

*Gerty Rudder
Boys.*

S.S. "HAZLEWOOD" & "KIRKWOOD".

366'.0" x 32'.32" x 44'.3"
21'.48"

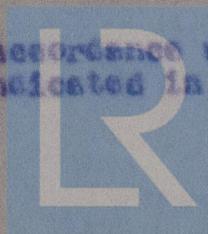
OERTZ RUDDER SPECIFICATION.

Specification.

DRAWING NO. 345A.

- (1) The outline of the rudder to be drawn out full size as per profile in right hand corner of plan. Moulds to be made of the rudder section and applied to a mould made of the stern frame and gudgeon from ship. The section mould to be made for a full angle of 35° angle of helm, port and starboard. The ship mould to be applied to the profile and adjusted so that the requisite clearance between the following edge of the propeller blade and nose is obtained.
- (2) The plate rudder to be uncoupled at coupling, removed and stored to Owners' instructions - new Rudder as described in the under-mentioned Specification to be shipped in position after nose is fitted to stern frame, tried hard over to hard over by hand, in drydock. Coupling holes to be properly set and reamed out, old coupling bolts to be used in and fitted to coupling or new bolts supplied and fitted as found necessary.
- (3) Rudder to be built up of Steel Castings and Plates as follows:-
- (4) Top and bottom pieces to be of good cast steel, as per drawing having flanges and webs, the webs to be modified for contraction in accordance with any reasonable suggestion by the Foundry. The Outline of the Rudder to be strictly adhered to. The Castings to be of best Steel, clean, annealed ~~to~~ in accordance with best practice, Lloyds and Board of Trade Rules and any requirements requested by the Owners Technical staff.
- (5) Pintle or Rudder Arms to be of best Cast Steel as per Plan, and in accordance with the conditions specified in Item 4, the outer flanges to form the framing of the Rudder.

The Pintle holes to be bored out and Pintles fitted, in accordance with Lloyds Rules and Owners' requirements.
- (6) Side plates of Rudder to be in accordance with the Plan and to stop short at butts as indicated in section A.A.



- (7) Portable plates for access to Pintles to be fitted on Port Side, these to be secured by Countersunk headed screws, with heads under flush and finally locked by spot welding, or Brass Countersunk headed screws with Lock-nuts on inside of Rudder. The Starboard side short plate to be rivetted for full length of rudder.
- (8) A vertical stiffener built up of plate of $.54''$ and angles of $3\frac{1}{2}''$ x $3\frac{1}{2}''$ x $.50$. The Plate to be stopped short as indicated in elevation to allow the rivetting of the pintle arms to side plates.
- (9) Vertical closing plates to be supplied and fitted to fore end of Rudder arms as indicated in elevation, these plates to be fitted with manholes to allow the top and bottom ends of the plates to be rivetted, the manholes to be fitted with jointed covers secured with tap bolts, a plate ring to be fitted at back of closing plate to give extra thickness of plate for Tapping holes for tap bolts.
- (10) Horizontal tie plates to be fitted between side plates, and secured with angles of $3\frac{1}{2}''$ x $3\frac{1}{2}''$ x $.52$.
- (11) Vertical angles $8''$ x $4''$ x $.56''$ to be rivetted to the closing plates and side plates as indicated in Section A.A.
- (12) The whole of the work to be carried out efficiently and to the satisfaction of the Classification Society's Surveyor, Owners' Superintendents, and Patentees' Representative.
- (13) All the internal surfaces of the Rudder to be coated with a good bitumen enamel before finally securing the closing plate.
- (14) On completion of the work the Rudder to be tested to a five foot head of water.
- (15) A $\frac{3}{4}''$ Brass Drain Plug to be fitted to the lowest part of the Rudder.

N O S E.

- (16) Moulds to be made from stern frame.
- (17) Angle Bar of $6''$ x $5''$ x $.52''$ to be supplied to correct length each side of stern frame as indicated in section A.A. carefully drilled to stern frame template, countersunk and rivetted off to sternframe as per section A.A. or secured by tap bolts. If tap bolts are used the head of each bolt to be secured after being driven home by spot welding.
- (18) The stern frame to be drilled in accordance with Lloyds requirements for tap bolts and/or through rivets.



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- (19) Nose plate to be supplied, bent to moulds and in accordance with plan, erected and rivetted in position (may be in two pieces with internal buttstraps).
- (20) Filling or top and bottom plates to be fitted and welded over the aperture caused by the nose joining the stern frame. Where the nose joins the stern frame it is to be secured by welding.
- (21) The inside of the surface of the nose to be thoroughly coated with a bitumen enamel before erecting in position.
- (22) The existing stern frame which is to be covered by nose and angles to be sealed and cleaned to bare metal, and afterwards coated with a bitumen enamel, and enclosed angles to be also covered. If zinc plates are fitted to the after post of the stern frame in way of nose they are to be removed.
- (23) Deck stoppers to be set for the rudder to swing to 34 degrees only. Stoppers on steering engine control gear to be also adjusted to 33 degrees.
- (24) Reducing valve of adjustable type to be fitted to steering engine streamline as near engine as possible to reduce engine steam from 110 lbs press to 40 - 60 lbs press.
- (25) Patent plate supplied by Patentee to be secured with tap screws in a suitable position.
- (26) On completion of work and after final inspection by the Owners, Patentees' and Lloyds representatives, the rudder external surfaces to be coated with Dampneys Apexior Paint where in way of a bronze propeller.
- (27) The whole of the work to be carried out efficiently, the best materials used, to the complete satisfaction of the Owners' Superintendent, Patentees' representative and Lloyds Register Surveyor.
- (28) Where tap rivets are necessarily used it must be distinctly understood that the extra strip is to be fitted to allow for additional threads, and moreover, the heads of the rivets are to be under flush and spot welded after being driven home.
- (29) A 3/4" drain plug to be supplied and fitted to the lowest part of the rudder bottom plate.
- (30) On completion of the work a light wood female mould of the full half profile to be supplied for the use of Patentees' Representative before ship undocks.



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