

REPORT ON OIL ENGINE MACHINERY.

No. 24558

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Date of writing Report 10th JANUARY 1952 When handed in at Local Office 16th JANUARY 1952 Port of GREENOCK
No. in Survey held at GREENOCK Date, First Survey 30th OCTOBER 1950 Last Survey 24th DECEMBER 1951
Reg. Book IN D.O. Number of Visits 49

Single on the Twin Triple Quaduple Screw vessel
Built at PORT GLASGOW By whom built W. HAMILTON & CO L^{td} Yard No. 486 When built 1951
Engines made at GREENOCK By whom made JOHN G. KINCAID & CO L^{td} Engine No. 1222 When made 1951
Donkey Boilers made at do By whom made do Boiler No. 1222 When made 1951
Brake Horse Power 4540 2 115 Normal Owners STAMERS REDERI A/S Port belonging to BERGEN
M.N. Power as per Rule 880 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES
Trade for which vessel is intended OPEN SEA SERVICE

OIL ENGINES, &c. — Type of Engines B.W. KINCAID 2 or 4 stroke cycle 4 Single or double acting 5
Maximum pressure in cylinders 650 lb. Diameter of cylinders 20 1/8 Length of stroke 15 1/16 No. of cylinders 8 No. of cranks 8
Mean Indicated Pressure 8.452 kg/cm² Ahead Firing Order in Cylinders 1.4.7.3.5.2.6 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 988 mm Is there a bearing between each crank Yes Revolutions per minute 115
Flywheel dia. 2480 mm Weight 2 1/2 tons Moment of inertia of flywheel (lb.in² or Kg.cm²) 25.16 x 10⁶ Means of ignition Compression Kind of fuel used Diesel
Crank Shaft, (Solid forged Semi built All built) dia. of journals as per Rule 4 1/2 as fitted 5 1/2 Crank pin dia. 5 1/2 Crank webs Mid. length breadth 980 mm Mid. length thickness 300 mm Thickness parallel to axis 330 mm Thickness around eyehole 277.5 mm

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule 20 as fitted Thrust Shaft, diameter at collars as fitted 5 1/2 as per Rule 4 1/2
Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 19 1/2 as fitted Is the tube screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 7/8 Thickness between bushes as per Rule 2 1/2 Is the after end of the liner made watertight in the propeller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner One liner
If the 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-corrosive Yes If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of tube shaft No If so, state type Length of bearing in Stern Bush next to and supporting propeller 8.2

Propeller, dia. 16.9 Pitch 12.9 No. of blades 4 Material Bronze whether moveable No Total developed surface 88 sq. feet
Moment of inertia of propeller (lb.in² or Kg.cm²) 137.6 x 10⁶ Kind of damper, if fitted NONE
Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced Thickness of cylinder liners 53 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Yes Cooling Water Pumps, No. 2 SW. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work Yes
Pumps connected to the Main Bilge Line (No. and size One 100 tons/hr One 170 tons/hr How driven Steam
Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements

Ballast Pumps, No. and size One 170 tons/hr Power Driven Lubricating Oil Pumps, including spare pump, No. and size One 145 tons/hr ME. One 130 tons/hr Steam
Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces Three 2 3/2 Two 2 One 8" dry tank One 8" In pump room
In holds, &c.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size Two 2 6"
Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes Are the bilge suction in the machinery spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

Are all Sea Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks Both Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the overboard discharges above or below the deep water line Above
Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate Yes
That pipes pass through the bunkers None How are they protected

That pipes pass through the deep tanks Have they been tested as per Rule
Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times Yes
Is the 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 spaces, or from one compartment to another Yes Is the shaft tunnel watertight None Is it fitted with a watertight door worked from

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
Main Air Compressors, No. No. of stages diameters stroke driven by
Auxiliary Air Compressors, No. Two No. of stages Two diameters 9 1/4 2 1/4 stroke 7 1/2 driven by Steam
Small Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

What provision is made for first charging the air receivers Steam Compressor as above
Scavenging Air Pumps, No. diameter stroke driven by
Auxiliary Engines crank shafts, diameter as per Rule as fitted No. 1 Position E.R. Platform
Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith YES CERT D25839

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AIR RECEIVERS:—Have they been made under survey Yes State No. of report or certificate Relief valve on supply line
Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes
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. None 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 900 cu ft Internal diameter 6'-0 1/8" thickness 15/16"
Seamless, welded or riveted longitudinal joint Riveted Material SMS Range of tensile strength 79/33 Working pressure 350.54
IS A DONKEY BOILER FITTED Yes If so, is a report now forwarded Yes
Is the donkey boiler intended to be used for domestic purposes only No
PLANS. Are approved plans forwarded herewith for shafting Yes Receivers Yes Separate fuel tanks Yes
Donkey boilers Yes General pumping arrangements Yes Pumping arrangements in machinery space Yes
Oil fuel burning arrangements Yes
Have Torsional Vibration characteristics been approved Yes Date of approval 29-11-48 for 115 apm and 17/6/49
SPARE GEAR.
Has the spare gear required by the Rules been supplied Yes
State the principal additional spare gear supplied See sketch 110705 20544 F 3519 CNH 12-11-51

R. P. Hamford
For JOHN G. KINCAID & COY. LIMITED
The foregoing is a correct description,
Manufacturer.

Chief Draughtsman.
During progress of work in shops - - (1950) Oct. 30-Nov. 1-5-13. Dec. 1-8-18-26-28-29. (1951) Jan. 22-25-30. Feb. 15-20-22. Mar. 6-28. April 2-9-24. May 9-11-15-16-19.
Dates of Survey while building During erection on board vessel - - 21-29-31. June 4-8-11-12-21-26-28. July 17-20-25-26. Aug. 1-2-3-13-20-22-24-27. Sept. 11-12-13-19-20-21. Oct. 12-15. Nov. 5-6-9-12-13-16-19.
Total No. of visits 49
Dates of examination of principal parts—Cylinders 17/7/51 Covers 28/11/51 Pistons 27/6/51 Rods 14-11-51 Connecting rods 14-11-51
Crank shaft 14-11-51 Flywheel shaft ✓ Thrust shaft 14-11-51 Intermediate shafts 12-11-51 Tube shaft ✓
Screw shaft 5-11-51 Propeller 9-11-51 Stern tube 21-6-51 Engine seatings 9-11-51 Engine holding down bolts 27/12/51
Completion of fitting sea connections 9-11-51 Completion of pumping arrangements 27/12/51 Engines tried under working conditions 27/12/51
Crank shaft, material S75 Identification mark 20544 14-11-51 Flywheel shaft, material ✓ Identification mark 110405 CNH
Thrust shaft, material S75 Identification mark 20544 14-11-51 Intermediate shafts, material SMS Identification marks 20544 12-11-51
Tube shaft, material ✓ Identification mark 110405 CNH Screw shaft, material SMS Identification mark 20544 5-11-51
Identification marks on air receivers ✓ 3506 TR 3506 HP HBB 26/6/51
Welded receivers, state Makers' Name ✓
Is the flash point of the oil to be used over 150°F Yes
Have the requirements of the Rules for oil-fuel pipes and tank fittings been complied with Yes
Description of fire extinguishing apparatus fitted Steam under boilers & DF unit 8-2 gal portable in ER all having spare charges
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo Tanker If so, have the requirements of the Rules been complied with ✓
If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with No
Is this machinery duplicate of a previous case Yes (Main engine) If so, state name of vessel KATRINA GFAFE 24399

General Remarks (State quality of workmanship, opinions as to class, &c.)
This machinery has been constructed under Special survey in accordance with the Rules and approved plans. The materials & workmanship are sound & good. The engine & boilers have been efficiently installed in the vessel & tested under full working conditions during a sea trial with satisfactory results. The installation is eligible in my opinion to be Classed in the Society's Register book with Record + LMC 12-51 & Notation Screw shaft CL 2 DB. 150 lb/° FD fitted for oil fuel FP above 150°F.

The amount of Entry Fee ... £251:0
Special ... £7:
Donkey Boiler Fee... £58:10
AIR RESERVOIRS
Travelling Expenses (if any) £16:
When applied for 19
When received 19

Committee's Minute
Assigned + LMC 12.51 Oil Engine
2 DB - 150 lb.

Charles J. Hunter
Engine Surveyor to Lloyd's Register of Shipping.



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