

REPORT ON OIL ENGINE MACHINERY.

No. 63686

Received at London Office APR 18 1941

Port of Glasgow
Date, First Survey 20th May 1938 Last Survey 8th Apr 1941
Number of Visits 31

on the Single Screw vessel MY. EMPIRE GAT Tons Gross
Triple
Quadruple Net

built at Glasgow By whom built A. J. Inglis Ltd Yard No. 1088 When built 1941
engines made at Glasgow By whom made British Auxiliaries Ltd Engine No. 317 When made
Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓
Indicated Horse Power 910.800 Owners Ministry of Shipping Port belonging to
Nominal Horse Power as per Rule 156 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
made for which vessel is intended Coasting

ENGINES, &c.—Type of Engines Heavy oil. M45 M Type 2 or 4 stroke cycle 2st Single or double acting SA
Maximum pressure in cylinders See Gb Report no 61093
Indicated Pressure ✓ Diameter of cylinders ✓ Length of stroke ✓ No. of cylinders ✓ No. of cranks ✓

No. of bearings, adjacent to the Crank, measured from inner edge to inner edge ✓ Is there a bearing between each crank
Revolutions per minute ✓ Flywheel dia. ✓ Weight ✓ Means of ignition ✓ Kind of fuel used ✓

Crankshaft, Solid forged as per Rule ✓ Crank pin dia. ✓ Crank Webs Mid. length breadth Thickens parallel to axis
Semi built dia. of journals as fitted Mid. length thickness shrunk Thickens around eyehole
All built

Wheel Shaft, diameter as per Rule Intermediate Shafts, diameter as fitted Thrust Shaft, diameter at collars as fitted
as fitted as fitted as fitted as fitted

Propeller Shaft, diameter as per Rule Screw Shaft, diameter as per Rule as fitted as fitted
as fitted as fitted as fitted as fitted

Cylinder Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule as fitted as fitted
as fitted as fitted as fitted as fitted

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 the tube ✓

Propeller, dia. 7' 9 3/4" Pitch 5' 1 1/2" No. of blades 4 Material Ma.Br. whether Moveable No Total Developed Surface 23.5 sq. feet
Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of lubrication

Thickness of cylinder liners Are the cylinders fitted with safety valves Are the exhaust pipes and silencers water cooled or lugged with
conducting material If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Operating Water Pumps, No. 1 also ballast & sea service pump Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
Pumps worked from the Main Engines, No. 1 Diameter 100m. Stroke 140m. Can one be overhauled while the other is at work ✓

Pumps connected to the Main Bilge Line No. and Size 1-100 Ton/hr. Ballast pump 1-40 Ton/hr G.S. pump
How driven Electric motor

Is 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 ✓

Oil Pumps, No. and size 1-100 Ton/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2-77 gal/min
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 2-3" 3-2 1/2" In Pump Room ✓

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2-3"
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces
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 Valves
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 ✓

Do pipes pass through the bunkers None How are they protected ✓
Do 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
apartment to another Yes Is the Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

On 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. One No. of stages ✓ Diameters ✓ Stroke ✓ Driven by Main Engine
Auxiliary Air Compressors, No. 1 No. of stages 40ft³/min Diameters ✓ Stroke ✓ Driven by Aux Generator

Small Auxiliary Air Compressors, No. 1 No. of stages 42ft³/min Diameters ✓ Stroke ✓ Driven by Diesel motor
What provision is made for first Charging the Air Receivers Small aux diesel motor
Sustaining Air Pumps, No. One Diameter ✓ Stroke ✓ Driven by M.E.

Auxiliary Engines crank shafts, diameter as per Rule 138.2 m/m No. 2
as fitted 140.2 m/m Position ER
Have the Auxiliary Engines been constructed under special survey Yes Is a report sent herewith Yes



AIR RECEIVERS:—Have they been made under survey *Yes* ✓ State No. of Report or Certificate *C. 39532*

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. ✓ 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 *60ft³* Internal diameter *25½"* thickness *9/16*
 Seamless, lap welded or riveted longitudinal joint *Riv.* Material *Steel* Range of tensile strength *28/12* Working pressure by Rules Actual *350* ✓

IS A DONKEY BOILER FITTED? *No.* ✓ If 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 *Yes* ✓ Receivers *No* ✓ Separate Fuel Tanks *No.* *11/10/40*
 (If not, state date of approval)

Donkey Boilers ✓ General Pumping Arrangements *Yes* ✓ Pumping Arrangements in Machinery Space *Yes* ✓
 Oil Fuel Burning Arrangements ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes* ✓
 State the principal additional spare gear supplied *See separate list.*

The foregoing is a correct description.

J. J. J. J. J. Manufacturer.

Dates of Survey while building
 During progress of work in shops: 1938 May 20 Nov: 15 Dec: 7. 12. 14 (1939) Feb: 3. 16. 17. 21. 22 May: 1. 2. 9 = 13
 During erection on board vessel: 1940 Aug: 23 Oct: 16 Nov: 25 Dec: 10. 16 (1941) Jan: 7. 15. 27 Feb: 14. 17. 24 Mar: 11. 10. 12. 19 Apr: 1
 Total No. of visits *31*

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods
 Crank shaft Flywheel shaft Thrust shaft Intermediate shafts Tube shaft
 Screw shaft *15-1-41* Propeller *15-1-41* Stern tube *25-11-40* Engine seatings *16-10-40* Engines holding down bolts *24-2-41*
 Completion of filling sea connections *25-11-40* Completion of pumping arrangements *19-3-41* Engines tried under working conditions *12-3-41*

Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark *10113*
 Thrust shaft, Material Identification Mark Intermediate shafts, Material *Steel* Identification Marks *998 PF*
 Tube shaft, Material Identification Mark Screw shaft, Material *Steel* Identification Mark *10113*
999 PF

Identification Marks on Air Receivers *LDS No 39532/1/2*
WP. 350
TP 550
A.S.B. 25/10/40

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* ✓

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 ✓

Is this machinery duplicate of a previous case If so, state name of vessel.

General Remarks (State quality of workmanship, opinions as to class, &c. *This machinery, main and auxiliary, has been satisfactorily fitted on board, tested under working conditions and found in order. The workmanship is good and in my opinion the vessel is eligible for a record + LMC (3-41) and DG (3-41).*

The requirements of the Ministry of Shipping Specification have been carried out satisfactorily.

906
16/4/41

The amount of Entry Fee .. £	When applied for,	
Special £	19	
Donkey Boiler Fee £	When received,	
Travelling Expenses (if any) £	19	

J.R. Dale
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 16 APR 1941*
 Assigned *-1- LMC H. 41* subject

