

REPORT ON OIL ENGINE MACHINERY.

No. 80096

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Date of writing Report 25th March 1953 When handed in at Local Office 26.3.1953 Port of Glasgow
 No. in Reg. Book. 40110 Survey held at Glasgow Date, First Survey 27th November 1952 Last Survey 16th Jan. 1953
 Supplement. Single on the Motor vessel "TEESWOOD" Number of Visits 12

Built at Burntisland By whom built The Burntisland Shipbuilding Co. Ltd. Yard No. 359 When built 1952
 Engines made at Govan, Glasgow By whom made British Polar Engines Ltd. Engine No. E882 When made 1952
 Donkey Boilers made at N/A By whom made Boiler No. 1 When made 1952
 Brake Horse Power 800 Owners Constantine Lines Ltd. Port belonging to Glasgow
 M.N. as per Rule 160 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 Heavy Oil Engine H45H Type 2 or 4 stroke cycle 2 Single or double acting Single
 Maximum pressure in cylinders 855 lbs./sq. in. Diameter of cylinders 340 mm Length of stroke 510 mm No. of cylinders 5 No. of cranks 5
 Mean Indicated Pressure 101.5 lbs. per sq. in. Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 494 mm Is there a bearing between each crank Yes Revolutions per minute 250
 Flywheel dia. 1186 mm Weight 1250 lbs Moment of inertia of flywheel (lbs. in² or Kg. cm²) 821 Means of ignition COMP Kind of fuel used S.H.O.

Crank Shaft, Solid forged dia. of journals 235 mm Crank pin dia. 235 mm Crank webs 324 mm Thickness parallel to axis 130 mm
 Flywheel Shaft, diameter 235 mm Intermediate Shafts, diameter 235 mm Thrust Shaft, diameter at collars 240 mm

Tube Shaft, diameter 235 mm Screw Shaft, diameter 235 mm Is the tube shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes 25.5 mm Thickness between bushes 25.5 mm 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 Yes
 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 fitted at the after end of stern tube Yes

Propeller, dia. 235 mm Pitch 235 mm No. of blades 3 Material Steel whether moveable Yes Total developed surface 16.9 sq. feet
 Moment of inertia of propeller including entrained water (lbs. in² or Kg. cm²) 16.9 Kind of damper, if fitted Yes

Method of reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of lubrication FORCED Thickness of cylinder liners 25.5 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. and how driven ONE MAIN ENG. Working F.W. Yes
 S.W. Yes Spare F.W. Yes 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. and capacity ONE 6000 G.P.H. Can one be overhauled while the other is at work Yes
 Pumps connected to the Main Bilge Line ONE No. and capacity of each 6000 G.P.H. How driven MAIN ENG.

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

Ballast Pumps, No. and capacity 2 OFF 4600 G.P.H. each Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 OFF 4600 G.P.H. each

Are two independent means arranged for circulating water through the Oil Cooler Yes Branch Bilge Suctions Yes
 No. and size:—In machinery spaces Yes In pump room Yes

In holds, &c. Yes Direct Bilge Suctions to the engine room bilges, No. and size Yes

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 Yes 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 Yes 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

What pipes pass through the bunkers Yes How are they protected Yes Have they been tested as per Rule Yes

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 Yes Is it fitted with a watertight door Yes worked from Yes

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

Main Air Compressors, No. ONE No. of stages TWO diameters 70/175 mm stroke 350 mm driven by MAIN ENG.

Auxiliary Air Compressors, No. ONE No. of stages TWO diameters 70/175 mm stroke 350 mm driven by MAIN ENG.

Small Auxiliary Air Compressors, No. ONE No. of stages TWO diameters 70/175 mm stroke 350 mm driven by MAIN ENG.

What provision is made for first charging the air receivers Yes Seavenging Air Pumps or Blowers, No. ONE How driven MAIN ENG.

Auxiliary Engines ONE Have they been made under survey Yes Engine Nos. 1 Makers name British Polar Engines Ltd. Position of each in engine room Yes Report No. 1

AIR RECEIVERS:—Have they been made under survey...

State No. of report or certificate C 99233 C 99234

State full details of safety devices. Safety valve fitted also fusible plug.

Can the internal surfaces of the receivers be examined and cleaned...

Is a drain fitted at the lowest part of each receiver...

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 66 cu ft

Internal diameter 25 1/2"

thickness 5/8"

Seamless, welded or riveted longitudinal joint...

Material H.S.

Range of tensile strength 26/32 T

Working pressure 355 lbs/sq. in.

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...

(If not, state date of approval)

Receivers 24-4-52

Separate fuel tanks...

Donkey boilers...

General pumping arrangements...

Pumping arrangements in machinery space...

Oil fuel burning arrangements...

Have Torsional Vibration characteristics been approved...

YES

Date and particulars of approval...

23-2-52

Service speed of 250 RPM

SPARE GEAR.

Has the spare gear required by the Rules been supplied...

YES

State if for "short voyages" only...

long voyages.

State the principal additional spare gear supplied...

The foregoing is a correct description,

Thos & Rueland

for BPE LTD

Manufacturer.

Dates of Survey while building

During progress of work in shops -

1952. Nov 27, 28. Dec 1 to 30. 1953 Jan. 16.

During erection on board vessel -

Total No. of visits

ENG. 12.

Dates of examination of principal parts—

Cylinders

Covers

Pistons

Rods

Connecting rods

Crank shaft

Propeller

Stern tube

Engine seatings

Engine holding down bolts

Completion of fitting sea connections

Completion of pumping arrangements

Engines tried under working conditions

Crank shaft, material

Identification mark

Thrust shaft, material

Identification mark

Tube shaft, material

Identification mark

Identification marks on air receivers

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

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

General Remarks

(State quality of workmanship, opinions as to class, Speed restrictions, &c.)

This engine has been built under Special Survey in accordance with the Secretary's letter and approved plans. The materials and workmanship are good and on completion the engine was tried on the test bed at the makers works with satisfactory results. It has now been dispatched to the Burntisland S.B. Co. Ltd to be fitted to their ship IP 359 and is eligible in my opinion for the record of H.M.C. (with date) when efficiently installed on board. The torsional vibration characteristics have been approved for a service speed of 250 R.P.M.

The amount of Entry Fee ... £ 52 : 0

Special ... £

Donkey Boiler Fee... £

Travelling Expenses (if any) £

Committee's Minute

Assigned

When applied for

When received

GLASGOW

31 MAR 1953

A. G. Smith
Engineer Surveyor to Lloyd's Register of Shipping

Lloyd's Register
Foundation