

REPORT ON OIL ENGINE MACHINERY.

Date of writing Report 16-7-47 When handed in at Local Office 19 Port of GROENINGEN
 No. in Survey held at Foxhol Date, First Survey 25th March '47 Last Survey 16-7-47
 Reg. Book. Number of Visits 11

Single on the Twin Triple Quadruple Screw vessel "FERROCIA" Tons Gross 399.99
Net 252.34
 Built at Foxhol By whom built N.V. Schw. "Vooruitgang" Yard No. 160 When built 1947
 Engines made at Amsterdam By whom made N.V. "Werkspoor" Engine No. 921 When made 1946
 Donkey Boilers made at - By whom made - Boiler No. - When made -
 Brake Horse Power 370 Owners Fa. C. Minnaar Port belonging to Overschie
 Nom. Horse Power as per Rule 66 Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted yes.
 Trade for which vessel is intended MN=78 sea going trade.

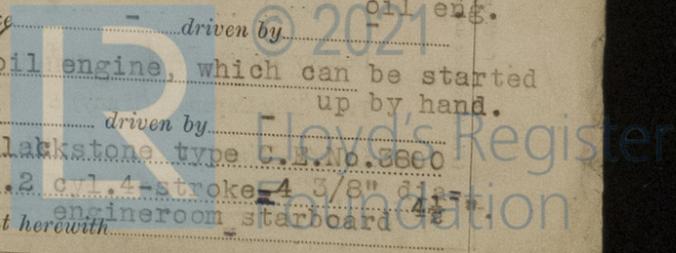
OIL ENGINES, &c. — Type of Engines T.M.A.S. 276
 Maximum pressure in cylinders 48 Kg/cm² 10 7/8" 2 or 4 stroke cycle 4 Single or double acting single
 Mean Indicated Pressure 7.5 Kg/cm² Diameter of cylinders 270 mm Length of stroke 19 1/2" No. of cylinders 6 No. of cranks 6
 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 320 mm Is there a bearing between each crank yes
 Revolutions per minute 325 Flywheel dia. 1120 mm Weight 1250 Kg. Means of ignition compression Kind of fuel used Diesel oil
 Crank Shaft, Solid forged Semi built dia. of journals as per Rule - as fitted 200 mm Crank pin dia. 200 mm Crank webs Mid. length breadth 340 mm Thickness parallel to axis -
 Flywheel Shaft, diameter as per Rule - as fitted - Intermediate Shafts, diameter as per Rule - as fitted 160 mm Thrust Shaft, diameter at collars as per Rule - as fitted 135 mm
 Tube Shaft, diameter as per Rule - as fitted - Screw Shaft, diameter as per Rule - as fitted 150.5 mm Is the tube screw shaft fitted with a continuous liner No.
 Bronze Liners, thickness in way of bushes as per Rule - as fitted 161 in body Thickness between bushes as per Rule - as fitted - Is the after end of the liner made watertight in the propeller boss -
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the 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 -
 If two liners are fitted, is the shaft lapped or protected between the liners - Is an approved Oil Gland or other appliance fitted at the after end of tube shaft yes, If so, state type hollow rubber ring Length of bearing in Stern Bush next to and supporting propeller 640 mm

Propeller, dia. 1700 mm Pitch 1120 mm No. of blades 4 Material bronze whether moveable fixed Total developed surface 55 % x sq. feet
 Method of reversing Engines by hand Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced Thickness of cylinder liners 21 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled yes
 Is 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 (one of which is standby) 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. 1 Rotary size = 15 tons/h. Can one be overhauled while the other is at work yes
 Pumps connected to the Main Bilge Line { No. and size 1 Rotary size = 15 tons/h., 1 Rotary size = 30 tons/h., 1 Rotary size = 30 tons/h.
 How driven 1 attached and 2 driven by belt from main and aux. oil engines.
 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 1 Rotary of 50 tons/h. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 Rotary of 3600 litres/h. Rotary of 3000 litres/h.
 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 2 of 2 1/2" dia. and 2 of 2" dia. In pump room -
 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 plating Are they fitted with valves or cocks valves Are they fixed efficiently 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 -
 Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times yes

Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Is the shaft tunnel watertight yes Is it fitted with a watertight door - worked from -
 Are the arrangements made to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork -
 Air Compressors, No. 1 No. of stages 2 diameters 120/100 mm stroke 90 mm. driven by Main motor
 Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 95/110 mm stroke 85 mm. driven by Belt from main & aux. oil eng.
 Small Auxiliary Air Compressors, No. - No. of stages - diameters - stroke - driven by -
 Is provision made for first charging the air receivers Aux. air compressor driven by aux. oil engine, which can be started up by hand.
 Reversing Air Pumps, No. not fitted diameter - stroke - driven by -
 Auxiliary Engines crank shafts, diameter as per Rule - as fitted 57 mm No. Lister Blackstone type C.B.No.3800 Position 16 H.P. 2 cyl. 4-stroke 4 3/8" dia. engine room starboard
 Have the auxiliary engines been constructed under special survey No. Is a report sent herewith -

9/10/47



AIR RECEIVERS:—Have they been made under survey... yes... State No. of report or certificate... C 1999 Amsterdam

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. not fitted... Cubic capacity of each... Internal diameter... thickness...
 Seamless, lap welded or riveted longitudinal joint... Material... Range of tensile strength... Working pressure...
 by Rules... Actual...

Starting Air Receivers, No. 2... Total cubic capacity... 1240 litre... Internal diameter... 500 mm... thickness... 12 mm
 electric welded... Material... S.M. Steel... Range of tensile strength... 38/44 Kg/cm²... Working pressure... Actual... 30 Kg/cm²

IS A DONKEY BOILER FITTED not fitted so, is a report now forwarded...
 Is the donkey boiler intended to be used for domestic purposes only...

PLANS. Are approved plans forwarded herewith for shafting... 10-2-47 and 2-4-47... Receivers... Separate fuel tanks... 13-5-47
 (If not, state date of approval)

Donkey boilers... General pumping arrangements... 4-10-46... Pumping arrangements in machinery space... 6-6-47
 Oil fuel burning arrangements...

SPARE GEAR.

Has the spare gear required by the Rules been supplied... yes
 State the principal additional spare gear supplied...

The foregoing is a correct description, and the particulars of the installation as fitted are as approved
 Manufacturer... for torsional vibration characteristics.

Dates of Survey while building
 During progress of work in shops... 1942 August 18, Sept. 15, Nov. 26, 1943 Sept. 17, 1945 Sept. 24-25, Nov. 3, Dec. 29, 1946 Feb.
 During erection on board vessel... 1947 March 25, April 2-3-14, June 18, July 1-2-9-11-16.
 Total No. of visits... 20

Dates of examination of principal parts—Cylinders... 24-9-45... Covers... 24-9-45... Pistons... 3-11-45... Rods... Connecting rods... 5-11-43
 Crank shaft... 3-11-45... Flywheel shaft... Thrust shaft... 15-12-41... Intermediate shafts... 18-4-47... Tube shaft...
 Screw shaft... 2-4-47... Propeller... 17-3-43... Stern tube... 2-4-47... Engine seatings... 16-4-47... Engine holding down bolts... 11-7-47
 Completion of fitting sea connections... 9-4-47... Completion of pumping arrangements... 2-7-47... Engines tried under working conditions... 16-7-47.
 Crank shaft, material... S.M. Steel... Identification mark... P.K. 23-2-40... Flywheel shaft, material... Identification mark...
 Thrust shaft, material... S.M. Steel... Identification mark... H.P.B. 15-12-41... Intermediate shafts, material... S.M. Steel... Identification marks... K.K./W.B. 18
 Tube shaft, material... Identification mark... Screw shaft, material... S.M. Steel... Identification mark... K.K./W.B. 2-4-47
 Identification marks on air receivers... No. 8818 - 8819
 Lloyd's test 48.5 Kg. W.P. 30 Kg.
 H.P.B. 24-11-1942.

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... 2 of 1 gallon Foamite apparatus placed in engine room
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... No... 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... not required
 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, &c.)... The machinery has been fitted in accordance with the approved plans. Machinery examined during the trial and found working satisfactory. Torsional vibration characteristics approved by E. letter 11-2-47. *for review of 7 325 r/h*
 The aux. oil engine ordered to be built under special survey could not be delivered in time. An aux. oil engine not being built under special survey is now fitted, opened up, examined and found all good. "Brinell" hardness test taken from crankshaft with satisfactory results.
 In our opinion it may merit the Committee's consideration, to accept this aux. engine for approval.
 We are of opinion that this machinery is eligible for notation * L.M.C. 7-47 Oil engine and O.G. 7-47

The amount of Entry Fee... £ : :
 Special... £ Fl. :200.-... When applied for... 19...
 Donkey Boiler Fee... £ : :... When received... 19...
 Travelling Expenses (if any) £ Fl. : 49.-

Committee's Minute... **FRI. 10 OCT 1947**
 Assigned... **+LMC 7.47 Oil Eng**
O.G.

[Signature]
 Engineer Surveyor to Lloyd's Register of Shipping.

L Lloyd's Register Foundation

Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)