

118-50

~~RESTRICTED~~

Serial No. 44

GENERAL INFORMATION

INCLUDING DESCRIPTIONS AND
TESTS OF ELECTRIC AUXILIARIES

TORPEDO BOAT DESTROYERS

Nos. 206 to 230

INFORMATION RELATIVE TO ITEMS UNDER COGNIZANCE
OF BUREAU OF CONSTRUCTION AND REPAIR
NAVY DEPARTMENT, WASHINGTON, D. C.



48-50

~~RESTRICTED~~

~~CONFIDENTIAL~~

Serial No. 44

GENERAL INFORMATION

INCLUDING DESCRIPTION AND TESTS
OF ELECTRIC AUXILIARIES

TORPEDO BOAT DESTROYERS Nos. 206 to 230

U. S. S.

Chandler-Southard-Hovey-Long-Broome-Alden
Smith Thompson-Barker-Tracy-Borie-John D.
Edwards - Whipple - Parrott - Edsall - MacLeish
Simpson - Bulmer - McCormick - Stewart - Pope
Peary - Pillsbury - Ford - Truxtun - Paul Jones

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

1921

Finished Plan No. 41



WASHINGTON
GOVERNMENT PRINTING OFFICE
1921

BUREAU OF SHIPS

NATIONAL ARCHIVES FILES

50732

Destroyers Nos. 206 to 230.

INTRODUCTION.

Authorized by act of Congress (acts of Mar. 4, and Oct. 6, 1917).

Vessel built by Wm. Cramp & Sons Ship & Engine Building Co., Philadelphia, Pa.

Contract signed December 19, 1917.

DIMENSIONS AND DISTANCES.

Length over all 314 feet 4½ inches.
 Length between perpendiculars on 9 feet 0 inches W. L., 310 feet.
 Breadth, molded, extreme, 30 feet 11½ inches.
 Breadth, extreme, over fenders, 31 feet 8½ inches.
 Depth, molded at side (frame No. 88¼), 20 feet 7⅞ inches.
 Depth, molded at center (frame No. 88¼), 21 feet 10 inches.
 Tons per inch (9 feet 4 inches W. L.), 15.48 tons.
 Mean trial displacement (actual), 1229.81 tons.
 Wetted surface 9 feet 4 inches W. L.), 9910 square feet.
 Coefficient block (designed 9 feet 4 inches W. L.), 0.472.
 Coefficient prismatic (designed 9 feet 4 inches W. L.), 0.623.
 Coefficient midship (designed 9 feet 4 inches W. L.), 0.758.
 Coefficient water line (designed 9 feet 4 inches W. L.), 0.676.
 Area of rudder, 77.65 square feet.
 Center of buoyancy (9 feet 4 inches W. L.) above bottom of keel 5 feet 8½ inches.
 Center of buoyancy (9 feet 4 inches W. L.) forward of middle perpendicular, 1.06 feet.
 Transverse metacenter above C. B. (9 feet 4 inches W. L.), 4 feet 10½ inches.
 Longitudinal metacenter above C. B. (9 feet 4 inches W. L.), 742 feet.
 Center of gravity of water line 9 feet 4 inches abaft middle perpendicular 4.90 feet.
 Center of gravity of full load water line 9 feet 9¾ inches abaft middle perpendicular, 5.60 feet.
 Frame spacing throughout, 21 inches.

LONGITUDINAL DISTANCES.

Projection abaft A. P., 16½ inches.
 Axis of rudder, forward of A. P., 6 feet 4½ inches.
 Forward end of straight keel, from F. P., 12 feet.
 After end of straight keel, from A. P., 41 feet 5½ inches.
 Length of straight keel, 256 feet 6½ 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 1⅞ inches.
 F. P. to center of smokepipe No. 1, at main deck, 107 feet 4⅞ inches.
 F. P. to center of smokepipe No. 2, at main deck, 123 feet.
 F. P. to center of smokepipe No. 3, at main deck, 145 feet 10⅞ inches.
 F. P. to center of smokepipe No. 4, at main deck, 161 feet 10½ inches.

GENERAL INFORMATION.

Center of mainmast, at main deck, to A. P., 58 feet $1\frac{3}{4}$ inches.

Center of shaft struts forward of A. P. ($\frac{1}{2}$ inch forward frame 165), 21 feet $3\frac{1}{2}$ inches.

Propellers, forward of A. P., 16 feet $10\frac{1}{2}$ inches.

HEIGHTS ABOVE DESIGNER'S WATER LINE.

Bridge at center line (frame No. 40, top of plating), 22 feet $5\frac{5}{8}$ inches.

Bridge at outboard ends (Frame No. 47 top of beams), 22 feet $1\frac{1}{4}$ inches.

Forward smokepipe on C. L., 38 feet $10\frac{3}{4}$ inches.

Lookout platform, 65 feet $3\frac{1}{2}$ inches.

Signal yard, 88 feet $10\frac{1}{2}$ inches.

Upper wireless ariel, 93 feet at foremast, 50 feet at mainmast.

Lower wireless ariel, 54 feet 6 inches at foremast, 40 feet at mainmast.

Main deck, at side (frame No. 50), top of plating, 13 feet $6\frac{5}{8}$ inches.

Main deck, at side (frame No. 140), top of plating, 9 feet 1 inch.

Top of after deck house, top of plating C. L. (frame No. 150), 16 feet $5\frac{1}{8}$ inches.

Freeboard at stem, 17 feet $1\frac{3}{16}$ inches.

Freeboard at stern, 8 feet $1\frac{3}{16}$ inches.

SPONSORS.

Official No.	Name.	Keel laid.	Vessel launched.	Christened by—	Date of delivery to Government.	Date of official preliminary trial.	Vessel commissioned.
206	Chandler.....	Aug. 19, 1918	Mar. 19, 1919	Mrs. L. H. Chandler, of Washington, D. C.	Sept. 5, 1919	Aug. 18-23, 1919	Sept. 5, 1919
207	Southard.....	Aug. 18, 1918	Mar. 31, 1919	Miss Francesca Lewis Stewart, of Washington, D. C.	Sept. 24, 1919	Sept. 9, 1919	Sept. 24, 1919
208	Hovey.....	Sept. 7, 1918	Apr. 26, 1919	Mrs. Austin Kautz, of Washington, D. C.	Oct. 2, 1919	Sept. 26, 1919	Oct. 2, 1919
209	Long.....	Sept. 23, 1918	do.....	Mrs. Arnold Knapp, of New York City.	Oct. 20, 1919	Oct. 13, 1919	Oct. 20, 1919
210	Broome.....	Oct. 8, 1918	May 14, 1919	Miss Josephine Broome, of Albany, N. Y.	Oct. 31, 1919	Oct. 27-28, 1919	Oct. 31, 1919
211	Alden.....	Oct. 24, 1918	June 7, 1919	Mrs. Sarah Alden Dorsey, of Washington, D. C.	Nov. 24, 1919	Nov. 18-19, 1919	Nov. 24, 1919
212	Smith Thompson.	Mar. 24, 1919	July 14, 1919	Mrs. Kate Everett Thompson Lloyd, of Washington, D. C.	Dec. 10, 1919	Dec. 3-4, 1919	Dec. 10, 1919
213	Barker.....	Apr. 30, 1919	Sept. 11, 1919	Mrs. Albert S. Barker.....	Dec. 27, 1919	Dec. 19-20, 1919	Dec. 27, 1919
214	Tracy.....	Apr. 3, 1919	Aug. 12, 1919	Elizabeth Whitney Cornell Tracy, of Owego, N. Y.	Mar. 9, 1920	Feb. 26-27, 1920	Mar. 9, 1920
215	Borie.....	Apr. 30, 1919	Oct. 4, 1919	Miss Pattie Borie, of Jenkintown, Pa.	Mar. 24, 1920	Mar. 5-7, 1920	Mar. 24, 1920
216	John D. Edwards.	May 21, 1919	Oct. 18, 1919	Mrs. Mae Marshall Edwards, of Newport News, Va.	Apr. 6, 1920	Mar. 30, 1920	Apr. 6, 1920
217	Whipple.....	June 12, 1919	Nov. 6, 1919	Miss Gladys Mulvey, of Cranford, N. J.	Apr. 23, 1920	Apr. 16, 1920	Apr. 23, 1920
218	Parrott.....	July 23, 1919	Nov. 25, 1919	Miss Julia Bizzell Parrott, of Kingston, North Carolina.	May 11, 1920	May 4, 1920	May 11, 1920
219	Edsall.....	Sept. 15, 1919	July 29, 1920	Mrs. Bessie Edsall Bracey, of Sheridan, Mich.	Nov. 26, 1920	Nov. 16-17, 1920	Nov. 26, 1920
220	MacLeish.....	Aug. 19, 1919	Dec. 18, 1919	Miss Isabel MacLeish, of Vassar College, Poughkeepsie, N. Y.	Aug. 2, 1920	July 23, 1920	Aug. 2, 1920
221	Simpson.....	Oct. 9, 1919	Apr. 28, 1920	Miss Caroline Sterrett Simpson, of Elizabeth, N. J.	Nov. 3, 1920	Oct. 26-27, 1920	Nov. 3, 1920
222	Bulmer.....	Aug. 11, 1919	Jan. 22, 1920	Miss Anita Poor Bulmer, of Washington, D. C.	Aug. 16, 1920	Aug. 6, 1920	Aug. 16, 1920
223	McCormick.....	do.....	Feb. 14, 1920	Miss Katherine McCormick, of Chicago, Ill.	Aug. 30, 1920	Aug. 20, 1920	Aug. 30, 1920
224	Stewart.....	Sept. 9, 1919	Mar. 4, 1920	Mrs. Margaretta Stewart Stevens, of New York City.	Sept. 15, 1920	Sept. 8, 1920	Sept. 15, 1920
225	Pope.....	do.....	Mar. 23, 1920	Mrs. William S. Benson, of Washington, D. C.	Oct. 27, 1920	Oct. 19-20, 1920	Oct. 27, 1920
226	Peary.....	do.....	Apr. 6, 1920	Mrs. Marie Peary Stafford, of Washington, D. C.	Oct. 22, 1920	Oct. 15-16, 1920	Oct. 22, 1920
227	Pillsbury.....	Oct. 23, 1919	Aug. 3, 1920	Miss Helen Langdon Richardson, of Brookline, Mass.	Dec. 15, 1920	Dec. 7-8, 1920	Dec. 15, 1920
228	Ford.....	Nov. 11, 1919	Sept. 2, 1920	Miss Faith Ford, Baltimore, Md.	Dec. 30, 1920	Dec. 21-22, 1920	Dec. 30, 1920
229	Truxton.....	Dec. 3, 1919	Sept. 28, 1920	Miss Isabelle Truxton Brumby, Norfolk, Va.	Feb. 16, 1921	Feb. 8, 1921	Feb. 16, 1921
230	Paul Jones.....	Dec. 23, 1919	Sept. 30, 1920	Miss Ethyl Bagley, Washington, D. C.	Apr. 19, 1921	Apr. 12, 1921	Apr. 19, 1921

¹ Of Vassar College, Poughkeepsie, N. Y.

Destroyers Nos. 206 to 230.

Ship complete, ready to receive crew with their effects, and agency conditions.

In the design of the rig, 9 feet 4 inches, center

Kind.

4-inch .50-caliber ammunition...
 4-inch antiaircraft ammunition...
 30-caliber ball, machine gun, mo...
 30-caliber ball, rifle, model 1906...
 30-caliber blank, model 1909...
 30-caliber dummy, model 1906...
 30-caliber blank, model 1898...
 30-caliber blank, model 1898...
 45-caliber ball, model 1911...
 Torpedoes...
 War heads...
 Drill and dummy cartridges...
 Fuses, detonators, etc...
 C. and R. stores...
 S. and A. stores...
 Miscellaneous stores...
 Medical stores...
 Engineering stores...
 Officers' mess stores...
 Ordnance stores...
 Equipment stores...
 Fresh water...
 Reserve feed water...
 Fuel oil...
 Hull...
 Hull fittings...
 Engineering...
 Battery...
 Equipment...
 Officers, crew, and effects...

¹ Two-thirds supply.

Officers:

Commanding officer...
 Wardroom officers...

Seaman branch:

Chief boatswain's mate...
 Boatswain's mate, second class...
 Boatswain...
 Chief gunner's mates...
 Gunner's mates, first class...
 Gunner's mates, second class...
 Chief quartermaster, navigating...
 Quartermaster, first class...

48-50

TORPEDO BOAT DESTROYERS NOS. 206 TO 230.

3

Destroyers Nos. 206 to 230.

CONDITIONS OF LOADING.

SHIP AS DESIGNED.

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 corresponding to the "designer's water line," viz, 9 feet 4 inches, contemplates the condition of loading given under the heading "Normal."

Kind.	Normal.		Full.		Emergency.	
	Quantity (rounds).	Weight (tons).	Quantity (rounds).	Weight (tons).	Quantity (rounds).	Weight (tons).
4-inch .50-caliber ammunition.....	400	15.00	400	15.00	400	15.00
3-inch antiaircraft ammunition.....	300	2.66	300	2.66	300	2.66
.30 caliber ball, machine gun, model 1906.....	24,000	.83	24,000	.83	24,000	.83
.30 caliber ball, rifle, model 1906.....	13,200	.45	13,200	.45	13,200	.45
.30 caliber blank, model 1909.....	2,000	.04	2,000	.04	2,000	.04
.30 caliber dummy, model 1906.....	1,000	.03	1,000	.03	1,000	.03
.30 caliber blank, model 1898.....	4,000	.18	4,000	.18	4,000	.18
.30 caliber blank, model 1898.....	4,000	.08	4,000	.08	4,000	.08
.45 caliber ball, model 1911.....	6,000	.15	6,000	.15	6,000	.15
Torpedoes.....	12	15.00	12	15.00	12	15.00
War heads.....	12	2.30	12	2.30	12	2.30
Drill and dummy cartridges.....		.28		.28		.28
Fuses, detonators, etc.....		.17		.17		.17
C. and R. stores.....	(1)	1.07	(2)	1.60	(2)	1.60
S. and A. stores.....	(1)	6.57	(2)	9.86	(2)	9.86
Miscellaneous stores.....	(1)	.27	(2)	.40	(2)	.40
Medical stores.....	(1)	.21	(2)	.31	(2)	.31
Engineering stores.....	(1)	1.67	(2)	2.50	(2)	2.50
Officers' mess stores.....	(1)	1.11	(2)	1.67	(2)	1.67
Ordnance stores.....	(1)	.67	(2)	1.00	(2)	1.00
Equipment stores.....	(1)	.90	(2)	1.35	(2)	1.35
Fresh water.....	(1)	9.90	(2)	14.85	(3)	28.60
Reserve feed water.....	(1)	14.00	(2)	21.00	(3)	40.75
Fuel oil.....	(1)	150.00	(2)	225.00	(3)	375.00
Hull.....		405.89		405.89		405.89
Hull fittings.....		60.60		60.60		60.60
Engineering.....		430.80		430.80		430.80
Battery.....		40.11		40.11		40.11
Equipment.....		32.05		32.05		32.05
Outfit.....		11.61		11.61		11.61
Officers, crew, and effects.....		10.21		10.21		10.21

¹ Two-thirds supply.² Full supply.³ Maximum supply.

DESIGNED COMPLEMENT.

(Section X-3.)

Officers:

Commanding officer.....	1
Wardroom officers.....	5

Seaman branch:

Chief boatswain's mate.....	1
Boatswain's mate, second class.....	1
Coxswain.....	1
Chief gunner's mates.....	2
Gunner's mates, first class.....	2
Gunner's mates, second class.....	2
Chief quartermaster, navigating.....	1
Quartermaster, first class.....	1

GENERAL INFORMATION.

Seaman branch—Continued.	2
Quartermasters, second class.	16
Seamen.	13
Ordinary seamen.	42
Total.	
Artificer branch:	1
Electrician, first class.	2
Electricians, first class, radio.	1
Electrician, second class, radio.	1
Carpenter's mate, second class.	5
Total.	
Artificer branch (engine-room force):	3
Chief machinist's mates.	3
Machinist's mates, first class.	3
Machinist's mates, second class.	1
Chief water tender.	5
Water tenders.	1
Boilermaker.	1
Blacksmith.	1
Coppersmith.	4
Oilers.	10
Firemen, first class.	7
Firemen, second class.	39
Total.	
Special branch:	1
Yeoman, first class, commanding officer.	1
Yeoman, second class, engineer department.	1
Hospital steward.	3
Total.	
Commissary branch:	1
Ship's cook, first class.	1
Ship's cook, third class.	2
Total.	
Messmen branch:	1
Cabin steward.	1
Cabin cook.	2
Mess attendants.	4
Total.	
RECAPITULATION.	
Officers.	6
Crew.	95
Total.	101
NOTE.—Berthing accommodations are provided for the following:	
Commanding officer.	1
Wardroom officers.	7
Chief petty officers.	10
Emergency cabin (one transom berth).	2
Yeoman.	2
Crew.	116
Hammocks.	12
Radio room.	2
Total.	152

Destroyers Nos. 206 to 230.

MACHINERY.

(A) Engines: The propelling machinery consists of Parsons turbines in combination with reduction gear and placed in two compartments.

The power is divided on two shafts, each driving a propeller and each being driven, through gearing, by one single-flow high-pressure turbine and one double-flow low-pressure and single astern turbine. Each astern turbine is fitted in the rotor casing with the corresponding low-pressure ahead turbine.

There are two main condensing plants, one for each power unit, with curved tube surface condensers, main air and circulating pumps.

The main circulation of cooling water through the condensers is by means of scoops, an auxiliary turbine-driven circulating pump providing circulation when maneuvering or backing.

Steam is provided by four White Forester boilers fitted for fuel oil only. Two boilers are arranged in each of two watertight compartments.

The forced draft system consists of two sets of three turbine-driven blowers each, discharging air into each respective fireroom.

(B) Propellers and shafts:

Diameter of propeller shafting, inches, $11\frac{1}{4}$.

Diameter of line shafting, inches, $11\frac{1}{4}$.

Diameter of axial hole in shafting, inches, $7\frac{1}{4}$.

Number of propellers, 2.

Number of blades, each propeller (cast solid), 3.

Diameter of propellers (designed), inches, 110.

Pitch of propellers, fixed (designed), inches, 120.

Ratio of diameter to pitch (designed)=P=, 0.9175.

Area, projected (designed) D., square inches, 5,223.

Area, helicoidal (designed), square inches, 6,257.

Area, disk (designed), square inches, 9,503.3.

Lower tip of blades below bottom of keel, inches, $20\frac{7}{8}$.

Tips of blades below 9 feet 4 inches, W. L., inches, $19\frac{1}{2}$.

Material of propellers, Comp. "Mnc."

Starboard propeller is right hand.

Port propeller is left hand.

(C) Boilers:

Kind of boiler (oil burning), White Forster, built by Band, W., Co.

Number (2 in each boiler room), 4.

Designed working pressure, pounds, 265.

Heating surface, each boiler, square feet, 6,875.

Cubical contents of combustion chamber, each boiler, 633.

Diameter of main steam pipes between engine and boiler rooms (2), inside diameter, inches, $10\frac{1}{2}$.

Diameter of steam pipe from each boiler, inside diameter, inches, $7\frac{1}{2}$.

Number of oil burners, each boiler, 14.

Number of furnaces, each boiler, 1.

Smokepipes, height above base line: (1) 48 feet $2\frac{5}{8}$ inches, (2) 47 feet $8\frac{7}{8}$ inches, (3) 47 feet $1\frac{1}{8}$ inches, (4) 46 feet $7\frac{5}{8}$ inches.

Number of smokepipes, 4.

Area of section through one smokepipe, 20.29.

Destroyers Nos. 206 to 230.

MACHINERY.

(A) Engines: The propelling machinery consists of Parsons turbines in combination with reduction gear and placed in two compartments.

The power is divided on two shafts, each driving a propeller and each being driven, through gearing, by one single-flow high-pressure turbine and one double-flow low-pressure and single astern turbine. Each astern turbine is fitted in the rotor casing with the corresponding low-pressure ahead turbine.

There are two main condensing plants, one for each power unit, with curved tube surface condensers, main air and circulating pumps.

The main circulation of cooling water through the condensers is by means of scoops, an auxiliary turbine-driven circulating pump providing circulation when maneuvering or backing.

Steam is provided by four White Forester boilers fitted for fuel oil only. Two boilers are arranged in each of two watertight compartments.

The forced draft system consists of two sets of three turbine-driven blowers each, discharging air into each respective fireroom.

(B) Propellers and shafts:

Diameter of propeller shafting, inches, $11\frac{1}{4}$.

Diameter of line shafting, inches, $11\frac{1}{4}$.

Diameter of axial hole in shafting, inches, $7\frac{1}{4}$.

Number of propellers, 2.

Number of blades, each propeller (cast solid), 3.

Diameter of propellers (designed), inches, 110.

Pitch of propellers, fixed (designed), inches, 120.

Ratio of diameter to pitch (designed) = $P = 0.9175$.

Area, projected (designed) D., square inches, 5,223.

Area, helicoidal (designed), square inches, 6,257.

Area, disk (designed), square inches, 9,503.3.

Lower tip of blades below bottom of keel, inches, $20\frac{7}{8}$.

Tips of blades below 9 feet 4 inches, W. L., inches, $19\frac{1}{2}$.

Material of propellers, Comp. "Mnc."

Starboard propeller is right hand.

Port propeller is left hand.

(C) Boilers:

Kind of boiler (oil burning), White Forster, built by Band, W., Co.

Number (2 in each boiler room), 4.

Designed working pressure, pounds, 265.

Heating surface, each boiler, square feet, 6,875.

Cubical contents of combustion chamber, each boiler, 633.

Diameter of main steam pipes between engine and boiler rooms (2), inside diameter, inches, $10\frac{1}{2}$.

Diameter of steam pipe from each boiler, inside diameter, inches, $7\frac{1}{2}$.

Number of oil burners, each boiler, 14.

Number of furnaces, each boiler, 1.

Smokepipes, height above base line: (1) 48 feet $2\frac{5}{8}$ inches, (2) 47 feet $8\frac{7}{8}$ inches, (3) 47 feet $1\frac{1}{8}$ inches, (4) 46 feet $7\frac{5}{8}$ inches.

Number of smokepipes, 4.

Area of section through one smokepipe, 20.29.