

RESTRICTED

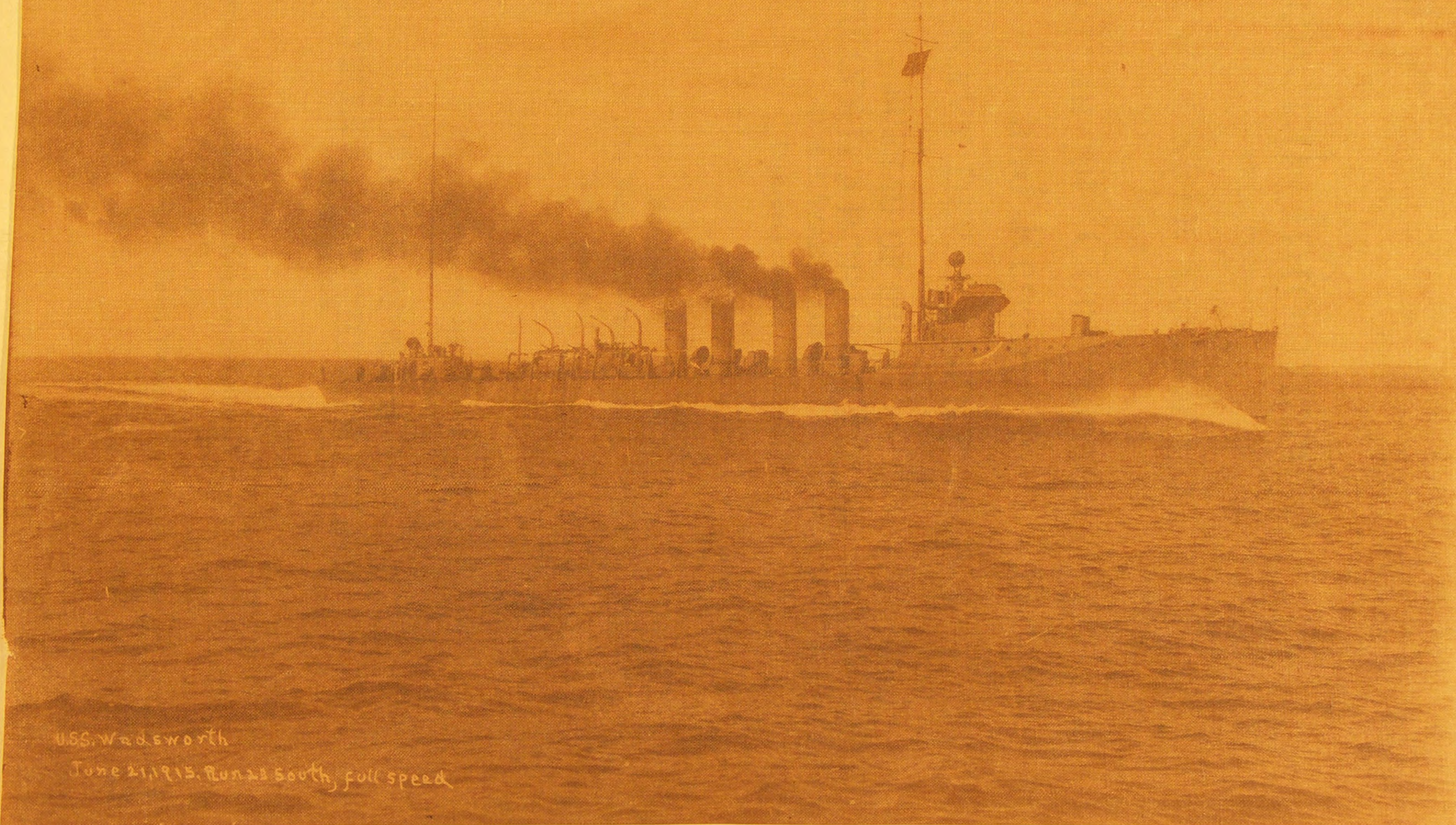
**BOOKLET OF GENERAL INFORMATION
AND ELECTRIC AUXILIARIES**

U. S. S. WADSWORTH
DESTROYER NO. 60

**ITEMS UNDER COGNIZANCE OF THE
BUREAU OF CONSTRUCTION & REPAIR.**

DECLASSIFIED

Authority NND 774302



USS Wadsworth

June 21, 1915. Run 23 South, full speed

RESTRICTED

General Information
RELATIVE TO
ITEMS UNDER COGNIZANCE
OF
Bureau of Construction
and Repair
NAVY DEPARTMENT
BUREAU OF SHIPS
NATIONAL ARCHIVES FILES
U. S. S. WADSWORTH
Destroyer No. 60

Builders
The Bath Iron Works
Bath, Maine.

Finished Plan No. 41

BUREAU OF SHIPS
NATIONAL ARCHIVES FILES
~~CONFIDENTIAL~~

Office of the Superintending Constructor for the
U. S. Navy
Bath Iron Works, Bath, Maine.

1915.

50643

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 rudder stock. The weight of the rudder is carried at the Main deck; a bronze disc with graphite inserts floating between the casting at the Main deck and the emergency tiller palm forms this thrust bearing.

The upper end of the tube encasing the rudder stock is fitted with a stuffing box.

The engine is disconnected by operating the clutch hand wheel which hauls the pinion forward and disengages the clutch grabs but does not haul the gears out of mesh. When the regular hand gear is in use the engine pinion idles. The hand gear consists of two 60-inch hand wheels connected to the screw shaft through a sliding jaw clutch.

The screw shaft is double depth $\frac{3}{4}$ " pitch *single thread* instead of *double* thread as in the usual practice. This makes it practicable to eliminate all gearing between the screw shaft and the hand gear. 31.3 turns of hand wheels are required to put rudder H. to H. or 70° .

The engine is a $6\frac{1}{2}$ "x8" two cylinder steering engine manufactured by the Hyde Windlass Co. of Bath, Me.

The operation of the engine by steam is controlled by means of bronze wire rope leading from a drum near the engine to a steering stand in the pilot house and 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 line leading to the pilot house and the line leading to after deck house are entirely separate and either can be thrown in or out by operating the hand wheels at drum shaft bearing.

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 8 turns H. to H. Slack in the transmission ropes is eliminated by the after drum tightners. Any degree of tension desired can be obtained by setting up the worm shaft with a wrench.

The emergency tiller is always in place on the weather deck and with relieving tackle can be used for steering or in place of a friction band.

LUBRICATION

The engine is fitted with a Detroit Automatic oiler which operates only when the engine is running. The ball and roller bearings to sheaves should be well packed with heavy grease at all times.

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

DRAFT MARKS, GAUGES AND FIGURES

Draft marks are indicated by two types of figures, the forward and marks over propellers, by Arabic, and the after marks by Roman figures.

The Arabic marks where vertical are 6" high, and the Roman marks 3" high, the even foot indicated being at the bottom of the marks. Where not vertical, the figures or marks are of such height that their projection upon a vertical plane is 6" or 3" high for the Arabic and Roman marks respectively.

With the Roman marks are horizontal marks located so that the bottom of mark indicates half the distance between the even foot marks.

Draft marks are located at stern, at propellers, at stern and just forward of the rudder casting between frames 172 and 173, the set farthest aft being a continuation of those between frames 172 and 173.

The ship has three internal draft gauges; each gauge consists of a glass fitted with a vertical scale; these scales are graduated into feet, inches and quarters of an inch. Angle valves are located at ship's side and three-way cocks are fitted near the gauge to allow flushing out piping and draining gauge. Needle valves are fitted at gauge to enable minute throttling of supply to gauge.

The gauges are located as follows: Forward gauge in Compt. A-104, hold, aft side of bulkhead 16; Midship gauge in Compt. B-102, Boiler Room near frame 90; After gauge in Compt. D-108, hold, forward side of bulkhead 164. The forward and after gauges are on ship's center line, the midship gauge being 0'-9" to port of center line.

The fore and aft position from the perpendicular, also the position of the figures and draft gauges, are given on the draft diagram (Plate No. 4).

The midship gauge is portable and a data mark is chiseled in vertical keel near label plate. The distance from this point to bottom of scale is 5'-6".

IMPORTANT: Care should be taken before reading midship gauge to OPEN plug cock on extension pipe under main deck.

GENERAL DIMENSIONS

..... 6	Length between Perpendiculars	310'-0"
..... 12	Projection forward of F. P.	2'-0"
..... 8	Projection aft of A. P.	3'-3"
..... 10	Length over all	315'-3"
..... 7	Length of straight keel	267'-10"
.....	Breadth, molded, designed W. L.	29'-8 $\frac{1}{8}$ "
..... 17	Breadth, molded, extreme	29'-10"
.....	Breadth, extreme, over guards	30'-6"
.....	Depth molded, main deck at side	17'-7 $\frac{1}{2}$ "
.....	Draft, mean, from bottom of keel	9'-4 $\frac{1}{2}$ "
.....	Displacement, normal, tons	1095
..... 43	Tons per inch	13.80
..... 47-49	Area, immersed midship section, sq. ft.	210
..... 47	Area, normal water plane, sq. ft.	5775
..... 47	Area, wetted surface, sq. ft.	10000
..... 47	C. G. of water plane aft of 89, ft.	5.43
..... 49	C. B. above bottom of keel, ft.	5.67
..... 50-51	C. B. ford. of 89, ft.	2.59
..... 50	Transverse Metacentre above C. B., ft.	7.67
..... 50-51	Longitudinal Metacentre above C. B., ft.	650
..... 50	Coefficient of fineness, Block44
..... 51-56	Coefficient of fineness, Cylindrical59
..... 52-56	Coefficient of fineness, midship section75
.....	Coefficient of fineness, L. W. L.63
.....	Ratio, length to beam	10.45
.....	Number of frames	177
.....	Frame spacing	1'-9"
.....	Frame 89 is 0'-9" aft of	M. P.
.....	Base line to bottom of keel	0'-0 $\frac{1}{2}$ "
.....	Rudder axis ford. of A. P.	6'-4 $\frac{1}{2}$ "
.....	Area of rudder, sq. ft.	72
.....	Number of W. T. Compartments	29
.....	Propeller ford. of A. P.	18'-7"
.....	Strut ford. of A. P.	21'-5"
.....	Number of fuel oil compt's	10

BATTERY

- Four 4 in. R. F. Guns
- No. 1. Stb'd., frame 54 main deck, 87 $\frac{1}{2}$ ° ford. 77° aft beam.
- No. 2. Port, frame 54 main deck, 87 $\frac{1}{2}$ ° ford. 77° aft beam.
- No. 3. Frame 163 main deck, 60° ford. 90° aft beam.
- No. 4. Frame 25 f'cl'e. deck, 90° ford. 67° aft beam.
- Four 21 in. Torpedo Tubes, twin.
- No. 1. Stb'd., frame 78 main deck, 60° ford. 60° aft beam.
- No. 2. Port, frame 99 main deck, 60° ford. 60° aft beam.
- No. 3. Stb'd., frame 129 main deck, 60° ford. 60° aft beam.
- No. 4. Port, frame 137 main deck, 60° ford. 60° aft beam.

HEIGHTS ABOVE D. W. L.

Top of masts, including truck light	96'-6 $\frac{1}{2}$ "
Searchlight platform	31'-5 $\frac{1}{2}$ "
Bridge at centre line	24'-6"
Bridge at side	23'-11 $\frac{1}{8}$ "
Top of forecastle deck, at stem	17'-5 $\frac{1}{4}$ "
Top of deck house, at aft searchlight	15'-8 $\frac{1}{8}$ "

SMALL BOATS

BOAT	CREW	MAX. CAPACITY
24'-0" Motor Sailing Launch	6 men.....	19 men
21'-0" Motor Dory	4 men.....	20 men
24'-0" Whaleboat	11 men.....	23 men
14'-0" Wherry	3 men.....	5 men
10'-0" Punt

FIREMAIN

The firemain consists of a single line of 3-inch O. D. lead lined steel tubing, running from frame 43 to 140 on the port side. The line is connected to a fire and bilge pump in the after boiler room at frame 88, and to two fire and bilge pumps in the after engine room at frame 128. It supplies 8 fire plugs, 2 in the crew's quarters, one in forward boiler room, and 5 on the weather decks; is direct connected to a magazine sprinkling system forward and aft, with control valves located at frames 44 and 142; and has cross connections, through reducing valves set at 30 lbs., to the forward and after flushing systems at frames 44 and 153.

The pump risers, and the fire plugs on the weather decks are all provided with cut out valves.

The firemain has connections under the engineer's department, to the air compressor, the oil cooler, and the shaft bearings, and also acts as a flooding main, by means of fire hose attached to the plugs.

The forward and after trimming tanks are arranged to flood through hose lines via funnels with locked covers, located in the crew's quarters at frames 13 and 163.

A cut out valve is provided in the forward engine room, at frame 114, which may be used to divide the firemain into a forward and after system.

GENERAL NOTES

Pipes are lead lined steel tubing, tinned, in accordance with Navy standard requirements; except discharge to stern tube which is copper, tinned, iron pipe size, with brass fittings. Flanges are of wrought steel. Castings are of composition, tinned. Fire plugs are fitted with 1½-inch Navy standard hose connections, provided with screwed cap and chain. All valves are of composition, globe type, of special light design, and, except hose valves, are fitted with indicators showing clearly when opened or closed. Relief valves are set to 90 lbs. Piping is fitted with drains for draining pockets. Pipes are lagged with ⅛-inch asbestos covered with water-proof oil paper, 10 oz. canvas and painted. All lead lined pipes have the flanges stamped L.L.

CHRONOLOGY

Authorized by Act of Congress	March 4, 1913
Contract signed by Bath Iron Works	October 15, 1913
Contract date of completion (24 months)	October 15, 1915
Contract price	\$884,000.00
First hull material ordered	October 28, 1913
Lines faired in mold loft	January 19, 1914
First large casting received	June 15, 1914
First large casting erected	July 14, 1914
First frame raised	April 25, 1914
First compartment tested	September 2, 1914
Vessel launched	April 29, 1915
Commissioned	

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Bath, Me.

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IMPORTANT: Care tension pipe under main deck