

REPORT ON OIL ENGINE MACHINERY.

No. 11585.

28 AUG 1945

Received at London Office

Date of writing Report 8/11 1943 When handed in at Local Office 1943 Port of Copenhagen

No. in Survey held at Copenhagen Date, First Survey 23/10 1942 Last Survey 1/11 1943 Number of Visits 45

on the Single Screw vessel DESIGNATED "ARSENAL II" Tons Gross Net

built at Lisbon By whom built Arsenal do Alfite Yard No. When built

engines made at Copenhagen By whom made A. Bunnings & Wain Engine No. 3624 When made 1943

Boilers made at By whom made Boiler No. When made

Indicated Horse Power 4400 at 120 revs. Owners A/S 4900 at 125 revs. Port belonging to

nom. Horse Power as per Rule 935 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended

ENGINES, &c. Type of Engines 2 V DIESEL TRUNK PISTON, SOLID INJECT. 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 49 kg/cm² Diameter of cylinders 24 7/16 620 mm Length of stroke 45 5/16 1150 mm No. of cylinders 9 No. of cranks 9

Indicated Pressure 6.5 kg/cm² Revolutions per minute 120 Flywheel dia. 4200 mm BALANCE Weights 60 = 11500 kg Means of ignition COMPRESSION Kind of fuel used HEAVY OIL

Is there a bearing between each crank YES

Shaft, dia. of journals as per Rule 415 mm as fitted 435 mm Crank pin dia. 435 mm Crank Webs Mid. length breadth 1020 mm Thickness parallel to axis 270 mm

Wheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule 340 mm as fitted 350 mm Thrust Shaft, diameter at collars as per Rule 357 mm as fitted 400 mm

Screw Shaft, diameter as per Rule as fitted 389.5 mm Is the shaft fitted with a continuous liner No. 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

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

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. 4950 mm Pitch 3550 mm at 0.7 R. No. of blades 4 Material CR. STEEL whether Moveable No. Total Developed Surface 8.8 M²

Method of reversing Engines DIRECT REVERS. Is a governor or other arrangement fitted to prevent racing of the engine when disengaged YES Means of lubrication

Thickness of cylinder liners 42 mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with

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

Operating Water Pumps, No. 1 - 4 - 9 = 12 = 12 STEAM DRIVEN Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Oil Pumps worked from the Main Engines, No. 2 Diameter 165 mm Stroke 230 mm Can one be overhauled while the other is at work

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

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

Oil Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 OFF 190 TS, CHAIN DRIVEN 9 = 12 = 12 STEAM DRIVEN

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

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes 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

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

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

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

all pipes pass through the bunkers How are they protected

all pipes pass through the deep tanks Have they been tested as per Rule

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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 Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

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

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

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

provision is made for first Charging the Air Receivers

Operating Air Pumps, No. 2 OFF ROTARY CAPACITY 2 x 2 1/4 M³/MIN. Stroke Driven by MAIN ENGINE

Auxiliary Engines crank shafts, diameter as per Rule as fitted Position

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



AIR RECEIVERS:—Have they been made under survey YES 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 Is a drain fitted at the lowest part of each receiver

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 14 4³ Internal diameter 1830-1782 7 thickness 24 ENN
Seamless, lap welded or riveted longitudinal joint RIVETED Material S.M. STEEL Range of tensile strength 47.5-55 1/2 Working pressure by Rules 25.5 ATM. Actual 25 ATM.

IS A DONKEY BOILER FITTED? If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only Noted in Log. 12.11.43
PLANS. Are approved plans forwarded herewith for Shafting YES Receivers YES Separate Fuel Tanks YES

Donkey Boilers General Pumping Arrangements Noted in Log 12.11.43 Pumping Arrangements in Machinery Space
Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes
State the principal additional spare gear supplied One propeller shaft complete.

The foregoing is a description, BURMEISTER & WAIN'S MASKIN OG SKIBSBYGGERI

Manufacturer.

Dates of Survey while building
During progress of work in shops-- 1942: 23/10, 31/10, 4/11, 7/11, 17/11, 22/11, 23/11, 1943: 5/1, 19/1, 27/1, 16/2, 25/2, 2/3, 19/3, 2/4, 9/4, 16/4, 22/4, 8/5, 12/5, 25/5, 31/5, 16/6
During erection on board vessel-- 2/7, 16/7, 20/7, 29/7, 9/8, 9/8, 11/8, 12/8, 23/8, 2/9, 7/9, 10/9, 20/9, 2/9, 22/9, 16/10, 18/10, 28/10, 1/11
Total No. of visits 45

Dates of Examination of principal parts—Cylinders with Covers 8/20, 16/18, 10/10 Pistons 16/6, 16/10 Rods Connecting rods 19/11, 27/11
Crank shaft 5/7, 12/5, 43 Flywheel shaft Thrust shaft 25/2, 2/3, 25/5, 43. Intermediate shafts 16/2, 19/3, 16/6, 43 Tube shaft
Screw shaft 16/2, 19/3, 16/4, 43. Propeller Stern tube 9/4, 43. Engine seatings Engines holding down bolts 20/9, 21/9, 22/9

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions 19/9, 21/9, 22/9
Crank shaft, Material S.M. steel Identification Mark LLOYD'S N° 5926-7 Flywheel shaft, Material Identification Mark
Thrust shaft, Material S.M. steel Identification Mark LLOYD'S N° 5939 Intermediate shafts, Material S.M. steel Identification Marks CK 16.6
CONN. RODS Identification Mark LLOYD'S N° 5937-8 Screw shaft, Material S.M. steel Identification Mark LLOYD'S N° 5940
Tube shaft, Material S.M. steel Identification Mark 4 25.5.43 Identification Mark CK 16.6.43

Identification Marks on Air Receivers
LLOYD'S TEST
41 ATM.
W.P. 25 ATM.
4 29.7.43

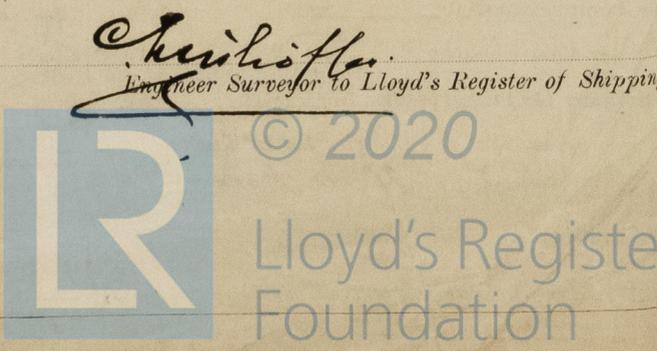
Is the flash point of the oil to be used over 150° F. Yes
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo If so, have the requirements of the Rules been complied with
If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with
Is this machinery duplicate of a previous case No. If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)
This engine has been constructed under special survey and in accordance with Society's Rules and the plans approved in this office. The material has been examined and tested as per Rules and found satisfactory and the workmanship is good. The engine has been tested under full power on the test-bed and found to be satisfactory.
When the engine, which is intended for a tank vessel being built at Lisburn, has been fitted under special survey and in accordance with the Rules it is in my opinion, be eligible for notation of +LMC with class, OIL ENGINE in the Register Book.

The amount of Entry Fee .. £ 90.00 : When applied for, 9/11 1943
2/3 Special ... £ 1848.00 :
Donkey Boiler Fee ... £ 100.00 : When received, 17/11 1944
1 STARTING AIR RECEIVER
Travelling Expenses (if any) £ :

Committee's Minute FRI. 16 APR 1948

Assigned See F.E. Mchly. rpt.



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