

SHIP MODELS FOR THE MILITARY

by Fred A. Dorris

**A short history of the manufacture and use of ship identification models produced in the United States
for the military services during World Wars One and Two**

The untold story of the 1:600 scale models

**Listings of all the models known to have been produced and issued to the services
in 1:500, 1:600 and 1:1200 scales**

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Introduction

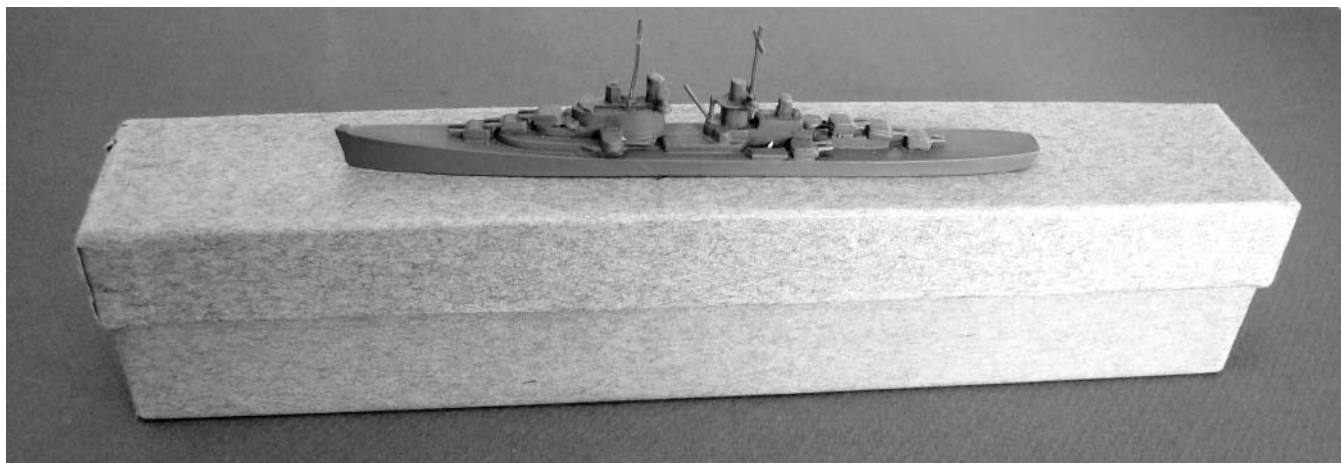
My interest in models began when I received my first pocketknife and began to turn sugar pine into toys. Most were models of ships, cars, airplanes, and guns plus an occasional animal figure. In 1942 this interest was focused on the building of 1:72 scale aircraft recognition models in my high school wood shop for the U.S. Navy Bureau of Aeronautics.

Aviation was the new frontier and aircraft model building was the new pastime for American youth. During World War Two aircraft identification became a national pastime and nearly every magazine and newspaper featured articles on aircraft recognition and model building. Almost every citizen could identify passing aircraft and many of us served in the Air Warning Corp and the Ground Observers Corp.

Ship models were rarely mentioned in the popular press. The exception was Popular Science magazine. In addition to articles on model aircraft building, Popular Science carried articles covering the building of modern and historical ship models.

After serving in the U. S. Navy during the later part of World War Two I began a collection of information and models from the Bureau of Aeronautics aircraft recognition model program. This interest was later expanded to include a collection of ship identification models that had been produced commercially during World War Two by U.S. manufacturers. Part of this collection included information on recognition training and the various recognition manuals produced by the Office of Naval Intelligence for use by the military. As information and models accumulated it became necessary to bring some sort of order to the resulting chaos. I began by writing lists of what I had collected along with information about the manufacturers. These lists led to the manuscript that follows and are included in Appendix A.

Sources of information are noted in the manuscript and in Appendix E and the Bibliography.



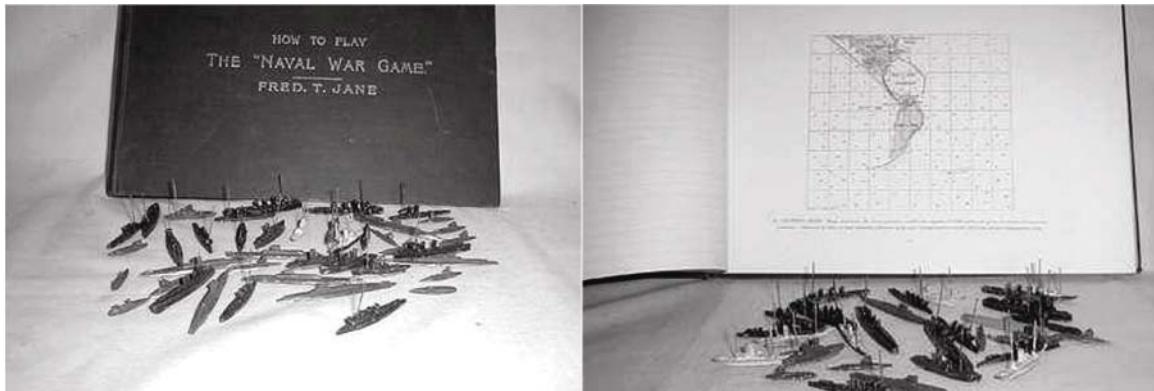
Bessarabis 1:1200 scale USS *Atlanta* displayed on top of its packing box

Early History

No one knows when the military first used ship models for tactical and recognition training, but it was probably when the first navy was built and fleets engaged in warfare.

The modern use of three dimensional scale ship models to facilitate tactical training began in the years prior to World War One. The major powers used ship models in the years before that first great conflict to play naval games and to teach identification. The models used were mostly constructed to a scale of 1:1200 or 1:1250 and were miniatures of the ships then in service in the various navies.

In 1905 Fred T. Jane, editor of Jane's Fighting Ships wrote a book, titled How to Play The Naval War Game, which was published by Sampson Low. The book has full instructions and diagrams with each page interleaved with ruled blank sheet, presumably to keep score. There were at least 12 cast lead waterline ships models that appear to be from the early Bassett-Lowke series.



Fred T. Jane's How to Play The Naval War Game with early Bassett-Lowke models

The British Navy made use of miniature ship models for recognition training in the years prior to World War One. Derek Head, in his book Bassett-Lowke Waterline Ship Models writes

...in 1913 Bassett-Lowke produced a special display of 100 ft to 1 in. warships of all nations to illustrate the comparative strengths of the different navies in relation to types and numbers.

Ronald Fuller, author of The Bassett-Lowke Story, writes:

It was, however, the hand-made series that interested ship lovers, and over the years until 1939 when production for retail sale was discontinued, models of every new ship of importance were produced and avidly collected by enthusiasts. It was also this class of model that interested the Admiralty as they realized that their three-dimensional depiction was much more useful for recognition training than the customary silhouette drawing. From 1911 on there were regular contracts from the Admiralty, and, in the Second World War, also from the R.A.F. During both World Wars, of course, enormous quantities were produced for personnel training. The fact that they were hand-made enabled any reconstruction of the prototype to be rapidly reproduced.

During World War One the United States Navy also found the models useful for war gaming and as an aid in teaching ship identification. The Navy used models produced by The H.E. Boucher Manufacturing Company of New York. In the early 1900s Mr. Boucher, a French-born naval architect, worked for the

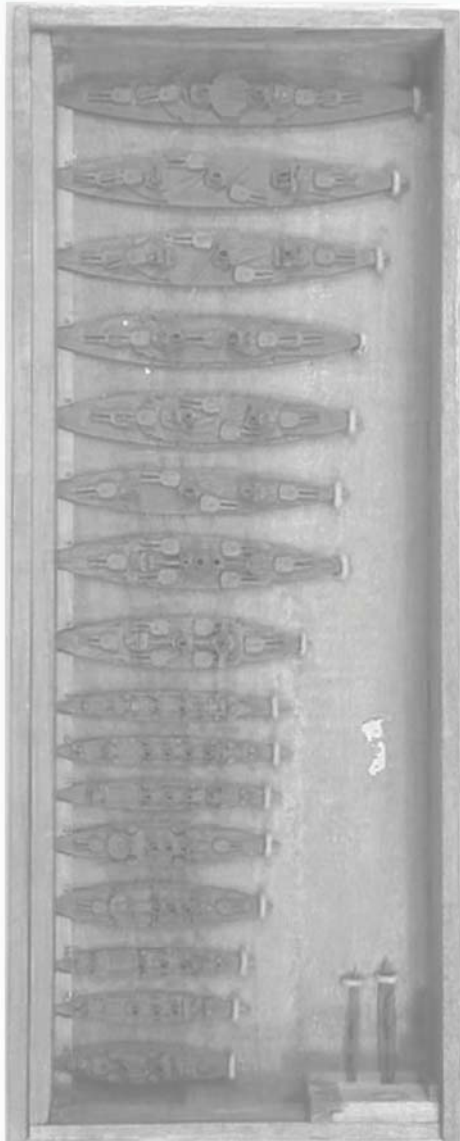
U.S. Navy Department at the Navy's model shop in Washington, DC. This facility produced models for the U.S. Navy Department, U.S. War Department, U.S. Shipping Board, the National Museum and various foreign governments and private companies. Mr. Boucher established his own model company around 1910. The identification models were produced for the U.S. Navy Bureau of Ordinance in a scale of 1:1200. The Oregon Historical Society Museum has a set representing 18 different German ships from the pre-WWI period. The set is marked "Silhouette Models, U.S. Navy – Bureau of Ordnance, No. 87". The David Taylor facility has three sets, one of these is marked "No.55". Another set at an auction had the number "99". The total number of sets produced is not known.

Volume 50 of the Journal of the United States Artillery dated 1919 contains a chapter titled "Identification of Ships" which states:

The recognition and identification of ships is of great importance to the Coast Artillery. There is probably adequate equipment in each Coast Artillery fort for giving suitable instruction to the commissioned and noncommissioned personnel in recognizing foreign ships. This equipment consists of lantern slides and projecting machines furnished as a part of the Coast Artillery War Game, and should be used to give instruction in ship recognition. In addition to the use of lantern slides, much can be accomplished with models. Some forts now have a supply of these, and those that have none can readily improvise them. By the use of models, observers can be trained to recognize ships approaching at various angles. In sight recognition, much stress should be placed on instruction using models, for it is seldom that a vessel will be seen approaching as shown in a silhouette. Of course silhouettes are useful and should be provided for all foreign ships, as an adjunct to Jane's Fighting Ships. The personnel could then be instructed in ship recognition, making use of lantern slides, silhouettes, models, and any other devices, so as to make them familiar with not only ships of our own navy, but those of foreign navies. In this connection it must be remembered that many ships are likely to be camouflaged so effectively as to cause any method of recognition by sight to fail. There is evidently an absolute necessity for developing some system of shore-ship signals that will provide for instantaneous recognition by methods of visual signals, radio, sound, including oscillators and hydro-phones, and special visual appliances.

The models referred to in this article may have been the Boucher models that were produced for the Bureau of Ordinance.

**Set of WWI German Navy models made by the H. E. Boucher
Mfg. Co. for the U.S. Navy Bureau of Ordinance**



Derfflinger

Seydlitz

Moltke

Konig

Kaiser

Von der Tann

Helgoland

Nassau

Graudenz

Strassburg

Pillau

Braunschweig

Deutschland

Stettin

Hamburg

Hertha

Torpedo Boat
Submarine

Photograph by the Oregon
Historical Society Museum

1:500 Scale Recognition Models

World War Two 1:500 Ship Identification Model Sets			
Manufacturer	Set	Dates	AAF Distribution**
Van Ryper	Japanese Navy (23 models)	1941	
Comet	German Navy (8 models)*	January 1943	July 1944
Comet	Japanese Navy (17 models)*	Early 1943	July 1944
Comet and South Salem	U.S. Navy (11 Models) Mark I, Box 1*	Early 1943	July 1944
Comet	U.S. Navy (12 Models) Mark I, Box 2*	Early 1943	July 1944
Framburg	British Navy (18 Models) Mark I *	December 1943	July 1944
Framburg	British/French (8 Models) Mark I, Suppliment 1	August 1944	
Framburg	U.S. Navy (9 models) Mark I, Suppliment 1	December 1944	
Cruver	Merchant Ships (16 models) Mark I		April 1945
South Salem	U.S. Navy (1 model) Mark I, Suppliment 2	January 1945	
Framburg	U.S. Navy (2 models) Mark I, Suppliment 3	November 1945	

Notes:

The Van Ryper models may have been issued individually. No cased sets have been reported.

* = AAF Tech. Order No. 00-40-6, dated 1-1-1944 lists models in sets

** = AAF distribution date from Recognition Instructor's Information Letters listing models as available on this date

Van Ryper Model Shop

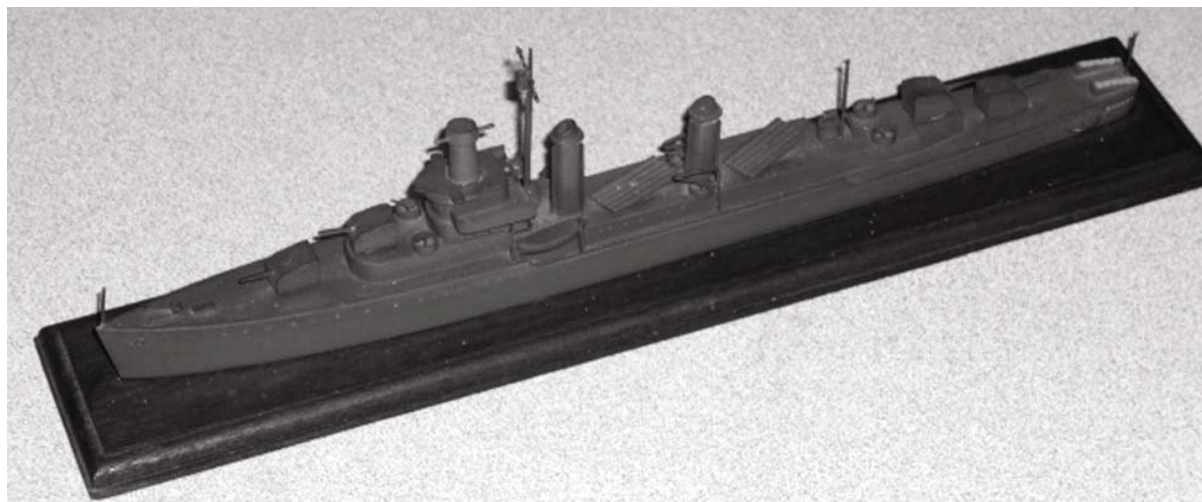
The Van Ryper model shop was the first commercial company to produce 1:500 scale ship models for the Navy. Prior to Pearl Harbor they were contracted by the Navy to produce 100 sets of 23 Japanese warship models.

In 1994 Anthony Van Riper, son of Charles K. Van Riper the founder of Van Ryper Models, wrote an article about his father, the founding of the model shop, and a brief history of the business.

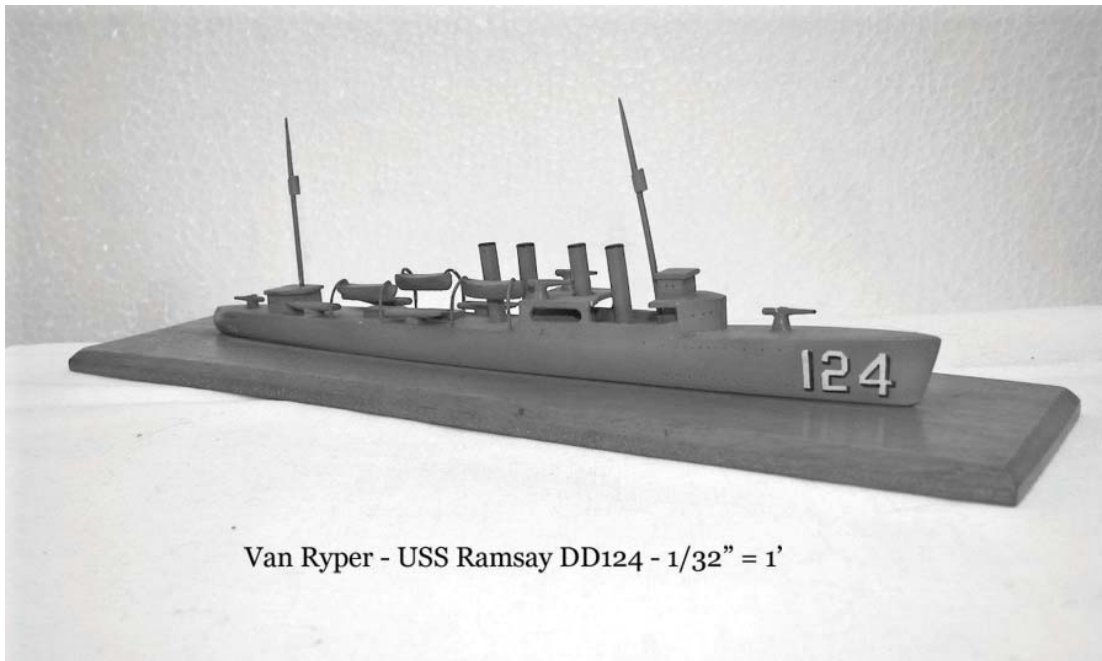
In a section titled “The War Years” he wrote:

The Van Ryper Model Shop’s first major military job was to replicate the entire Japanese fleet. These models were to be used to train American sailors and aviators to identify the various ships in the Imperial Japanese Navy. The contract called for 2300 models, a huge volume for the small shop. It was completed quickly, as Joseph Chase Allen wrote later in the Vineyard Gazette: “Speed was essential and the entire order was delivered prior to Pearl Harbor. So well did these models serve their purpose that the ‘yard’ was given an order for similar small-scale models of German and Italian fighting ships. Details were taken from blueprints and photos furnished by Navy Intelligence. Most of these recognition models, as they were called, were built in a scale of 1 inch equals 64 feet. Later, some were built at 1 inch to 100 feet.

The scale of 1” = 64’ (1:768) is a reduction of the common modeling scale of 1/8” = 1 foot. Some believe this scale to be in error and that the models were actually built to a scale of 1:500. This is the scale of some models built at the David Taylor facility and was the scale adopted for the wartime “teacher scale” models. The scale of 1” = 100’ (1:1200) was the adopted scale for all of the wartime issued sets other than the teacher scale models. Van Ryper models of the USS *Benson*, USS *Ramsey*, USS *Preston* and USS *Neosho* and others have been found which scale to be 1/32” = 1’ (1:384). These models, some dated in early 1943, are mounted on display boards unlike later issued models found in cased sets by other manufacturers and may not have been intended for recognition models. Some of the models can be found in the Seaport museum in New York, where Van Riper donated a number of models and documentation.



Van Ryper model of the USS Benson



Van Ryper model of the USS Ramsey

In his 1994 article about the company, Anthony Van Riper wrote:

During World War Two, however, when much of the production was for the U. S. government, nearly 50 men and women worked in three buildings on the site. For the hectic months in 1942 and 1943, two shifts were needed to meet production demands. There were subsidiary operations: Tisbury Toys, Technical Model Service, Seven Seas Books, and others.

The women mentioned above may have been those pictured in the January 1944 Popular Mechanics article as making models at the David Taylor facility. The Van Ryper shop was about 400 miles northeast of the David Taylor facility and it seem unlikely that they would have set up shops in two locations.

This history seems to show that the company was engaged in producing models for the government between at least 1941 and into 1943, and that the demand required the services of other contractors. The David Taylor facility has 27 Van Ryper models in a single unboxed set of U.S. Navy ships apparently pre-dating December 7, 1941. These models have been reported to be 1:500 scale. None of the models are foreign warships but Van Ryper's production must have included recognition models of the Axis navies and filled the requirements of the U.S. military until production by Comet, Framburg and South Salem became available in 1943. Models of Japanese, German and Italian ship have not been reported. Models of Japanese Navy ships almost certainly existed although they must be a rarity in any collection.

As a commercial model builder his catalog of 1936 lists over 230 ship models as being available from the Van Ryper shop located on Beach Road at the head of the harbor in Vineyard Haven, Massachusetts. Another catalog flyer, that lists and prices over 80 ship models, states: "More than 400 ships are included in the full list of models."

According to the catalog these models were made by hand by "islanders" to a non-constant scale determined by a "visibility factor" which yielded models between 8 1/2 and 11 inches in length. None of these models were used as identification models.

David Taylor Model Basin

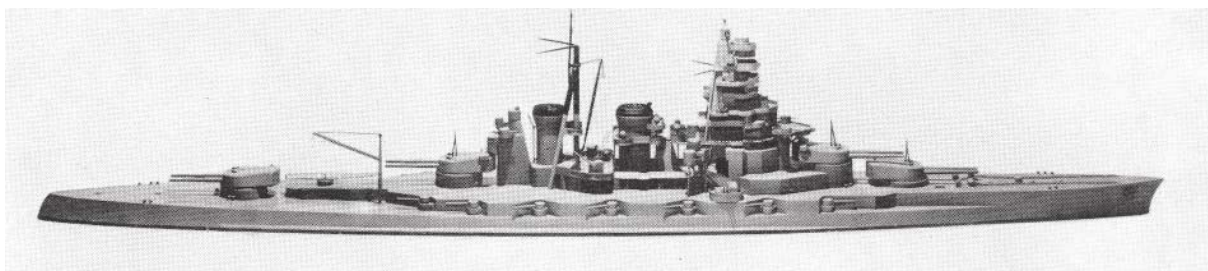
The David Taylor Model Basin began as the U.S. Experimental Model Basin in 1899 at the Washington Navy Yard. In 1936 Congress authorized the construction of a new facility to replace and extend the work of the original model basin. The new facility was named after Rear Admiral David W. Taylor who supervised the operation of the original model basin during the first 15 years of its existence. The David Taylor Model Basin, located on the north side of the Potomac River at Carderock, Maryland, is the largest existing research laboratory of its kind. The facility, now known as the Naval Surface Warfare Center, Carderock Division, is the principal Navy resource, national focal point and international leader in surface and undersea vehicle science, ship systems and related maritime technology.

An article in the January 1944 issue of Popular Mechanics pictures women at the David Taylor facility making 1:500 scale ship models. The pictures show both German and Japanese Navy ship models. It is not known if these models were ever issued as cased sets. No sets have been reported by private collectors, and apparently no sets exist at the David Taylor Model Basin.

A booklet, Report 569, published by the David Taylor Model Basin in 1947 states:

During World War II the David Taylor Model basin built the so-called "Master Models" of the navies of the United States, Germany, and Japan, comprising one model of each of the various types of combatant vessels in those navies. These models were only about 3 feet long but were made very accurately to scale. They were used for the preparation of recognition training photographs showing the ship as it would appear from other surface vessels or from aircraft in various positions.

These models, as shown below, were used for aerial views and target angle pictures in various ONI manuals. They were most likely built to a scale of 1:300.



David Taylor Model Basin model of a Japanese Kongo class battleship

Report 569 further stated:

Recognition models, somewhat smaller and considerably simpler, were built by the thousands for issue to United States Naval vessels, United States Army units, Coast Artillery groups, Merchant Marine vessels, to train ship and aircraft personnel to recognize enemy vessels and not to fire on their own vessels.

Part 3- 1:1200 Scale Models

Bessarabis U.S. Navy Models in 1:1200 Scale			
Number	Name	Type	Notes
1	<i>Spearfish</i>	SS	
2	<i>Barracuda</i>	SS	
3	<i>Cachalot</i>	SS	
4	<i>Lapwing</i>	AVP	
5	<i>Mahan</i>	DD	
6	<i>Rodgers</i>	DD	
7	<i>Gridley</i>	DD	
8	<i>Porter</i>	DD	
9	<i>Dixie</i>	AD	
10	<i>Indianapolis</i>	CA	
11	<i>New Orleans</i>	CA	
12	<i>Pensacola</i>	CA	
13	<i>Wichita</i>	CA	
14	<i>Omaha</i>	CL	
15	<i>Brooklyn</i>	CL	
16	<i>Houston</i>	CA	
17	<i>Maryland</i>	BB	
18	<i>California</i>	BB	
19	<i>Pennsylvania</i>	BB	
20	<i>New York</i>	BB	
21	<i>New Mexico</i>	BB	
22	<i>Nevada</i>	BB	
23	<i>North Carolina</i>	BB	
24	<i>Yorktown</i>	CV	
25	<i>Saratoga</i>	CV	
26	<i>Ranger</i>	CV	
27	<i>Wasp</i>	CV	
28	<i>Trinity</i>	AO	Number not confirmed
29	<i>Whitney</i>	AD	Number not confirmed
30			<i>Relief and Pyro</i> reported

For models in this set 29 of the 30 names have been confirmed either from the name being stamped on a box or from name tags in a pre-war photo. The numbers for 27 of the models have been confirmed. On the "Important" card found in the sets it states, "The names have not been put in the castings since the name represents a class and may need to be changed at a later date". The use of sister ship names by collectors has resulted in many incorrect listings for the models in this set.

The following listings for the German Navy and the U. S. Navy (Set #2) are copied from the cards found in the boxed sets of 1:1200 scale models.

CONTENTS OF THIS LOCKER
GERMAN

1-TIRPITZ
2-SCHARNHORST
3-GNEISENAU
4-SCHLESSEN
5-GRAF ZEPPELIN
6-ADMIRAL SCHEER
7-FRENZ EUGEN
8-ADMIRAL HIPPER
9-NUERNBERG
10-LEIPZIG
11-KOELN
12-EMDEN
13-"HARVIX" CLASS
14-GALSTER
15-MAAEZ CLASS
16-MOEWE CLASS
17-WOLF CLASS
18-T-1 CLASS
19-SLEEPER CLASS
20-T-107 CLASS
21-740 - TON CLASS
22-517 - TON CLASS
23-250 - TON CLASS
24-BRUMMER
25-F-1 CLASS
26-TSINGTAU
27-M-1 CLASS
28-M-103 CLASS
29-CRILLE

CONTENTS OF THIS LOCKER

1-U. S. S. NAUTILUS
2-U. S. S. "S" CLASS BOAT
3-U. S. S. "R" CLASS BOAT
4-U. S. S. ST. LOUIS
5-U. S. S. BRISTOL
6-U. S. S. BENSON
7-U. S. S. SOMERS
8-U. S. S. FARRAGUT
9-U. S. S. INDIANA
10-U. S. S. ESSEX
11-U. S. S. ATLANTA
12-U. S. S. LONG ISLAND
13-U. S. S. CHARGER
14-U. S. S. ALBERMARLE
15-U. S. S. BARNEGAT
16-U. S. S. WRIGHT
17-U. S. S. TERROR
18-U. S. S. RAVEN
19-U. S. S. CHARLESTON
20-U. S. S. D- E 51
21-U. S. S. CAMPBELL
22-U. S. S. C. 450
23-U. S. S. PC-475
24-U. S. S. HOLLAND
25-U. S. S. MEDUSA
26-U. S. S. CIMARRON
27-U. S. S. HENDERSON
28-U. S. S. INDEPENDENCE
29-U. S. S. CLEVELAND
30-U. S. S. FLETCHER

IMPORTANT

It has been suggested that the name of each ship be lettered on the bottom of each model in India ink or pencil so that they can be surely identified in case of separation from the proper box. The names have not been put in the castings since the name represents a class and may need to be changed at a later date.

Note: There is an error in the US Navy set listing - Model No. 22 is U.S.S. PC-475 & No. 23 is U.S.S. SC-450.

Comet Metal Products models are the most difficult to catalog.

The following models, some in pre-Pearl Harbor rig, are the earliest produced by Comet. Some may not represent actual ships. The names listed are as found stamped on the model or the box. Most of these were issued individually prior to the issuing of the mid-war cased sets. Some of the individual boxes are found with AAF stock number written on them. Some of these models are copies of Wiking or Tremo models. Tom Stribling, who worked for ONI during the war, reported that about 85 Wiking models were copied. The use of the scale of 1" = 110' (1:1320) on the boxes has been the source of much speculation. The author believes that when Comet copied the 1:1250 scale models they made no allowance for shrinkage of the alloy used. To compensate they adopted the slightly smaller scale of 1" = 110'. Most models are inaccurate as to scale and details and some are found with aircraft mounted on catapults. To date 184 models have been listed and it is expected that more will be found among individual collections. By the wars end all of Comet's models were produced with the name and class cast into the side of the hull instead of the inked stamped identification. These late and post war models are painted a darker grey and frequently display differences in both detail and scale from the pre and early war models.

Some of these models do not appear in any of the Comet catalogs. The British, French and Italian models produced by Comet were not part of any cased sets.

Comet Metal Products Individual U.S. Navy Models in 1:1200 Scale

Name	Type	Markings	Notes
<i>Enterprise</i>	CV	Ink stamped name, light grey	Early 8 model set
<i>Yorktown</i>	CV	Engraved name on side + Comet on bottom	Plain box stamped 1"=110', not cataloged
<i>Yorktown</i>	CV	Ink stamped name + Comet on bottom	Not cataloged
<i>Saratoga</i>	CV	Comet Saratoga on bottom	Plain box stamped 1"=110'
<i>Essex</i>	CV	Engraved name/Ink stamped name	Plain box, elevator down, not cataloged
<i>Ranger</i>	CV	Name cut in bottom + ink stamped	Plain box stamped <i>Ranger</i>
<i>Independence</i>	CVL	Name on side + Comet 4/43 on bottom	Plain box stamped 1"=110'
<i>Lexington</i>	CV	Ink stamped name	Not cataloged
<i>Bogue</i>	CVE		
<i>Card</i>	CVE	Card on bottom + dated 2/43	Plain box
<i>Iowa</i>	BB	Engraved side and bottom	Plain box stamped <i>Iowa</i> , hull dated 1/43
<i>South Dakota</i>	BB	Engraved side + Comet on bottom	Plain box stamped <i>South Dakota</i>
<i>Pennsylvania</i>	BB	Ink stamped name, light grey	Plain box stamped 1"=110', not cataloged
<i>New Mexico</i>	BB	Engraved side + Comet 1/43 on bottom	Plain box stamped 1"=110'
<i>Tennessee</i>	BB	Engraved name	Pre-Pearl Harbor rig, not cataloged
<i>Tennessee</i>	BB	Engraved name + Comet 1/43 on bottom	Plain box stamped <i>Tennessee</i>
<i>California</i>	BB		Pre-Pearl Harbor rig, not cataloged
<i>New York</i>	BB		Pre-Pearl Harbor rig, not cataloged
<i>Washington</i>	BB	Cut name in bottom + Comet in ink	Not cataloged
<i>North Carolina</i>	BB	Engraved name	Early 8 model set
<i>Pensacola</i>	CA	Ink stamped name + 12/42	Plain box stamped <i>Pensacola</i>
<i>New Orleans</i>	CA	Engraved name	Early 8 model set, not cataloged
<i>New Orleans</i>	CA	Engraved name	Plain box stamped <i>San Francisco</i>
<i>Baltimore</i>	CA	Engraved name and bottom + Comet 1/42	Plain box stamped <i>Baltimore</i>
<i>Northampton</i>	CA	Engraved name	Plain box stamped <i>Northampton</i>
<i>Wichita</i>	CA	Ink stamped name	Plain box stamped 1"=110', not cataloged
<i>Phoenix</i>	CL	Engraved name	Plain box stamped <i>Honolulu</i>
<i>Phoenix</i>	CL	Engraved name	Early 8 model set, not cataloged
<i>Livermore</i>	DD	Engraved side + Comet 1/4? bottom	Plain box stamped <i>Warrington</i>
<i>Livermore</i>	DD	Engraved name	Plain box stamped <i>Livermore</i>
<i>Benham</i>	DD	Engraved side + Comet 1/4? bottom	Plain box stamped <i>Benham</i>
<i>Benson</i>	DD	Engraved side + Comet 1/4? bottom	Plain box stamped <i>Benson</i>
<i>Porter</i>	DD	Engraved name + 1/43 on bottom	Plain box stamped 1"=110'

Comet Metal Products Individual U.S. Navy Models in 1:1200 Scale

Name	Type	Markings	Notes
<i>Warrington</i>	DD		Plain box
<i>Mahan</i>	DD	Engraved name + 1/43 on bottom	Plain box stamped 1"=110'
<i>Sims</i>	DD	Engraved name + Comet on bottom	Plain box stamped <i>Sims</i>
<i>Somers</i>	DD	Engraved name + 1/43 on bottom	Plain box stamped <i>Bristol</i>
<i>Sumner</i>	DD	Scratched name on bottom	
<i>Gridley</i>	DD	Engraved name	Early 8 model set
<i>Gridley</i>	DD	Engraved side	Plain box stamped <i>Gridley</i>
<i>Gridley</i>	DD	Engraved side + 1/43 on bottom	Plain box stamped 1"=110'
<i>Farragut</i>	DD	Engraved side + Comet 1/4? bottom	Plain box stamped 1"=110'
<i>Fletcher</i>	DD	Engraved side + Comet 1/43 bottom	Plain box stamped <i>Fletcher</i>
<i>Dixie</i>	AD	Engraved name + 11/42 on bottom	Early 8 model set, plain box stamped 1"=110'
<i>Dixie</i>	AD	Ink stamped name + 11/42 on bottom	Plain box stamped 1"=110' plus red Mar 7 1944
<i>Lilac</i>	AM	Ink stamped name, light grey	Plain box stamped 1"=110'
<i>Raven</i>	AM		
<i>Terror</i>	DM	Scratched name + 1/43	
<i>Buckley</i>	DE		Plain box stamped 1"=110'
<i>Barnegat</i>	AVP	Engraved Name	Early 8 model set, plain box stamped 1"=110'
<i>Sargo</i>	SS		Early 8 model set
<i>Dolphin</i>	SS	Box marked <i>Dolphin/Sargo</i>	Plain Box
<i>Narwhal</i>	SS		Plain box stamped 1"=110'
<i>Spearfish</i>	SS	Same model as <i>Sargo</i>	Plain box stamped 1"=110', not cataloged