

REPORT ON, OIL ENGINE MACHINERY.

No 14451.

AUG 12 1940

Date of writing Report 25th July 1940 When handed in at Local Office

Port of Bristol

No. in Survey held at Reg. Book.

Date, First Survey 20th JuneLast Survey 22nd July 1940

Number of Visits 2

88050 on the ~~Single~~ ~~Triple~~ ~~Quadruple~~ Screw vessel

M.V. "EMPIRE CRAG"

Tons Gross 332 Net 153

Built at Dursley

By whom built James P. & Co. Ltd.

Yard No. 1777 When built 1941

Engines made at Dursley

By whom made R. A. Lister & Co. Ltd.

Engine No. 358031 When made 1940.

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power 7.2.

Owners Ministry of Shipping

Port belonging to London

Nom. Horse Power as per Rule 440

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted yes

Trade for which vessel is intended

IL ENGINES, &c.—Type of Engines 6. D. Airless Injection 2 or 4 stroke cycle 4 Single or double acting single.

Maximum pressure in cylinders 800 lbs.

Diameter of cylinders 4 1/2"

Length of stroke 4 3/8"

No. of cylinders one

No. of cranks one.

Mean Indicated Pressure 109.6 lbs.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 4 7/8"

Revolutions per minute 1000.

Flywheel dia. 23 1/2 x 15" face

Weight 342 lbs.

Means of ignition Compression

Kind of fuel used Diesel Oil.

Crank Shaft, { Solid forged
Semi built
All built

dia. of journals as per Rule 23 3/8"

Crank pin dia. 2 3/4"

Crank Webs

Mid. length breadth 3 1/2"

Mid. length thickness 1 5/16"

Thrust Shaft, diameter at collars as per Rule as fitted

Flywheel Shaft, diameter as per Rule 2 1/4"

Intermediate Shafts, diameter as per Rule as fitted

Tube Shaft, diameter as per Rule as fitted

Screw Shaft, diameter as per Rule as fitted

Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per Rule as fitted

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 the tube

If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced

Thickness of cylinder liners 266. Are the cylinders fitted with safety valves no. Are the exhaust pipes and silencers water cooled or lagged with

on-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

Cooling Water Pumps, No. one plunger type Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size How driven

Is the 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 arrangements

Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces In Pump Room

In Holds, &c. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

d from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

Are they fixed sufficiently 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

Are 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

That pipes pass through the bunkers 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

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

Is the Shaft Tunnel watertight 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. No. of stages Diameters Stroke Driven by

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

That provision is made for first Charging the Air Receivers

Savenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position

Have the Auxiliary Engines been constructed under special survey Is a report sent herewith

AIR RECEIVERS: - Have they been made under survey... State No. of Report or Certificate
Is each receiver, which can be isolated, fitted with a safety valve as per Rule
Can the internal surfaces of the receivers be examined and cleaned
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. Total cubic capacity Internal diameter thickness
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

IS A DONKEY BOILER FITTED? 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 No. Receivers Separate Fuel Tanks

Donkey Boilers General Pumping Arrangements Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied?

State the principal additional spare gear supplied

The foregoing is a correct description,

p.p. R.A.LISTER (MARINE SALES) LTD. Manufacturer.

Dates of Survey while building During progress of work in shops - - 20-6-40. 22-7-40.
During erection on board vessel - -
Total No. of visits
Dates of Examination of principal parts - Cylinders 20-6-40 Covers Pistons 20-6-40 Rods Connecting rods 20-6-40.
Crank shaft 20-6-40. Flywheel shaft 20-6-40 Thrust shaft Intermediate shafts Tube shaft
Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts
Completion of filling sea connections Completion of pumping arrangements Engines tried under working conditions 22-7-40.
Crank shaft, Material Steel Identification Mark 29 S Flywheel shaft, Material as crankshaft Identification Mark
Thrust shaft, Material Identification Mark Intermediate shafts, Material Identification Marks
Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark
Identification Marks on Air Receivers

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

Description of fire extinguishing apparatus fitted

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

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 auxiliary Oil Engine has been built under Special Survey and in accordance with approved plan. All parts were examined in a finished machined condition before assembly. Cylinder head & jacket tested with hydraulic pressure 100lb per sq. inch. The materials & workmanship have been found good.

Upon completion the engine was examined running on test bed under full load conditions and found satisfactory. For identification purposes the engine has been stamped Lloyd's Test 1909 20-6-40 S

This Engine has been made to the order of Messrs James Pollock, Sons & Co Ltd, their order 22610/F. This engine has been fitted on board and run under full load conditions with satisfactory results. J. J. Surpin

The amount of Entry Fee .. £ 3 : 3 : When applied for, 6-8-1940
Special £ : : When received, 15-19-40
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : 15 : 19-40

Committee's Minute

Assigned

FRI. 11 JUL 1941

See Lon. G.C. 109702

J. Brooke Smith

Engineer Surveyor to Lloyd's Register of Shipping.



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