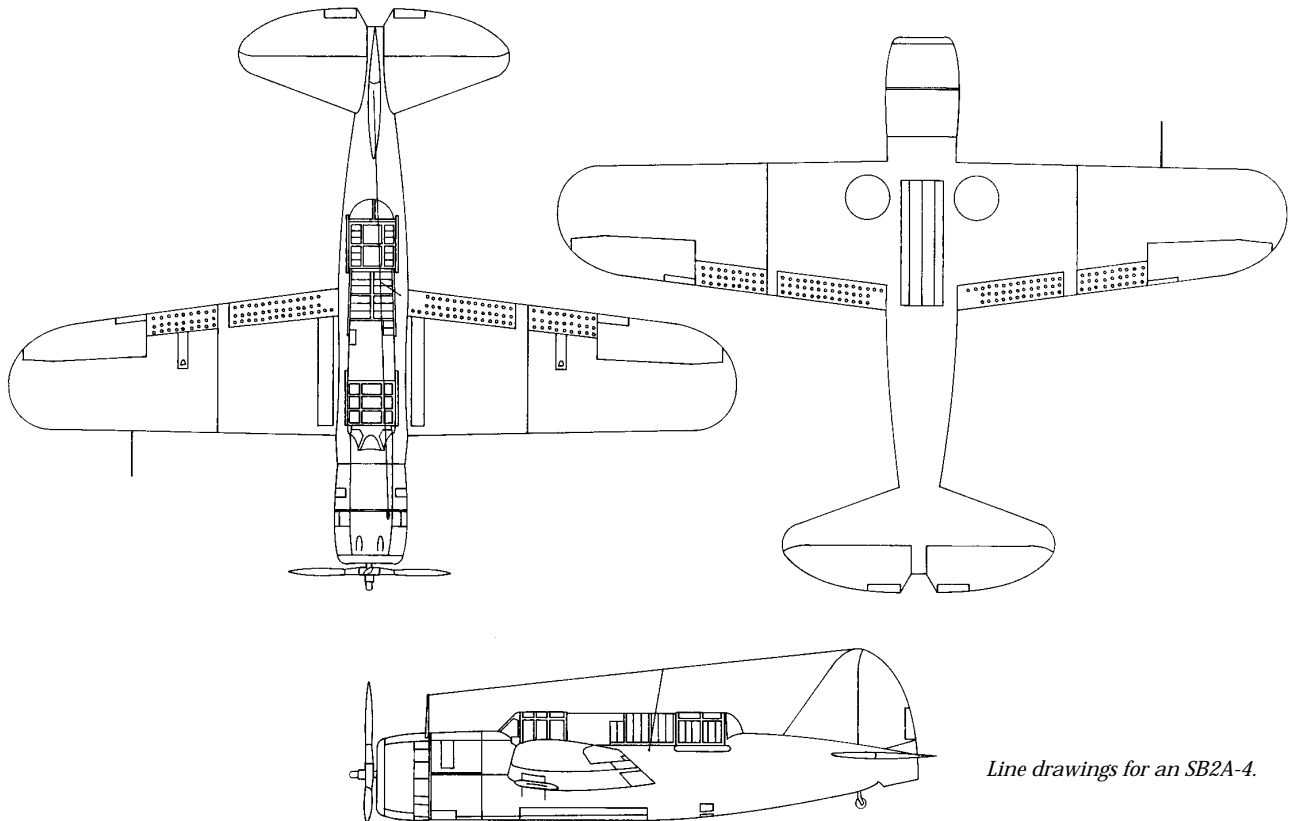
Ordnance:

- Two .30 cal. wing guns
- Two .50 cal. nose (propeller synchroized) guns
- Two .30 cal. flexible guns
- Two 500 or one 1,000 pound bomb

Wing area	379 sq ft
Wing span	47 ft
Height	15 ft 9 in
Length	38 ft 10 in
Max range	1,700 statute miles
Power plant	One 1,700 hp Wright R-2600

### *Bureau Numbers*

XSB2A-1	1632
XSB2A-1	01005
SB2A-2	00803-00882
SB2A-3	00883-00942
SB2A-4	29214-29375



*Line drawings for an SB2A-4.*

## SB2C/SBW/SBF Helldiver

Curtiss added to its list of Navy combat aircraft in December 1942 upon delivering the service's first SB2C Helldiver to VS-9. Powered by the Wright R-2600 Cyclone engine, the SB2C monoplane scout bomber was ordered by the Navy in 1939 as a replacement for the SBD Dauntless. It was Curtiss's first monoplane attack aircraft and would eventually be built in 19 designations by three manufacturers. By the time the Navy accepted the last Helldiver in October 1945, production had reached 6,650. The Helldiver, in its differ-

ent models, carried both fixed wing guns and flexible guns ranging from .30 to .50 calibre and 20 mm. Bomb capability was based on two external wing racks and an internal bomb bay equipped with displacement gear, or crutch, to release a single bomb. Some models could carry 5 inch rockets.

First contract	15 May 1939
First flight	18 Dec 1940
First reported in squadron	15 Dec 1942
Last delivery	Oct 1945
Number accepted	6,650
Last reported in squadron	1 Jun 1949



An XSB2C-1 Helldiver, December 1940.

### *Model Designations Accepted from Manufacturer (New Builds)*

#### **XSB2C-2, XSB2C-5, XSB2C-6:**

Experimental models.

#### **SB2C-1:**

The first production model of the Helldiver. The aircraft carried four .50 calibre fixed guns in the wings and twin .30 calibre guns in flexible mount. The SB2C-1 was tested for its torpedo launching capability but never tried to launch any in combat. Was powered by the R-2600-8 engine.

#### **SB2C-1A:**

A designation used only for procurement of SB2C-1s for the U.S. Army which designated them A-25A with the intention of using them for dive-bombers. There were some structural modifications from the Navy SB2C-1. The Army never used the land-based A-25A in combat, and neither did the Navy and Marine Corps, all of which eventually used the SB2C-1/A-25A for training.

#### **SB2C-1C:**

Carried two 20 mm fixed guns in the wings and twin .30 calibre guns on a flexible mount. It was powered by the R-2600-8 engine.

#### **SB2C-3:**

Carried two 20 mm fixed guns in the wings and twin .30 calibres on a flexible mount. It was powered by R-2600-20 engine.

#### **SB2C-4:**

SB3C-3 with perforated flaps.

#### **SB2C-4E:**

SB2C-4 with special radar.

#### **SB2C-5:**

Same as SB2C-4 but with improved pilot's cockpit, two 50 gallon wing tanks, and a strengthened fuselage. Specifications for the SB2C-5 are as follows:

##### Weights:

Empty	10,589 lbs
Combat	14,415 lbs

##### Ordnance:

- Two 20 mm wing guns
- Two .30 cal. guns on aft flexible mount
- Eight 5 inch HVAR rockets
- Internal bomb bay that could accommodate up to 1,000 lbs, and two external wing racks that could handle up to 1,000 lbs each.

Wing area	422 sq ft
Wing span	49 ft 9 in

Height 14 ft 9 in  
 Length 36 ft 8 in  
 Power plant Wright R-2600-20 cyclone

**SBW-1:**  
 SB2C-1 built by Canadian Car and Foundry Co.

**SBW-1B:**  
 Built for the United Kingdom.

**SBW-3:**  
 Similar to SB2C-3.

**SBW-4:**  
 Same as SB2C-4.

**SBW-4E:**  
 Equipped with radar.

**SBW-5:**  
 Same as SB2C-5.

**SBF-1:**  
 SB2C-1 built by Fairchild of Canada.

**SBF-3:**  
 Same as SB2C-3.

**SBF-4E:**  
 Same as SB2C-4E.

**Other Designations**

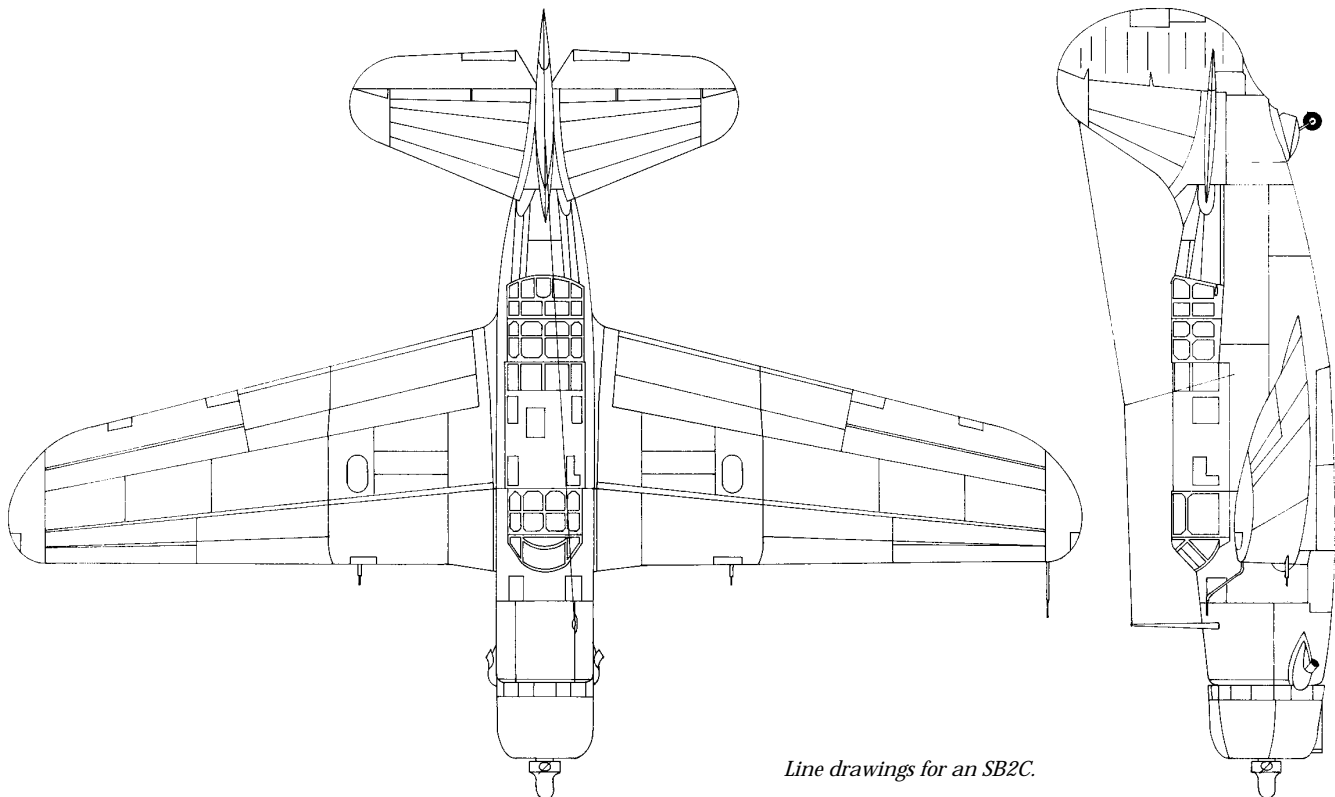
**SB2C-1E, SB2C-3E, and SB2C-5E:**  
 Equipped with radar.

**SB2C-3P:**  
 Equipped for photographic reconnaissance.

**SB2C-5D:**  
 Equipped for use as a control plane.

**Bureau Numbers**

XSB2C-1	1758
SB2C-1	00001-00004, 00006-00200
SB2C-1A	75218-75588, 76780-76818
SB2C-1C	00201-00370, 01008-01215, (01209-01215 canceled), 18192-18307, 18309-18598
XSB2C-2	00005
SB2C-3	18622-19710
SB2C-3/3E	18599-18619
SB2C-4/4E	19711-21191, 64993-65285, 82858-83126
XSB2C-5	18308, 65286, 83127
SB2C-5	83128-83751, 89120-90019 (89466-90019 canceled)
XSB2C-6	18620-18621
SBF-1	31636-31685
SBF-3	31686-31835
SBF-4E	31836-31935
SBW-1	21192-21231, 60010-60035
SBW-3	21233-21645
SBW-4E	21646-21741, 60036-60209
SBW-5	60210-60459 (60210, 60296-60459 canceled), 21232 (21232 canceled)



*Line drawings for an SB2C.*

## SB2U Vindicator

Among the first monoplanes to fly from a carrier, the SB2U Vindicator was produced by Vought to provide the Navy with a new dive bomber incorporating the latest aerodynamic developments. The aft portions of the SB2U-1's wings were partially covered with fabric, and the aircraft had some shortcomings such as an uncomfortable cockpit and poor lateral control, but it would prove to be reliable and effective in performing its intended mission.

First contract	11 October 1934
First flight	4 January 1936
First reported in squadron	20 December 1937 by VB-3
Last delivery	July 1941
Last reported in squadron	SB2U-1 by VB-9 on 28 February 1943
Number accepted	170

### *Models Accepted from the Manufacturer (New Builds)*

**XSB2U-1:**

Experimental version.

**XSB2U-3:**

Experimental version.

**SB2U-1:**

Powered by the Pratt & Whitney 850 hp R-1535-96 engine. Two .30 calibre wing guns, a .30 calibre aft firing gun, carried a 1,000 lb bomb.

**SB2U-2:**

Same as SB2U-1 but with a higher gross weight.

**SB2U-3:**

Built for the Marine Corps, the SB2U-3 could operate from a carrier. It had two .50 calibre guns mounted



*An XSB2U-1 Vindicator, May 1936.*

in the cowling and was powered by a Pratt & Whitney R-1535-2 engine. Specifications for the SB2U-3 seaplane are as follows:

**Weights:**

Empty	6,153 lbs
Gross	8,900 lbs

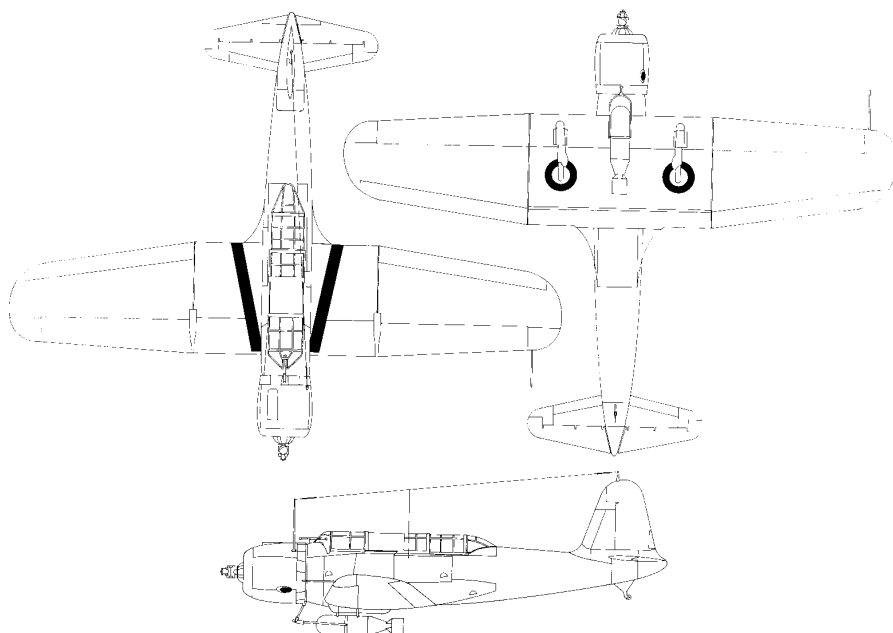
**Ordnance:**

- Two .30 cal. wing guns
- One .30 cal. flexible gun
- One 500 or 1,000 lb bomb

Wing area	305 sq ft
Wing span	41 ft 10 in
Height	16 ft 6 in
Length	37 ft
Power plant	Pratt & Whitney 825 hp R-1535
Max range	1,240 statute miles

### *Bureau Numbers*

XSB2U-1	9725
SB2U-1	0726-0778
XSB2U-3	0779
SB2U-2	1326-1383
SB2U-3	2044-2100



*Line drawings for an SB2U.*

## SBC

A Bureau of Aeronautics contract of 30 June 1932 to the Curtiss Company resulted in the prototype of a fighter aircraft designated XF12C. But before the aircraft was assigned to any fleet squadron, or even put into production, its mission was changed to scout bomber and its designation became SBC-1. Along the way, what had begun life as a monoplane became the last biplane to enter Navy service.

First contract	30 June 1932
First flight	14 June 1934
First reported in squadron	17 July 1937 by VS-5
Last delivery	April 1941
Last reported in squadron	1 June 1943 by VMSB-151 and VC-4
Number accepted	258

### *Models Accepted from the Manufacturer (New Builds)*

**XSBC-3:**  
Experimental article.

**XSBC-4:**  
Experimental article.

**SBC-3:**  
Two crew scout bomber powered by Pratt & Whitney R-1535-94.

**SBC-4:**  
Two crew scout bomber powered by Pratt & Whitney R-1820-94.

Specifications for the SBC-4 are as follows:

Weight:	
Empty	4,841 lbs

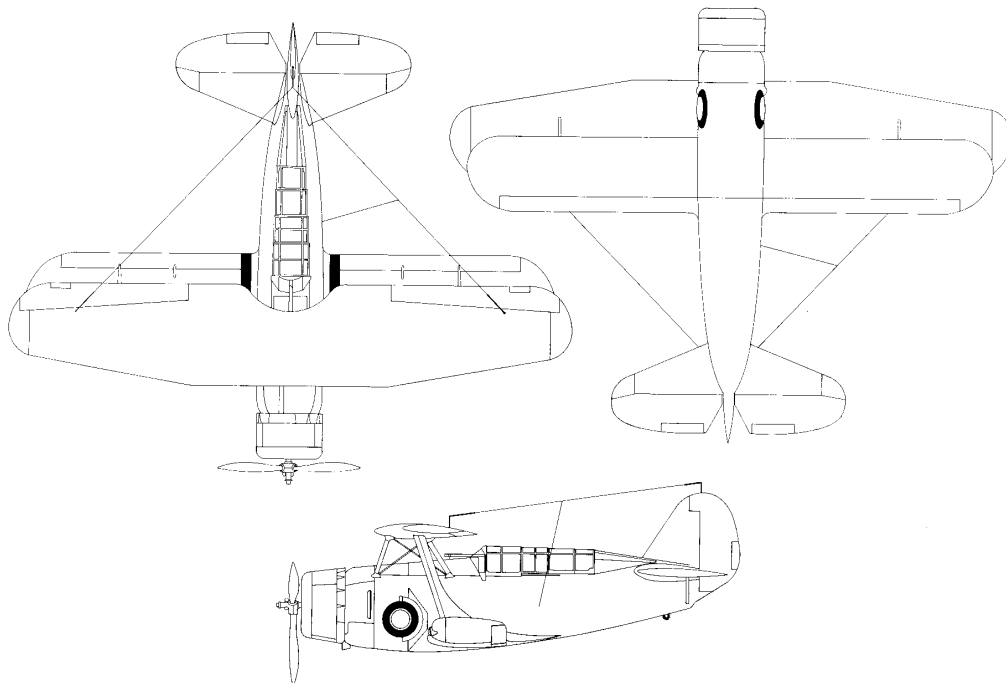


*An XSBC-3 in flight, April 1936.*

Gross	7,632 lbs
Dimensions:	
Wing span	34 ft
Length	27 ft 7 in
Ordnance:	
Guns	one forward firing .30 cal. and one flexible .30 cal. gun in rear
Maximum bomb capacity	1,000 lbs

### *Bureau Numbers*

XSBC-3	9225
SBC-3	0507-0589 (0582 modified to XSBC-4)
SBC-4	1268-1325
SBC-4	1474-1504
SBC-4	1809-1843
SBC-4	4199-4248



*Line drawings for an SBC-3.*

## SBD Dauntless

Begun by the Northrop Company as the BL-1 and later redesignated BT-2, this aircraft's manufacturer was incorporated into the Douglas Company before the plane was ready for delivery to the Navy. For this reason, it arrived in squadron with the Douglas D in its designation. One of the Navy's most successful combat aircraft, the Dauntless was an indispensable part of the fleet's striking power throughout the Second World War.

Douglas built the aircraft under the designation SBD. The Navy accepted 5,321 SBDs, of which 338 were for Foreign Military Sales. The Navy also accepted 55 BTs from Northrop. The SBD-5 was the most numerous of all the models.

Of all the models accepted from the manufacturer, the differences were in such areas as range, dimensions and engines. For example the SBD-1 had a maximum bombing range of about 860 miles and the SBD-5's was around 1,100. All models were powered by the Wright R-1820. The SBD-1 and the SBD-2 used the R-1820-32; the SBD-3 and the SBD-4 used the R-1820-52; and the SBD-5 used the R-1820-50. The wingspan of 41 feet 6 inches was the same in all models, but the length increased from 32 feet 2 inches in the SBD-1 to 33 feet in the SBD-5.

First contract	11 Nov 1934
First flight	Estimated Aug 1935
First reported in squadron	11 Apr 1938 by VB-5
Last delivery	Aug 1944
Last reported in squadron	SBD-6 on 30 Sep 1945
Number accepted	5,321



*An SBD-3 Dauntless in flight, circa 1941.*

### **Models Accepted from the Manufacturer (New Builds)**

SBD-1	SBD-2	SBD-3
SBD-3A	SBD-4	SBD-4A
SBD-5A	XSBD-6	SBD-6
XBT-1	XBT-2	BT-1

### **SBD-5:**

Specifications for the SBD-5 are as follows:

Weight:

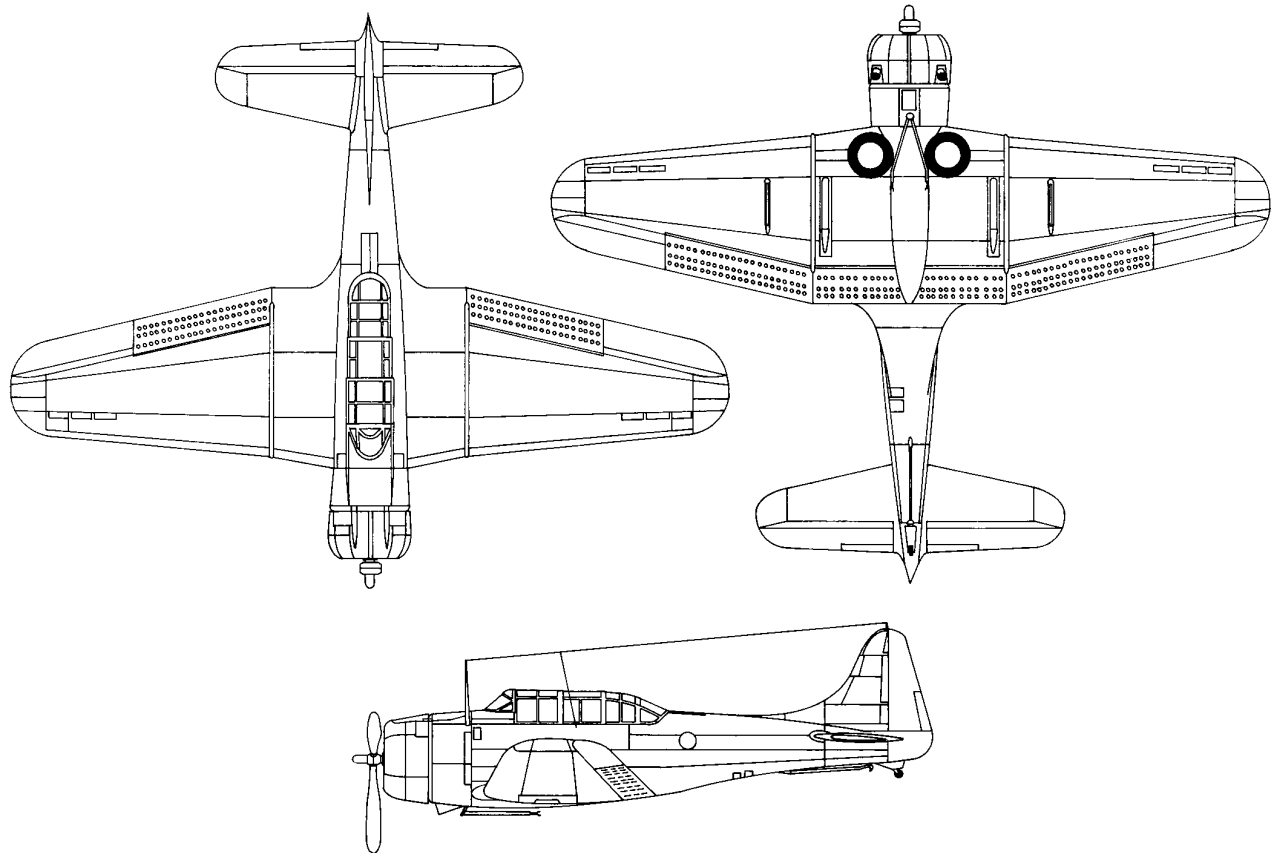
Gross 10,403 lbs

Empty	6,533 lbs
Power Plant	Wright R-1820-60
Dimensions:	
Wing area	325 sq ft
Wing span	41 ft 6 & 5/16 in
Length	33 ft & 1/8 in
Height	13 ft 11 in
Ordnance:	
Guns	two fixed .50 cal. for pilot two free .30 cal. for gunner
Maximum bomb capacity	1,600 lbs

***Bureau Numbers***

SBD-1    1596-1631  
 SBD-1    1735-1755  
 SBD-2    2102-2188  
 SBD-3    4518-4691  
 SBD-3    03185-03384  
 SBD-3    06492-06701  
 SBD-4    06702-06991  
 SBD-5A    09693-09752  
 SBD-4    10317-10806

SBD-5    10807-11066  
 SBD-5    28059-28829  
 XSBD-6    28830  
 SBD-5    28831-29213  
 SBD-5    35922-35949  
 SBD-6    35950  
 SBD-5    35951-36421  
 SBD-5    36433-36932  
 SBD-5    54050-54599  
 SBD-6    54600-55049



*Line drawings of an SBD.*



## T3J (T-39) Sabreliner

In July 1961, the Navy ordered ten of North American's Model NA-277 to train radar operators. In that order the aircraft was designated T3J-1, but by the time the first one was delivered in 1962, the designation had been changed to T-39D. A total of 52 aircraft were accepted. Characteristics of the T-39 are as follows:

**Crew** Pilot and a copilot as the main student. Provision in aft cabin for an instructor. Two stand-by students and a navigator's station.

**Power Plant** Two Pratt & Whitney 2,400-lb J60-P-3 axial turbojets.

**Mission Range** 1,100 nautical miles

**Weight**

Maximum Takeoff 17,760 lbs

Empty 10,250 lbs

**Dimensions**

Wing Span 44 ft 4 in

Wing Area 342 sq ft

Length 43 ft 8 in

Height 16 ft

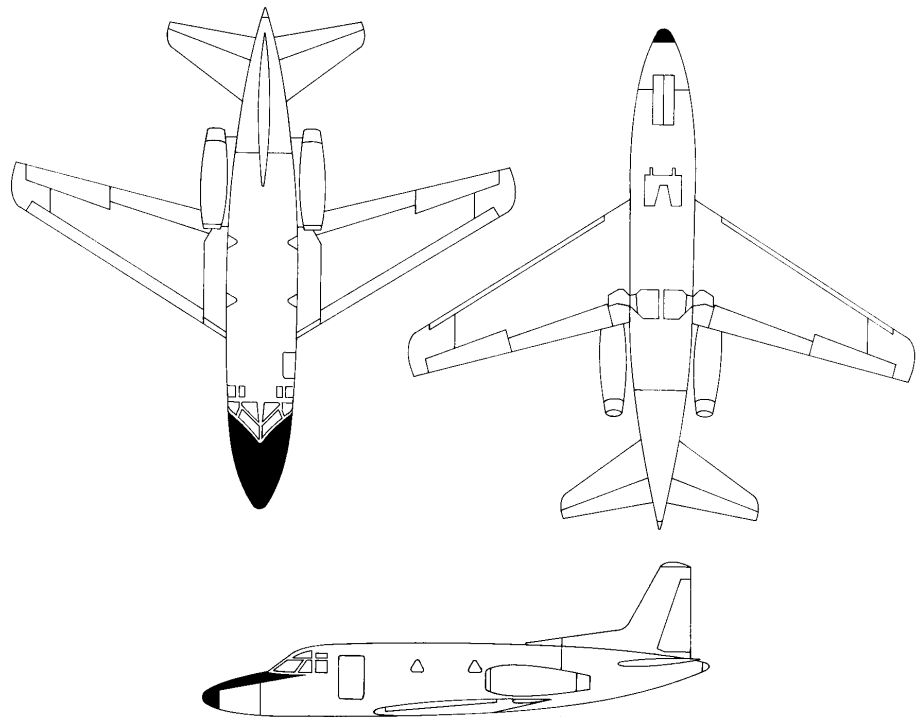
**Ordnance:** None

### Bureau Numbers

T-39D 150542-150551, 151336-151347, (151344-151347 canceled), 150969-150992



*A Training Squadron 10 (VT-10) T-39 Sabreliner in flight.*



*Line drawings for a T-39.*

## T2D/P2D

Beginning its life as a Bureau of Aeronautics design, this aircraft's prototype was built at the Naval Aircraft Factory and designated the XTN-1. A large twin engine aircraft, its design was the Bureau's response to a need for an improved torpedo bomber. At that time, Rear Admiral William Moffett was Chief of the Bureau of Aeronautics. Moffett championed the existence of the Aircraft Factory for its research and development capability, but he also recognized the need for a strong aviation industry in the United States and accordingly opposed large production runs at the Factory. In keeping with this attitude, BuAer gave the production contract for the XTN-1 to Douglas who produced the aircraft as the T2D.

Built to operate from land and carrier, the T2D-1 ran afoul of the Army who felt the Navy was encroaching upon its purview with a big land-based bomber. In response to complaints, the Navy had Douglas produce the rest of the T2Ds with twin floats and redesignated them P2D for patrol craft.

The aircraft made its first flight on 27 January 1927. It was first reported in squadron by VT-2 on 25 May 1927. The designation last reported in squadron was a P2D-1 by VP-3F on 28 February 1937. A total of thirty aircraft were accepted.

### XT2D-1:

Specifications for the XT2D-1 are as follows:

Span	57 ft.
Height	14 ft 4 1/2 in
Length	44 ft 10 in
Width (wings folded)	26 ft
Full load	9,575 lbs
Useful load	3,715 lbs
Empty weight	5,860 lbs
Landing speed	55 mph

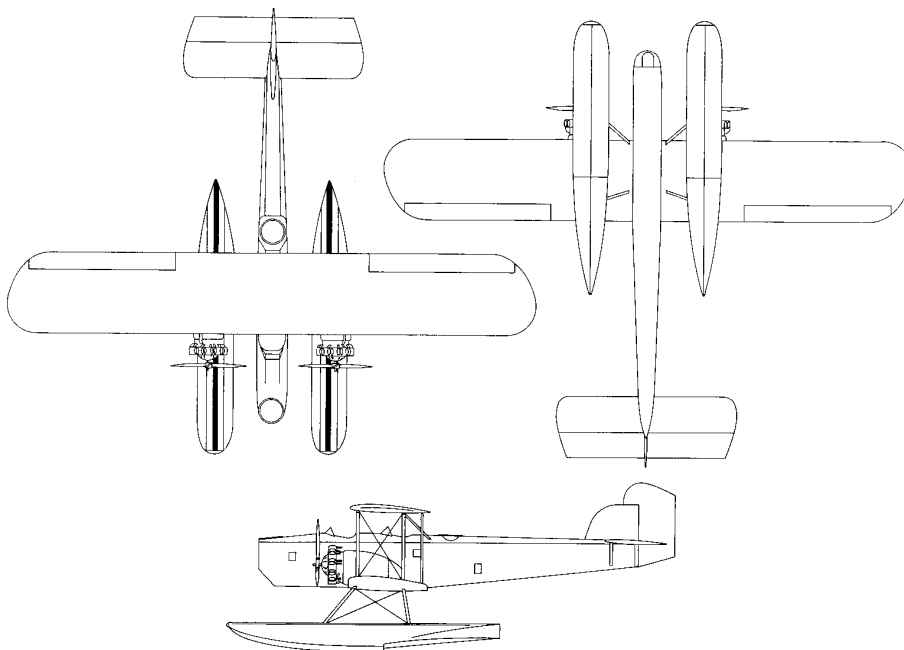
### Bureau Numbers

XTN-1	A7027
T2D-1	A7051-A7053, A7587-A7595
P2D-1	A8644-A8661



*A Douglas T2D-1.*

*Line drawings for a T2D-1.*



## T3M

The Martin T3M was an improved version of their SC. The Navy contract that ordered it in 1925 was for a torpedo bomber biplane capable of operating with wheels or floats. Martin eventually delivered 123 T3Ms under the designations T3M-1 and T3M-2. Both were three crew: pilot, bombardier and gunner. The T3M-1 was powered by a 575 horsepower Wright T-3 engine and the T3M-2 had a 770 horsepower Packard 3A-2500. In developing the aircraft, the same airframe



An XT3M-3.

and Bureau Number A7224 was used for both the XT3M-1 and XT3M-2.

The date the aircraft first flew is uncertain but is estimated to have done so in July 1926. It was first delivered to squadron on 7 September 1926 to VT-2. It was last reported in squadron when VP-3S reported a T3M-2 on 30 July 1932.

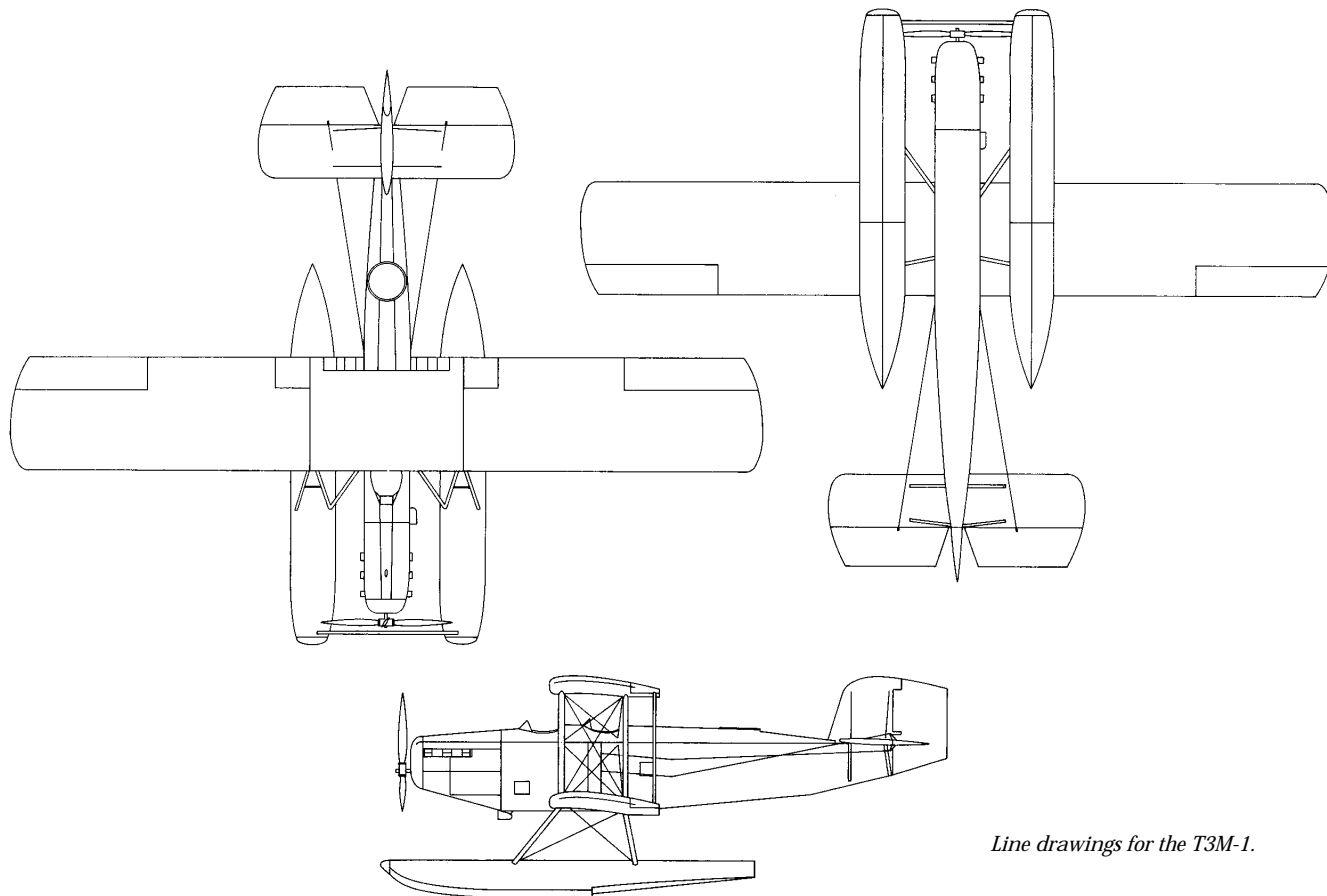
### T3M-1:

Twin float seaplane. Specifications for the T3M-1 are as follows:

Gross weight	9,856 lbs
Empty weight	6,324 lbs
Total useful load	3,532 lbs
Armament	one .30 cal. gun in rear cockpit
Wing Area	848 sq ft
Wing span upper	52 ft 4 in
Wing span lower	56 ft 7 in
Height	16 ft
Length	42 ft 9 in

### Bureau Numbers

T3M-1	A7065-A7078
XT3M-1 & XT3M-2	A7224
T3M-2	A7225-A7322
T3M-2 & XT3M-3	A7323



Line drawings for the T3M-1.

## T4M and TG and TE

The earliest model of this aircraft was the Martin (Cleveland) Model 74. Martin designed and developed this torpedo bomber and sold it to the Navy who designated it T4M-1 and later referred to it as the XT4M-1. It was purchased for experimental use to determine the practicality of its type for further production. A production contract of 30 June 1927 ordered 102 T4M-1 aircraft. They were described as single engine, three purpose convertible biplane equipped for catapulting and for deck landing, with emergency floatation gear. The aircraft would be used mainly for carrier operations. It had a crew of three: pilot, bombardier, and gunner. Counting the XT4M-1 and the 102 production planes, Martin delivered 103 aircraft designated T4M.

On 25 June 1929, the Bureau of Aeronautics awarded to the Great Lakes Aircraft Company a contract for

18 aircraft designated TG-1. By June 1929, Great Lakes had taken over Martin's plant at Cleveland. On 2 July 1930, the Navy awarded a contract to the Detroit Aircraft Corporation for 32 TE-1 aircraft which were to be similar to Martin's T4M-1. Detroit subcontracted much of the work on the TE-1 to Great Lakes and soon encountered serious financial difficulties. Eventually Detroit virtually subcontracted to Great Lakes the entire job to build the TE-1s. For this reason, the Navy accepted the TE-1s with Great Lakes data plates and the designation TG-2. Great Lakes delivered a total of 50 aircraft designated TG.

The date of the T4M's first flight is not definitely known but is estimated to have occurred in May 1927. It was first delivered to a squadron on 9 August 1928 and was last delivered in December 1931. The designation last reported was a TG-2 by VT-6 on 31 March 1938.



*A T4M-1 assigned to Naval Air Reserve Base Seattle.*

### T4M-1 (Landplane):

Specifications for the T4M-1 are as follows:

Power plant	525 hp Pratt & Whitney R-1690 (575 hp Wright R-1820 in T4M-2)
Gross weight	6,599 lbs
Empty weight	3,890 lbs

Total useful load	2,709 lbs
Armament	One flexible .30 cal. gun, rear cockpit
Wing area	656 sq ft
Wing span	53 ft both wings
Height	13 ft 5 in
Length	35 ft 7 in

*A TG-1 at Hampton Roads, Virginia, September 1935.*



**TG-1 (Landplane):**

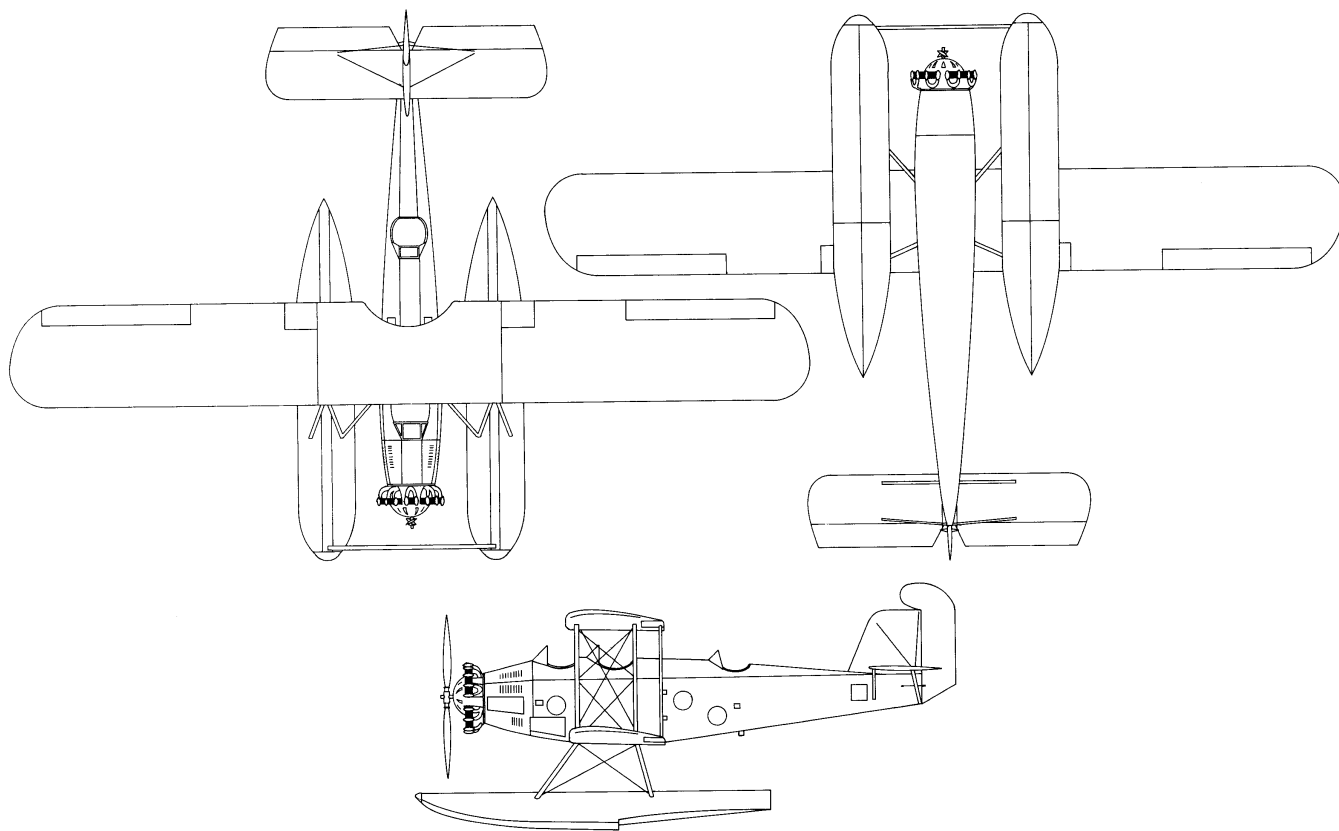
Specifications for the TG-1 are as follows:

Power Plant	Pratt & Whitney R-1690 in TG-1 Pratt & Whitney R-1820 in TG-2
Gross weight	7,652 lbs
Empty weight	4,179 lbs
Total useful load	3,472 lbs
Armament	one flexible .30 cal. gun, rear cockpit
Wing area	656 sq ft

Wing span	53 ft both upper and lower
Height	14 ft 9 in
Length	34 ft 8 in

**Bureau Numbers**

XT4M-1	A7566
T4M-1	A7852-A7899, A7596-A7649
TG-1	A8458-A8475
TG-2	A8697-A8728



*Line drawings for the T4M-1.*

## TB

The Boeing Company built this single engine amphibious float plane to Bureau of Aeronautics Design Number 35. Only three were produced and all of them were delivered to the Navy during 1927. Powered by a 720 horsepower Packard 1A-2500, this large biplane, had a crew of three and, as a float plane, could carry up to 1,968 pounds of ordnance. The TBs were similar to the Martin T3M aircraft.

### TB-1:

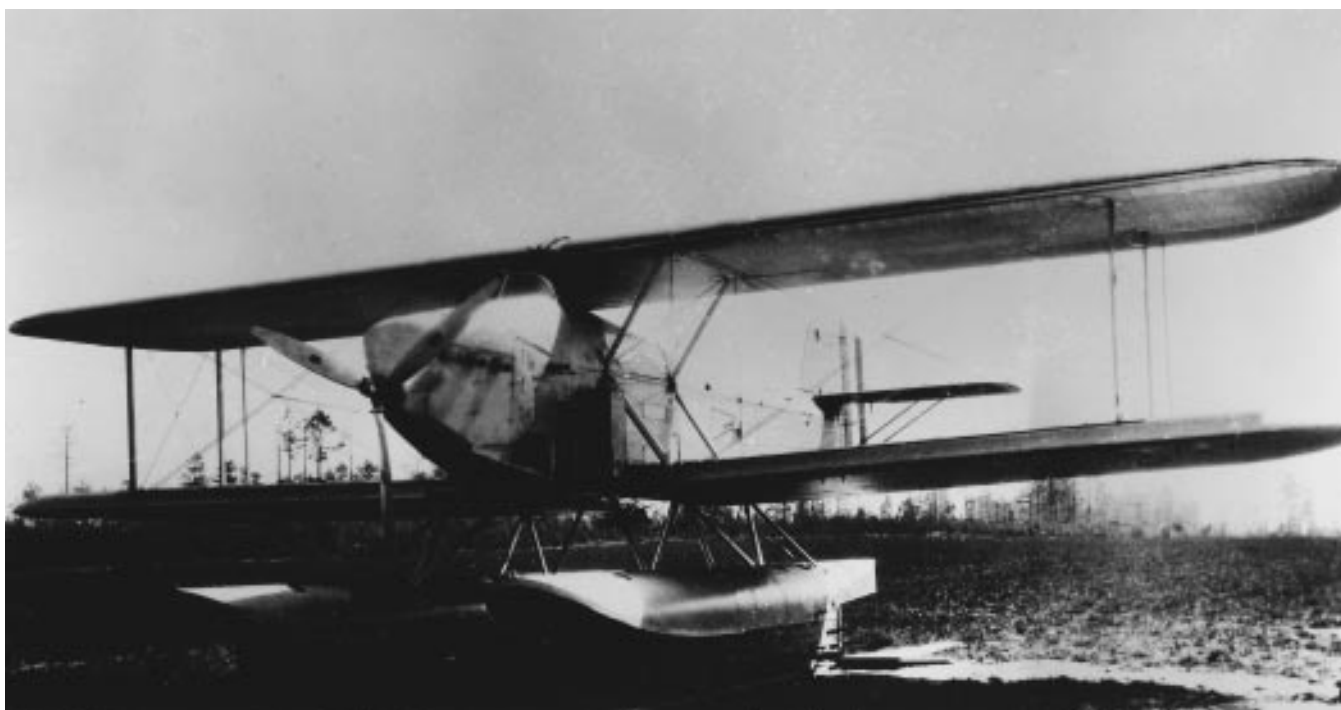
Specifications for the TB-1 are as follows:

Crew            three

Length	42 ft 7 in
Height	15 ft
Span	55 ft both wings
Wing area	868.4 sq ft
Weights	
gross	10,703 lbs
useful	4,405 lbs
Range	about 340 nautical miles at full speed

### *Bureau Numbers*

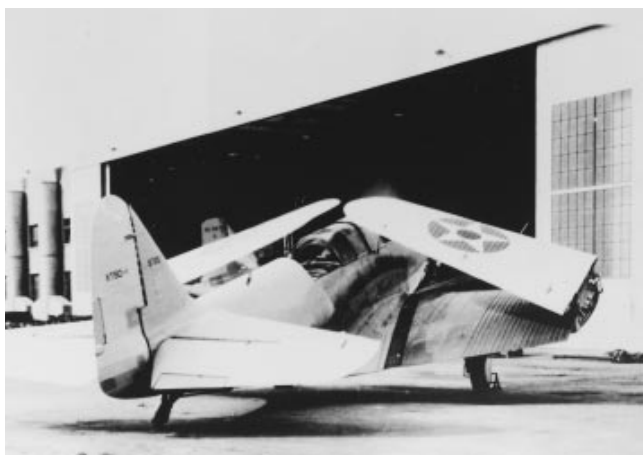
TB-1            A7024-A7026



*An XTB-1, Boeing's version of the Martin T3M.*

## TBD Devastator

In 1934 the Navy conducted a competition for a new carrier-based torpedo bomber. Great Lakes submitted a design for a biplane, Douglas for a monoplane. The Great Lakes' design was built as the TBG-1. The design which Douglas was invited to reduce to practice, first flew on 15 April 1935 and became the Navy's initial carrier-based monoplane, the TBD Devastator. The first delivery occurred on 5 October 1937. The last delivery was in November 1939. The aircraft was last reported in squadron on 31 August 1942. A total of 130 aircraft were accepted.



*The XTBD-1 Devastator.*

### *Models Accepted from the Manufacturer (New Builds)*

**XTBD-1:**

Experimental version of the Douglas design.

**TBD-1:**

Production version of the XTBD-1. It was a horizontal bomber, three-place, carrier-based aircraft. Specifications for the TBD-1 are as follows:

Maximum gross weight 10,261 lbs  
 Maximum fuel weight 1,080 lbs  
 Maximum speed 221 mph at 8,000 ft  
 Maximum range 1,080 statute miles

**Armament:**

One .30 cal. synchronized gun (500 rounds)  
 One .30 cal. flexible gun (600 rounds)  
 Up to 1,500 pounds of bombs or up to a 1,850 pound torpedo

Engine one 900 hp Pratt & Whitney R-1930-64  
 Wing span 50 ft (folded, 25 ft 8 1/2 in)  
 Length 35 ft

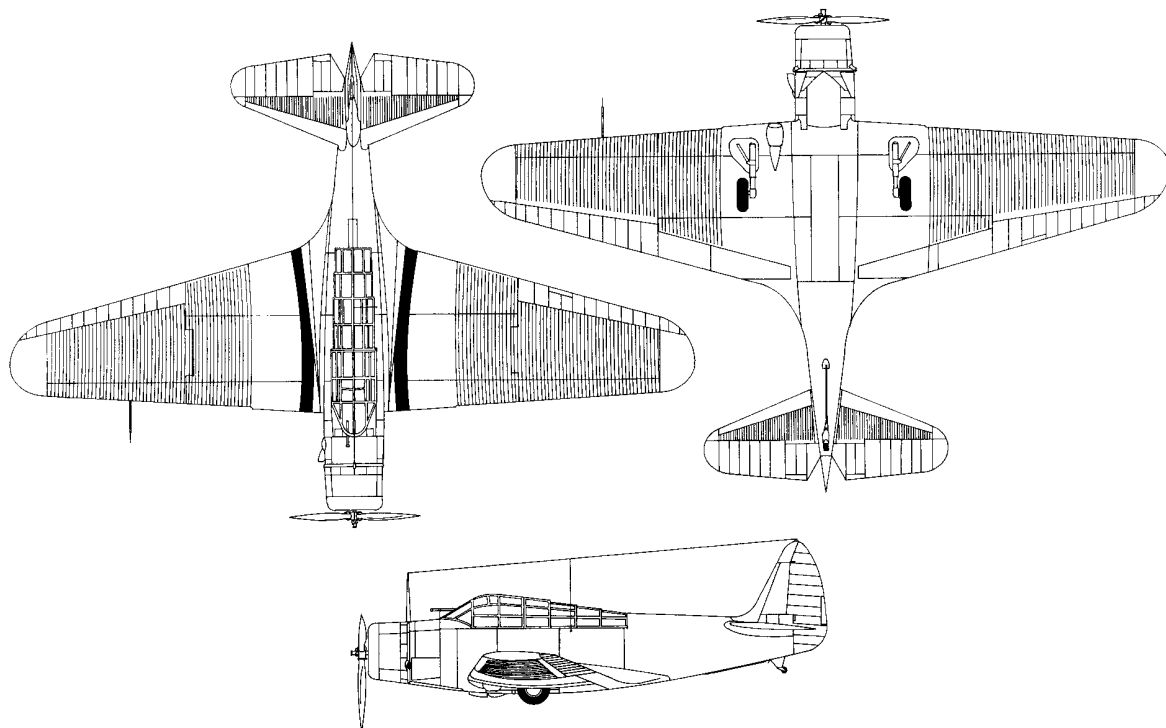
### *Other Designations*

**TBD-1A:**

Twin float landing gear added by the Naval Aircraft Factory.

### *Bureau Numbers*

XTBD-1 9720  
 TBD-1 0268-0381  
 TBD-1 1505-1519



*Line drawings for the TBD-1.*

## TBF/TBM Avenger

Among the Grumman Company's outstanding contributions to naval aviation, the Avenger perhaps holds the honor of being the most versatile. It was in squadron from March 1942 until October 1954, a shorter time than some other aircraft, but during those years it served as a torpedo bomber, an ASW aircraft, and the Navy's first carrier-based AEW plane; there was also a modification for night operations, one for radar countermeasures, and another for Carrier Onboard Delivery.

The contract of 8 April 1940 which the Navy awarded to Grumman was for the company's first attack aircraft. Until that time, Grumman's work for the Navy had been entirely with fighters. The first flight of the mid-wing monoplane, three-place, torpedo bomber occurred on 7 August 1941. During the Second World War, the Avenger was produced by Grumman as the TBF and by the Eastern Aircraft Division of General Motors as the TBM. Grumman produced a total of 2,290 aircraft, Eastern produced 7,546 aircraft. The last delivery to the Navy was made in September 1945.

The TBF-1 could carry up to 2,000 pounds of torpedoes or bombs in the bomb bay. It had a dorsal turret with a .50 calibre gun at the after end of the cockpit, a forward-firing .30 calibre gun at the nose cowling and another .30 calibre gun located ventrally facing aft.

The TBF-1 was powered by a single 1700 horsepower Wright R-2600-8 engine.

The XTBF-3 was developed to provide the Avenger with the 1900 horsepower Wright 2600-20 engine. The production version of the XTBF-3 was never produced in its F designation but was built by Eastern as the TBM-3. The TBM-3's range was from 1,130 to 2,530 statute miles and an average speed of 150 mph.

The TBM-3 had a length of 40 feet 11½ inches, a height of 16 feet 9 inches. The wing span was 54 feet 2 inches (folded size was 19 feet).

### *Model Designations Accepted from Manufacturer (New Builds)*

**XTBF-1:**

Experimental version of design.

**TBF-1:**

Production version of XTBF-1.

**TBF-1B:**

TBF-1 diverted from Navy delivery.

**TBF-1C:**

Same as TBF-1 but with provision for two .50 cal. wing guns.

**XTBF-2:**

Test bed for Wright experimental R-2600-10 engine.



*A TBF-1 in flight.*



**XTBF-3:**  
Experimental version with Wright R-2600-20 engine.

**TBM-1:**  
Built to same specifications as the TBF-1.

**TBM-1C:**  
Same as TBF-1C.

**XTBM-3:**  
Experimental version with Wright R-2600-20 engine.

**TBM-3:**  
Production development of the XTBF-3 which was similar to the TBF-1 but with improved engine, 1900 hp Wright R-2600-20.

**TBM-3E:**  
TBM-3 equipped with ASW radar.

**XTBM-4:**  
TBM-3 with structural strength increased to withstand 5Gs.

*Other Designations*

**TBF-1CP:**  
Same as the TBF-1C but equipped with trimetrogon camera for photo reconnaissance.

**TBF-1D:**  
Same as TBF-1C except for special radio and radar installation.

**TBF-1E:**  
Same as TBF-1C but equipped with special radar.

**TBF-1J:**  
TBF-1 converted to utility plane.

**TBF-1L:**  
The TBF-1, TBF-1C, TBF-1D, TBF-1E but equipped with searchlight mounted in bomb bay.

**TBM-1CP:**  
Same as TBM-1C but equipped with trimetrogon camera for photo reconnaissance.

**TBM-1D:**  
Same as TBF-1D.

**TBM-1E:**  
Same as TBM-1C but equipped with special radar.

**TBM-1J:**  
TBM-1 converted to utility plane.

**TBM-1L:**  
TBF-1C, TBF-1D, or TBF-1E but equipped with searchlight mounted in the bomb bay.

**TBM-3D:**  
Same as TBM-3 but equipped with special radar.

**TBM-3E:**  
Same as TBM-3 but equipped with special radar (APS-4).

**TBM-3J:**  
TBM-3 converted to utility plane.

**TBM-3L:**  
Same as TBM-3 but with searchlight mounted in bombay.

**TBM-3N:**  
TBM-3 equipped for night operations (all-weather).

**TBM-3P:**  
Same as TBM-3 but with trimetrogon camera for photo reconnaissance.

**TBM-3Q:**  
TBM-3 equipped for ECM missions.

**TBM-3R:**  
COD version TBM-3.

**TBM-3S:**  
ASW version of the TBM-3E.

**TBM-3S2:**  
Same as TBM-3S with improved ASW equipment and rearrangement of the after crew space.

**TBM-3U:**  
Utility version of TBM-3E.

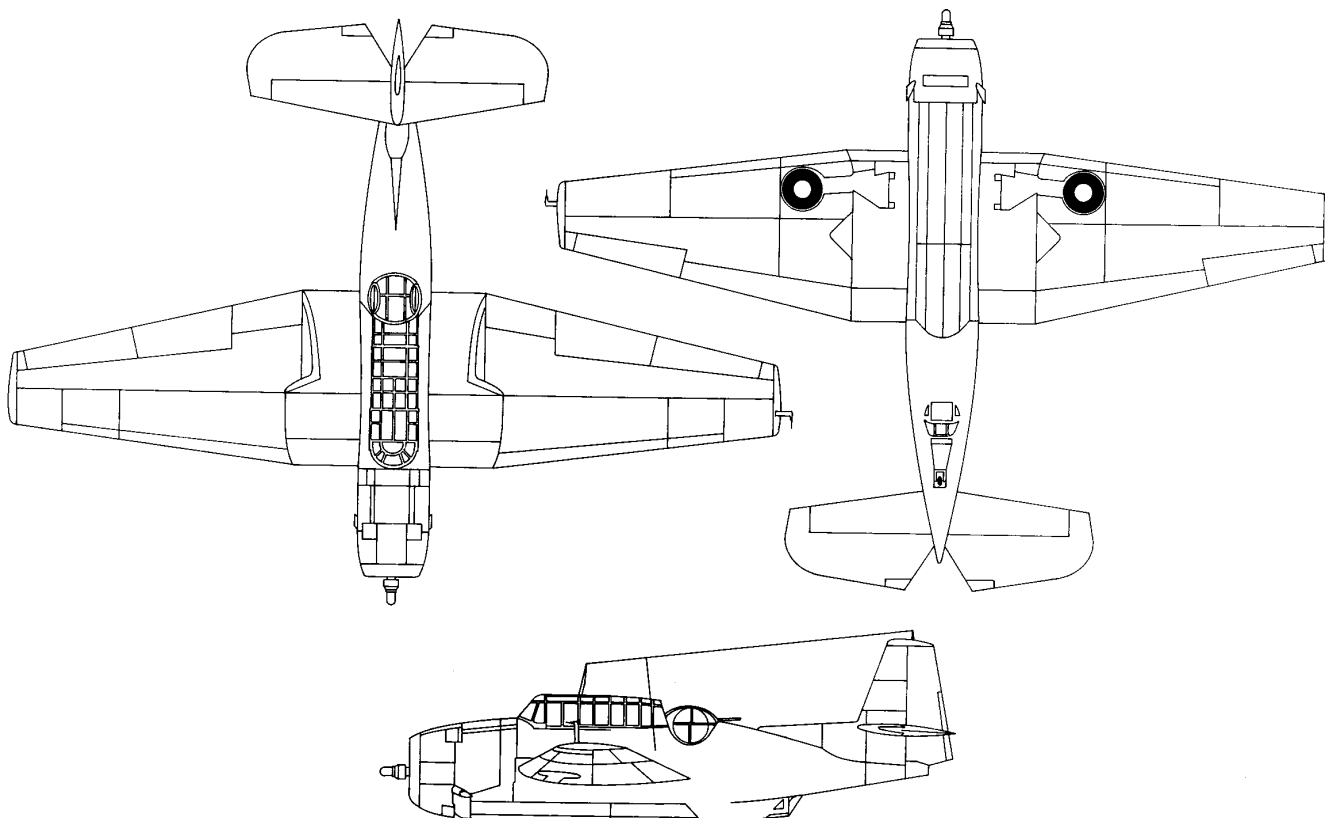
**TBM-3W:**  
Same as TBM-3 but equipped as a special radar search plane.

**TBM-3W2:**  
TBM-3W with improved ASW equipment and rearrangement of the after crew space with APS-20 radar.

*Bureau Numbers*

XTBF-1	2539-2540
TBF-1	00373-00392
XTBF-2	00393
TBF-1	00394-00658
TBF-1	01731-01770
TBF-1	05877-06491
TBM-1C	16792-17019
TBF-1	23857-24140
XTBF-3	24141
TBF-1	24142-24340
XTBF-3	24341
TBF-1	24342-24520
TBM-1	24521-25070
TBM-1C	25071-25174
XTBM-3	25175
TBM-1C	25176-25520
XTBM-3	25521
TBM-1C	25522-25699
XTBM-3	25700
TBM-1C	25701-25720
TBM-1C	34102-34105
TBM-1C	45445-45644
XTBM-3	45645
TBM-1C	45646-46444

TBF-1	47438-47637	TBM-3E	91107-92006 (Deliveries of 91753-92006 canceled)
TBF-1C	47638-48123	TBM-3	97532-97672 (Deliveries canceled)
TBM-3E	53050-53949	XTBM-4	97673-97675
TBM-3	68062-69538	TBM-4	97676-98601 (Deliveries canceled)
TBM-1C	73117-73498	TBM-4	102576-104575 (Deliveries canceled)
TBM-3E	85459-86296 (Deliveries of 86293-86296 canceled)	TBM-4	117729-118928 (Deliveries canceled)



*Line drawing for a TBF-1.*

## TBY Seawolf

Although Vought designed and built the prototype of the TBY, and Consolidated built 180 production aircraft, the Seawolf never served operationally. Vought designed the torpedo bomber on a Navy contract awarded 22 April 1940, but heavy production orders led both the Navy and the firm to conclude that another manufacturer should build the aircraft in quantity. Consolidated received an order for 1,100 planes, but

built only 180 before the order was canceled. The lone Vought aircraft was designated XTBU-1. The Consolidated version was designated TBY-2.

First flight 22 December 1941  
 Last reported in squadron A TBY-2 on 31 Aug 1945

### TBY-2:

Specifications for the TBY-2 are as follows:

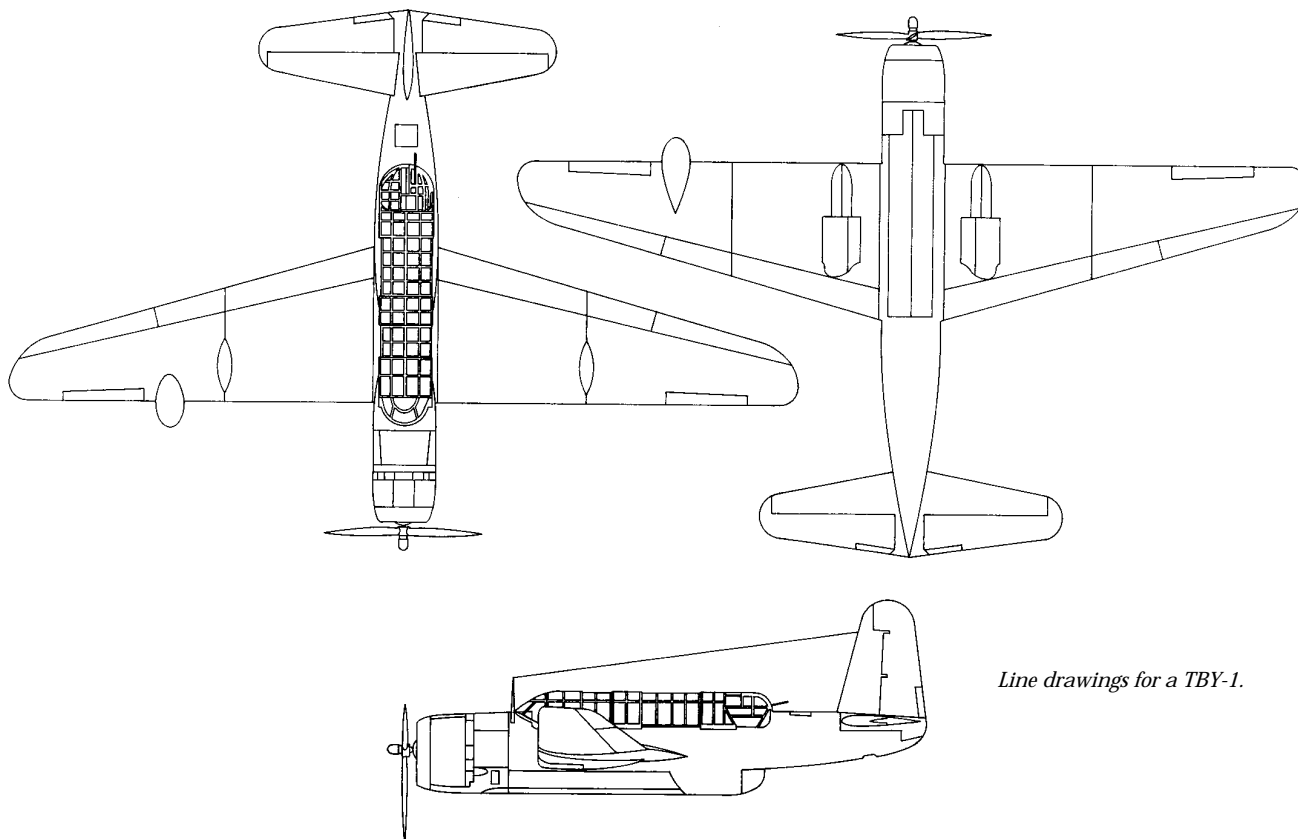
Weight	
Gross	17,491–18,940 lbs
Empty	11,366 lbs
Wing span	56 ft 11 5/32 in
Wing area	440 sq ft
Height	18 ft 6 1/2 in
Length	39 ft 2 1/4 in
Ordnance:	
Guns	three fixed .50 cal. with 640 rounds
	one flexible .50 cal. with 400 rounds
	one flexible .30 cal. with 500 rounds
Bomb capacity	2,000 lbs internal
	2,000 lbs external

### Bureau Numbers

TBY-2	30299-31398 (30368-30370 canceled)
TBY-2	30481-31398 (all canceled)
TBY-2	30369



A flight of TBYs, July 1945.



Line drawings for a TBY-1.

## TC-4C Academe

In December 1966, the Navy ordered nine Grumman Gulfstream I aircraft converted to train the bombardier navigator for the A-6 Intruder. Deliveries of the TC-4C Academe began in October 1967 and were completed in May 1968. Characteristics of the TC-4C are as follows:

Power Plant                Two 11,400 lb Rolls Royce Spey  
                                   MK 511-8 turbofans.  
 Maximum Range        3,045 nautical miles

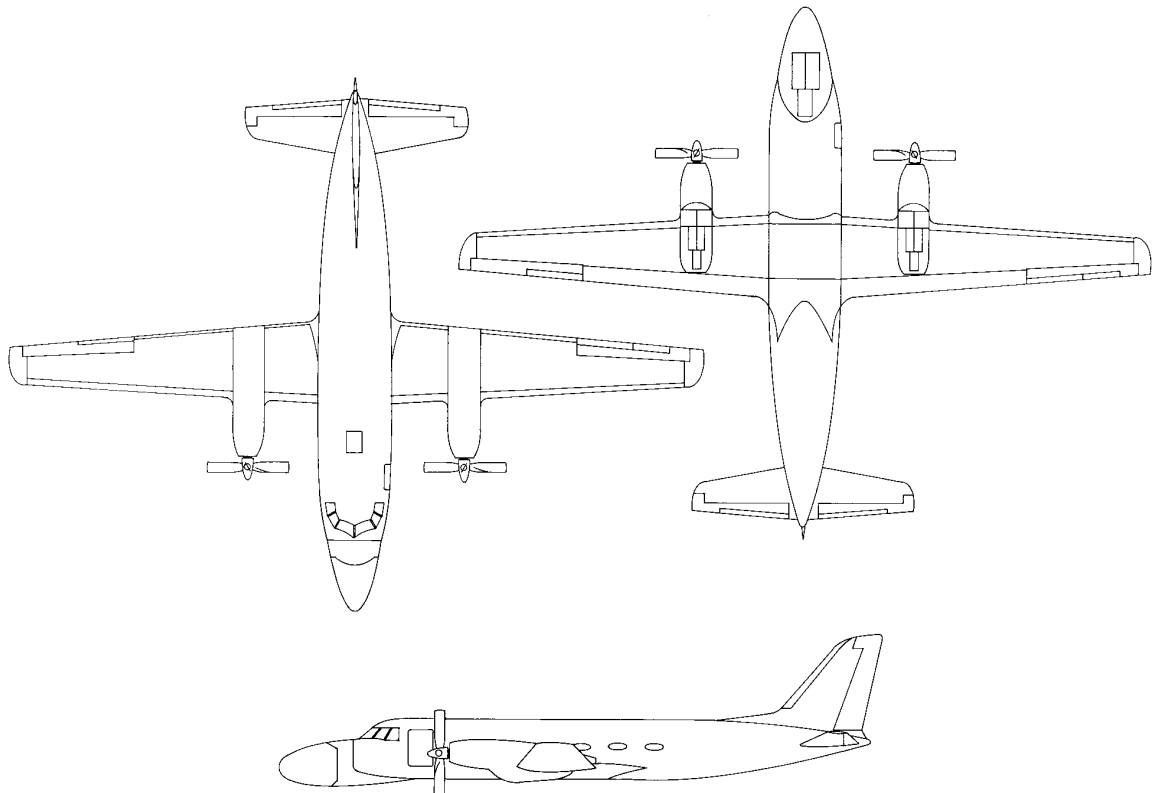
Weight  
 Maximum Takeoff    57,500 lbs  
 Dimensions  
 Wing Span            69 ft 10 in  
 Wing Area            793.5 sq ft  
 Length                79 ft 11 in  
 Height                24 ft 6 in  
 Ordnance:            None

### **Bureau Numbers**

TC-4C    155722-155730



*A TC-4C Academe in flight.*



*Line drawings  
 for a TC-4C.*