

RESTRICTED

GENERAL INFORMATION

INCLUDING DESCRIPTIONS AND
TESTS OF ELECTRIC AUXILIARIES

U. S. S. TORPEDO BOAT DESTROYERS

Nos. 345 to 347

INFORMATION RELATIVE TO ITEMS UNDER COGNIZANCE
OF THE BUREAU OF CONSTRUCTION AND REPAIR
NAVY DEPARTMENT

RESTRICTED

CONFIDENTIAL

Serial No. 18

GENERAL INFORMATION

INCLUDING DESCRIPTION AND TESTS
OF ELECTRIC AUXILIARIES

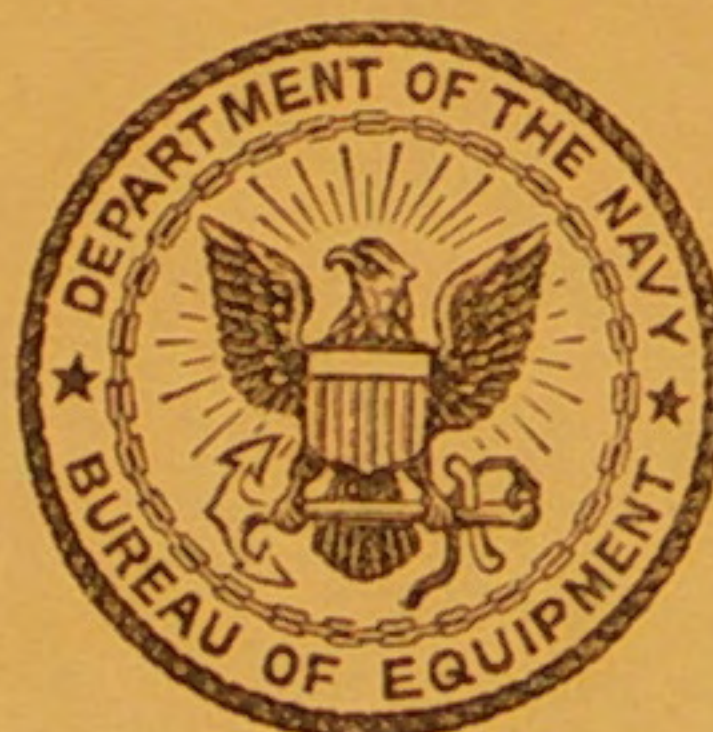
TORPEDO BOAT DESTROYERS Nos. 345 to 347

U. S. S. PREBLE, SICARD AND PRUITT

Information relative to items under cognizance of
Bureau of Construction and Repair
Navy Department, Washington, D. C.

1920

Finished Plan No. 41



WASHINGTON
GOVERNMENT PRINTING OFFICE
1920

BUREAU OF SHIPS

NATIONAL ARCHIVES FILES

50737

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Authority NND 974382

By 161NARA Date 9-22-10

INTRODUCTION.

HISTORICAL DATA.

Authorized by act of Congress, August 29, 1916, and July 1, 1918.

Vessels built by Bath Iron Works (Ltd.), Bath, Me.

Contract signed November 8, 1918.

Contract date of completion, Preble, August 31, 1919; Sicard, October 31, 1919; Pruitt, December 31, 1919.

Keel laid, Preble, April 12, 1919; Sicard, June 18, 1919; Pruitt, June 25, 1919.

Vessels launched, Preble, March 8, 1920; Sicard, April 20, 1920; Pruitt, August 2, 1920.

Christened:

The Preble by Miss Sallie M. Tucker, 22 East Thirty-third Street, New York.

The Sicard by Mrs. Adelaide Ireland Sicard, 640 Madison Avenue, New York.

The Pruitt by Mrs. Belle Pruitt, Phoenix, Ariz.

Date of delivery to Government, Preble, March 19, 1920; Sicard, April 29, 1920; Pruitt, September 2, 1920.

Date of official preliminary trial, Preble, March 19, 1920; Sicard, April 29, 1920; Pruitt, August 18-21, 1920.

Vessels commissioned,

DIMENSIONS AND DISTANCES.

Length over all, 314 feet 4½ inches.

Length between perpendiculars, 310 feet.

Breadth, molded, 30 feet 11½ inches.

Breadth, over guards, 31 feet 7¾ inches.

Depth, molded at side (Frame No. 89), 20 feet 7¾ inches.

Depth, molded at center (Frame No. 89), 21 feet 9⅝ inches.

Tons per inch (9 feet 3¼ inches W. L.), 15.50.

Mean trial displacement, 1,200 tons.

Wetted surface (9 feet 3¼ inches W. L.), 10,110 square feet.

Coefficient block (9 feet 3¼ inches W. L.), 0.47.

Coefficient prismatic (9 feet 3¼ inches W. L.), 0.63.

Coefficient midship (9 feet 3¼ inches W. L.), 0.75.

Coefficient water line (9 feet 3¼ inches W. L.), 0.68.

Area of rudder, 77.7 square feet.

Center of buoyancy (9 feet 3¼ inches W. L.) above bottom of keel, 5.62 feet.

Center of buoyancy (9 feet 3¼ inches W. L.) forward of middle perpendicular, 0.88 foot (1.63 feet forward of Frame 89).

Transverse metacenter above C. B. (9 feet 3¼ inches W. L.), 8.63 feet.

Longitudinal metacenter above C. B. (9 feet 3¼ inches W. L.), 740 feet.

Center of gravity of water line abaft middle perpendicular, 5.08 feet.

Center of gravity of full load water line abaft middle perpendicular, 5.72 feet.

Frame spacing, 21 inches.

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LONGITUDINAL DISTANCES.

Projection of stern at main deck, abaft A. P., 1 foot 4½ inches.
Axis of rudder, forward of A. P., 6 feet 4½ inches.
Forward end of straight keel, from F. P., 11 feet ½ inch.
After end of straight keel, from A. P., 41 feet 4½ inches.
Length of straight keel, 257 feet 7 inches.
Forward end of bilge keel from F. P., 92 feet 6 inches.
After end of bilge keel from A. P., 78 feet 9 inches.
F. P. to center of foremast, at main deck, 90 feet.
F. P. to center of stack No. 1, at main deck, 107 feet 5 inches.
F. P. to center of stack No. 2, at main deck, 123 feet 4 inches.
F. P. to center of stack No. 3, at main deck, 145 feet 11 inches.
F. P. to center of stack No. 4, at main deck, 161 feet 11 inches.
Center of wireless pole at main deck, to A. P., 58 feet 1½ inches.
Center of shaft struts forward of A. P., 21 feet 3 inches.
Propellers, forward of A. P., 16 feet 10⅝ inches.

HEIGHTS ABOVE (9' 3¼") WATER LINE.

Bridge at center (Frame No. 40), 22 feet 6¾ inches.
Bridge at outboard ends (Frame No. 52), 21 feet 11½ inches.
Forward smokestack on C. L., 38 feet 11 inches.
Signal yard, 88 feet 9 inches.
Radio lower wireless ariel, foremast 51 feet, amidships 33 feet 3 inches; wireless pole, 40 feet.
Radio upper wireless ariel, foremast 93 feet, wireless pole, 50 feet.
Main deck at side (Frame No. 89), 11 feet 5 inches.
Main deck at C. L. (Frame No. 89), 12 feet 7 inches.
Top of after deck house (Frame No. 146), 16 feet 8¾ inches.
Freeboard at stem, 17 feet 2 inches.
Freeboard at stern, 8 feet 2 inches.
Center line of amidship searchlight beam, 33 feet 2⅜ inches.
Line of sight, crow's-nest, 71 feet.

CONDITIONS OF LOADING.

Ship complete, ready for service in every respect, with full complement of officers and crew with their effects, and consumable load, is tabulated below, for Normal, Full, and Emergency conditions.

In the design of the vessel the mean draft, viz, 9 feet 3¼ inches, contemplates the condition of loading given under the heading "NORMAL."

Kind.	Normal.		Full.		Emergency.	
	Quantity.	Weight.	Quantity.	Weight.	Quantity.	Weight.
Hull and fittings.....						460
Machinery (dry).....		460		460		369
Machinery (water).....		369		369		43
Fuel oil.....		43		43		371
Reserve feed water.....		150		225		40
Officers and crew.....		14		21		10
Battery.....		10		10		40
Ammunition and ordnance stores.....		40		40		38
Equipment and equipment stores.....		38		38		33
Outfit and stores.....		33		33		65
		43		53		
Total.....		1, 200		1, 292		1, 469

COMPLEMENT REC

Officers:
Commanding officer.....
Wardroom officers.....

Seaman branch:
Chief boatswain's mate...
Boatswain's mate, first cl...
Boatswain's mate, second...
Coxswains.....
Chief gunner's mate.....
Gunner's mates, first clas...
Gunner's mates, second cl...
Gunner's mates, third cl...
Chief quartermaster, nav...
Quartermasters, first clas...
Quartermaster, second cl...
Quartermaster, third clas...
Seamen, first class.....
Seamen, second class....
Total.....

Artificer branch:
Electrician, first class...
Electrician, third class...
Chief electrician, radio...
Electricians, first class, r...
Electrician, second class...
Electrician, third class...
Carpenter's mate, first cl...
Storekeeper, first class...
Total.....

Artificer branch (engine-room):
Chief machinist's mates...
Machinist's mates, first...
Machinist's mates, second...
Enginemen, first class...
Enginemen, second clas...
Chief water tender.....
Water tenders.....
Boilermaker.....
Blacksmith, second clas...
Coppersmith, second cl...
Firemen, first class....
Firemen, second class...
Total.....

Special branch:
Yeoman, first class, c...
Yeoman, second class...
Pharmacist's mate, fi...
Total.....

COMPLEMENT RECOMMENDED BY BUREAU OF NAVIGATION, MAY 21, 1919.

(Section X-3.)

Officers:

Commanding officer.....	1
Wardroom officers.....	7

Seaman branch:

Chief boatswain's mate.....	1
Boatswain's mate, first class.....	1
Boatswain's mate, second class.....	1
Coxswains.....	2
Chief gunner's mate.....	1
Gunner's mates, first class.....	3
Gunner's mates, second class.....	3
Gunner's mates, third class.....	3
Chief quartermaster, navigating.....	1
Quartermasters, first class.....	2
Quartermaster, second class.....	1
Quartermaster, third class.....	1
Seamen, first class.....	17
Seamen, second class.....	8
Total.....	45

Artificer branch:

Electrician, first class.....	1
Electrician, third class.....	1
Chief electrician, radio.....	1
Electricians, first class, radio.....	1
Electrician, second class, radio.....	1
Electrician, third class, radio.....	1
Carpenter's mate, first class.....	1
Storekeeper, first class.....	1
Total.....	8

Artificer branch (engine-room force):

Chief machinist's mates.....	3
Machinist's mates, first class.....	2
Machinist's mates, second class.....	3
Enginemen, first class.....	5
Enginemen, second class.....	8
Chief water tender.....	1
Water tenders.....	6
Boilermaker.....	1
Blacksmith, second class.....	1
Coppersmith, second class.....	1
Firemen, first class.....	12
Firemen, second class.....	8
Total.....	51

Special branch:

Yeoman, first class, commanding officer.....	1
Yeoman, second class, first lieutenant.....	1
Pharmacist's mate, first class.....	1
Total.....	3

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the condition

Emergency.

Quantity.	Weight.
.....	460
.....	369
.....	43
.....	371
.....	40
.....	10
.....	40
.....	38
.....	33
.....	65
.....	1,469

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GENERAL INFORMATION.

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Commissary branch:	1
Ship's cook, first class.....	1
Ship's cook, second class.....	2
Total.....	

Messmen branch:	1
Cabin steward.....	1
Cabin cook.....	3
Mess attendants.....	5
Total.....	

RECAPITULATION.

Officers.....	6
Crew.....	114
Total.....	122

LIST SHOWING LOCATION AND NUMBER OF BERTHS, LOCKERS, HAMMOCKS, AND BAGS.

Compartments.	Crew's quarters.			
	Berths.	Lockers.	Hammocks.	Bags.
A-206.....	8	8		4
A-207.....	34	34	4	
D-204.....	37	30	4	7
D-205.....	17	17	2	
Total.....	96	89	10	11
Chief petty officers' quarters, compartment A-304.....	8	8	2	
Crew's quarters.....	96	89	10	11
Total.....	104	97	12	11
Chart room.....	1	1		
Yeoman's office.....	2	2		
Radio room.....	2			
Total.....	109	100	12	11

OFFICERS' BERTHS.

Captain's.....	1
2 double-berth staterooms.....	4
3 single-berth staterooms.....	3
Emergency cabin.....	2
Total.....	10

PLANS.

(Section B-1.)

Furnished under the cognizance of the Bureau of Construction and Repair for ship use.

All of the following plans are a part of the ship's regular allowance of articles under cognizance of the Bureau of Construction and Repair, Equipage, Title "B," Class 35.

Additional copies of any plan specified in this list may be issued to the commanding officer at his request for use on board ship. The booklet sets are issued to the commanding officer in sufficient number to provide one copy for each officer in charge of a department or division.

MISCELLANEOUS INFORMATION.

STEERING ARRANGEMENTS.

(Section U-8. See plan No. 25.)

DESCRIPTION OF STEERING GEAR.

The main steering arrangement is a right and left hand screw with traversing nuts directly connected by link rods to a crosshead, which is keyed to the rudderstock. The weight of the rudder is carried in a bearing at the main deck. Lubrication being effected by means of a bronze ring with graphite insert and compression grease cups.

The engine is disconnected by operating the clutch handwheel which hauls the pinion forward and disengages the clutch grabs, but does not haul the gears out of mesh. Before connecting up or disconnecting the clutch the helm indicating dials at the steering stands, at the engine trick wheel, and on the sliding sleeve should read alike. This will place the steering wheel approximately in position for coupling up, but before the clutch is driven home the corresponding numbers (0-0), (1-1), (2-2), etc., on the clutch grabs should register.

This can be done expeditiously by leaving the hand-gear clutch connected, so that the engine pinion clutch grabs may be rotated by hand in either direction. During this operation close the steam cut-out valve.

NOTE.—Disconnect hand-gear clutch before opening cut-out valve.

The lower half of engine shaft bushings are semicircular and can be removed without dismantling the crank shaft. When the regular hand gear is in use the engine pinion idles. The hand gear consists of two 60-inch handwheels connected to the screw shaft through a sliding jaw clutch.

The screw shaft is double-depth $\frac{3}{4}$ -inch pitch thread instead of double thread as in the usual practice. This makes it practicable to eliminate all gearing and the hand gear. 31.32 turns of handwheels are required to put the rudder H. to H., or 70.

The engine is a 6½ by 8 inch two-cylinder vertical steering engine, built by the Hyde Windlass Co., of Bath, Me.

The operation of the engine by steam is controlled by means of steel wire rope leading from a drum near the engine to a steering stand on the bridge; also from a similar drum at the engine to a steering stand on the after deck house.

The transmission lines leading to the bridge and to the after deckhouse are entirely separate and can be thrown in or out by operating the change gear handwheel between drums at engine.

The engine may be controlled, aside from the wire rope transmissions, by a trick wheel installed on the engine direct. All wheels controlling the engine make eight turns H. to H.

Slack in the transmission ropes is taken up on split drums and tighteners at forward ends of transmission lines. Any degree of tension desired can be obtained. An emergency clamp is provided for the wire-rope transmission.

LUBRICATION.

The engine is fitted with a Detroit automatic oiler, which operates only when the engine is running. The pipe guards in the after quarters, incasing the transmission rope to after deck house, are fitted with grease plugs. The grease cups on traversing nuts and sleeves should be kept well filled and frequently screwed down.

The roller bearings to sheaves should be well packed with heavy grease at all times.

The rudder thrust bearing disk at main deck is graphite bushed.