

# REPORT ON OIL ENGINE MACHINERY

25 FEB 1955 No. 112900  
27 APR 1955

Received at London Office  
NEWCASTLE-on-TYNE

of writing Report in Survey held at Waltham-on-Tyne When handed in at Local Office 22.2.1955 Port of NEWCASTLE-on-TYNE

Book No. 744 S. Date, First Survey 19-11-53 Last Survey 8-2-1955  
Number of Visits 84

Single on the Propeller Screw vessel M.V. "SCOTTISH HAWK" Tons Gross 11250  
Net 6420

at Greenock By whom built The Greenock Dockyard Co. Ltd. Yard No. 483 When built 1955

ines made at Waltham-on-Tyne By whom made Waltham Slipway & Eng. Co. Ltd. Engine No. 1058 When made 1955

Boilers made at Waltham-on-Tyne By whom made Waltham Slipway & Eng. Co. Ltd. Boiler No. 1058 When made 1955

Horse Power { Maximum 36400 Owners Scottish Tanker Co. Ltd. Port belonging to Glasgow  
Service 1280

as per Rule 1280 Is Refrigerating Machinery fitted for cargo purposes  Is Electric Light fitted

de for which vessel is intended Waltham Slipway - Dry Dock

4 ENGINES, &c. — Type of Engines Waltham Slipway - Dry Dock 2 or 4 stroke cycle 2 Single or double acting Single

imum pressure in cylinders 640 lb/sq. in. Diameter of cylinders 670 mm Length of stroke 2720 mm No. of cylinders Six No. of cranks Six (three)

Indicated Pressure 85 lb/sq. in. Span of bearings (i.e., distance between inner edges of bearings in of a crank) Between each three three

Is there a bearing between each crank  Revolutions per minute { Maximum 115  
Service 115

Means of ignition Ignition Kind of fuel used Diesel Oil + Heavy (Bulb grade) oil

Wheel dia. 8'-2" Weight 6 tons Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) 4.52 x 10<sup>6</sup> 23.4 x 10<sup>6</sup>

ank dia. of journals as per Rule Approved Crank pin dia. 530 mm Crank webs Mid. length breadth 754 mm Thickness parallel to axis 300 mm  
Semi built All built as fitted 530 mm Mid. length thickness 300 mm shrunk Thickness around eye-hole 221 mm

Wheel Shaft, diameter as per Rule  Intermediate Shafts, diameter as per Rule Approved Thrust Shaft, diameter at collars as per Rule Approved  
as fitted  as fitted 15 7/8" as fitted 500 mm

Shaft, diameter as per Rule  Screw Shaft, diameter as per Rule Approved Is the (tube) screw shaft fitted with a continuous liner   
as fitted  as fitted 17 1/2" as fitted

ize Liners, thickness in way of bushes as per Rule Approved Thickness between bushes as per Rule Approved Is the after end of the liner made watertight in the  
as fitted 27/32" as fitted 13/16"

eller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

he liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-rosive

If two liners are fitted, is the shaft lapped or protected between the liners  Is an approved Oil Gland fitted at the after of stern tube No. If so, state type

Length of bearing in Stern Bush next to and supporting propeller 6'-0 7/8"

propeller, dia. 18'-0" Pitch 12'-8" No. of blades 4 Material Bronze whether moveable No. Total developed surface 132 sq. feet

ment of inertia of propeller including entrained water (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) 80.3 x 10<sup>6</sup> Kind of damper, if fitted None

ethod of reversing Engines Comp. Air Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of igation Forced Thickness of cylinder liners 25 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled  
ugged with non-conducting material Lapped If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned  
to the engine

ooling Water Pumps, No. and how driven  Working F.W.

Spare F.W.  S.W.  Is the sea suction provided with an efficient strainer which can be cleared within the vessel

umps worked from the Main Engines, No. and capacity  Can one be overhauled while the other is at work

umps connected to the Main Bilge Line (No. and capacity of each   
How driven

he cooling water led to the bilges  If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping  
angements

ast Pumps, No. and capacity  Power Driven Lubricating Oil Pumps, including spare pump, No. and size

two independent means arranged for circulating water through the Oil Cooler  Branch Bilge Suctions

and size:—In machinery spaces  In pump room

olds, &c.

ect Bilge Suctions to the engine room bilges, No. and size

all the bilge suction pipes in holds and tunnel well fitted with strum-boxes  Are the bilge suction in the machinery spaces led from easily  
ossible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

all Sea Connections fitted direct on the skin of the Ship  Are they fitted with valves or cocks  Are they fixed  
ciently high on the ship's side to be seen without lifting the platform plates  Are the overboard discharges above or below the deep water line

they each fitted with a discharge valve always accessible on the plating of the vessel  Are the blow off cocks fitted with a spigot and brass covering plate

at pipes pass through the bunkers  How are they protected

at pipes pass through the deep tanks  Have they been tested as per Rule

all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times

he arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery  
ces, or from one compartment to another  Is the shaft tunnel watertight  Is it fitted with a watertight door  worked from

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

in Air Compressors, No. Two No. of stages Three diameters 12 3/4", 10 1/4", 3" stroke 7" driven by Steam engine

illary Air Compressors, No.  No. of stages  diameters  stroke  driven by

ing all Auxiliary Air Compressors, No.  No. of stages  diameters  stroke  driven by

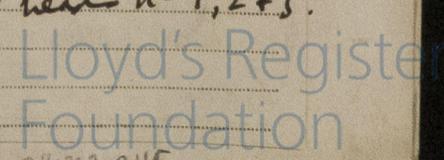
at provision is made for first charging the air receivers Diesel driven + steam driven air compressors

enging Air Pumps or Blowers, No. 3-1700 mm x 549 mm How driven Three from M. Eng. on belt n=1, 2+3

illary Engines Have they been made under survey  Engine Nos.

Makers name  Position of each in engine room

Report No.



AIR RECEIVERS:—Have they been made under survey *Yes* State No. of report or certificate *None*.  
 State full details of safety devices *Reusable plug fitted to each air receiver*.  
 Can the internal surfaces of the receivers be examined and cleaned *Yes*. Is a drain fitted at the lowest part of each receiver *Yes*.

Injection Air Receivers, No. *✓* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*  
 Seamless, welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure *✓*  
 Starting Air Receivers, No. *Two* Total cubic capacity *360 c.ft.* Internal diameter *5'-0"* thickness *17/32"*  
 Seamless, welded or riveted longitudinal joint *Riveted* Material *Steel* Range of tensile strength *Shell 32/36 Ton/□"* Working pressure *600 lbs*  
*Ends 26/30 Ton/□"*

IS A DONKEY BOILER FITTED *Yes, two* If so, is a report now forwarded *Yes*.  
 Is the donkey boiler intended to be used for domestic purposes only *Mr.*  
 PLANS. Are approved plans forwarded herewith for shafting *Crankshaft, Yes* Receivers *Yes* Separate fuel tanks *✓*  
 Donkey boilers *Yes* General pumping arrangements *✓* Pumping arrangements in machinery space *✓*  
 Oil fuel burning arrangements *✓*

Have Torsional Vibration characteristics been approved *Yes*. Date and particulars of approval *17/12/53*.  
 SPARE GEAR.  
 Has the spare gear required by the Rules been supplied *Yes*. State if for "short voyages" only *✓*  
 State the principal additional spare gear supplied *✓*

The foregoing is a correct description and the particulars of the engine are as approved for  
 FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED Manufacturer. *Torsional Vibration characteristics*

Dates of Survey while building  
 During progress of work in shops - - 5.12.18.19. Jun. 3.4.10.17.21.24.30. Jul. 1.2.18.14.18.16.19.20.21.23.27.28.29.30. Aug. 28.24.25.26.30.31. Sep. 1.2.3.8.9.10.13.  
 During erection on board vessel - - 17.20.21.22.23.29. Oct. 1.4.5.6.8.11.12.13.14.15.18.19.20.21.22.25.27.28. Nov. 8.9.17. (1955) Jan. 12.13. Feb. 8.  
 Total No. of visits *84*

Dates of examination of principal parts—Cylinders *19-8-54 To 27-9-54* Covers *✓* Pistons *5-10-54 To 26-9-54* Rods *22-9-54* Connecting rods *13-9-54*  
 Crank shaft *1-9-54* Flywheel shaft *✓* Thrust shaft *1-9-54* Intermediate shafts *✓* Tube shaft *✓*  
 Screw shaft *✓* Propeller *✓* Stern tube *TESTED 12/11/54* Engine seatings *✓* Engine holding down bolts *✓*

Completion of fitting sea connections *✓* Completion of pumping arrangements *✓* Engines tried under working conditions *(SHOP) 9-11-54*  
 Crank shaft, material *Steel* Identification mark *F.P.A. Section: - LLOYDS SLD 202 S.L. COUPLING. LLOYDS 46713 CD 3-2-54 SLD 22-7-54*  
 Thrust shaft, material *Steel* Identification mark *LLOYDS 46767 CD 15-12-53 SLD 22-7-54* Intermediate shafts, material *✓* Identification marks *✓*  
 Tube shaft, material *✓* Identification mark *✓* Screw shaft, material *✓* Identification mark *✓*

Identification marks on air receivers *LLOYDS HWC TESTED 800 LBS WP 600 LBS 19-11-54 S.B.*  
 Welded receivers, state Makers' Name *✓*  
 Is the flash point of the oil to be used over 150°F *✓*  
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *✓*  
 Full description of fire extinguishing apparatus fitted in machinery spaces *✓*  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *✓* If so, have the requirements of the Rules been complied with *✓*  
 What is the special notation desired *✓*  
 If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with *✓*  
 Is this machinery duplicate of a previous case *No*. If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, Speed restrictions, &c.) *This main engine has been constructed under Special Survey in accordance with the requirements of the Rules and the approved plans. The materials and workmanship are good. The engine has been tested in the shop under full load and found satisfactory and has been despatched to Greenock for installation on board.*

*Welded Construction = 85 1/2 tons.*  
 The amount of Entry Fee ... £ *238-0-0*  
 Special Air Rec<sup>rs</sup> ... £ *12-0-0* When applied for *24 FEB 1955*  
 Welded Construct<sup>ns</sup> ... £ *22-15-0* When received *19*  
 Donkey Boiler Fee...  
 Travelling Expenses (if any) £  
 Committee's Minute *GLASGOW 26 APR 1955*  
 Assigned *SEE ACCOMPANYING MACHINERY REPORT*



NEWCASTLE-ON-TYNE  
 Certificate (if required) to be sent to  
 The Surveyors are requested not to write on or below the space for Committee's Minute.  
 AGC 3-5-55