

REPORT ON OIL ENGINE MACHINERY.

No. 24176^a

Received at London Office

Date of writing Report 1939 When handed in at Local Office 10 Port of Liverpool Hamburg
 No. in Survey held at Reg. Book. 23490 on the Single Triple Quadruple Screw vessel DRUPA.
 Date, First Survey 10 August 1939 Last Survey 1939 Number of Visits 39

Tons Gross 8102
Net 4754
 Built at Hamburg By whom built Deutsche Werft A.G. Yard No. 218 When built 1939
 Engines made at Augsburg By whom made Maschft. Augsburg-Nurnbg. Engine No. When made 1939
 Donkey Boilers made at Hamburg By whom made Deutsche Werft A.G. Boiler No. 766 When made 1939
 Brake Horse Power Owners Port belonging to
 Nom. Horse Power as per Rule 502. Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES
 Trade for which vessel is intended Carrying Petroleum in bulk.

OIL ENGINES, &c.—Type of Engines Heavy Oil. M.A.N. K.8.V. 65/140 2 or 4 stroke cycle 4 Single or double acting yes
 Maximum pressure in cylinders 49 kgs/cm Diameter of cylinders 650 mm Length of stroke 1400 mm No. of cylinders 8 No. of cranks 8
 Mean Indicated Pressure Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm Is there a bearing between each crank yes
 Revolutions per minute 120 Flywheel dia. 2100 mm Weight 5500 kgs Means of ignition Compression Kind of fuel used Diesel
 Crank Shaft, Solid forged dia. of journals as per Rule 456 mm as fitted 460 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth 870 mm Thickness parallel to axis 267/290 mm
Semi built as fitted 460 mm Mid. length thickness 267/290 mm Thickness around eyehole 204 mm
All built
 Flywheel Shaft, diameter as per Rule 456 mm as fitted 460 mm Intermediate Shafts, diameter as per Rule 326 mm as fitted 470 mm Thrust Shaft, diameter at collars as per Rule 342 mm as fitted 460 mm
 Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 358 mm as fitted 420 mm Is the inboard shaft fitted with a continuous liner yes
 Bronze Liners, thickness in way of bushes as per Rule 18.5 mm as fitted 23 mm Thickness between bushes as per Rule 14 mm as fitted 17 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
 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 shaft If so, state type Length of Bearing in Stern Bush next to and supporting propeller 1650 mm

Propeller, dia. 4725 mm Pitch 3660 mm No. of blades 4 Material Bronze whether Moveable Total Developed Surface 6.416 sq. feet
 Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication Forced
 Thickness of cylinder liners 45 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled lagged with non-conducting material Cooled If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine up funnel
 Cooling Water Pumps, No. 1 for cylinders (rotary) 1 spare steam Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes Port + 1st. 2nd.
 Bilge Pumps worked from the Main Engines, No. 2 Diameter Rotary Chain drive Can one be overhauled while the other is at work yes
 Pumps connected to the Main Bilge Line No. and Size 2 @ 35 t/h each 1 @ 75 t/h How driven Main Engine Steam
 Is the cooling water led to the bilges cyln-sea If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements

Cargo Ballast Pumps, No. and size 4 @ 6x6x6 2 drain pumps Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 Gear Pump - Main Eng. 1 spare steam 200x250x200
 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 3 @ 90 m/m branch, Main pump room 2 @ 80 m/m, For pump room 1 @ 50 m/m In Pump Room
 In Holds, &c. Fore hold 2 @ 50 m/m
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 200x200x250 2 1 Emergency @ 183 m/m
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions 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 Sea Connections fitted direct on the skin of the ship yes non built box Are they fitted with Valves or Cocks Both
 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
 What pipes pass through the bunkers How are they protected
 What 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 compartment to another Yes 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. Solid Injection No. of stages Diameters Stroke Driven by Steam + Diesel
 Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 210/85 mm Stroke 180 mm Driven by
 Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
 What provision is made for first Charging the Air Receivers
 Scavenging Air Pumps, No. Diameter Stroke Driven by
 Auxiliary Engines crank shafts, diameter as per Rule as fitted 110 mm No. Position
 Have the Auxiliary Engines been constructed under special survey Yes Is a report sent herewith Yes



Std Top. No 1201 LLOYDS TEST
 583 Ch. W.P. 355 Ch. H.R. 17-3
 Std lower No 1202 LLOYDS TEST
 583 Ch. W.P. 355 Ch. H.R. 17-3 Rpt.

AIR RECEIVERS:—Have they been made under survey yes State No. of Report or Certificate 583 Ch. W.P. 355 Ch. H.R. 17-3
 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. Solid none 2 Cubic capacity of each 3.5 Cub ft each Internal diameter 255 mm thickness 6 mm
 Seamless, lap welded or riveted longitudinal joint Seamless Material S.M. Steel Range of tensile strength Working pressure by Rules 30 kg/cm²
Starting Air Receivers, No. 2 Total cubic capacity 23 Cub. M. Internal diameter 1500 mm thickness 21 mm
 Seamless, lap welded or riveted longitudinal joint T.R. D.B.S Material Steel Range of tensile strength 47-53 kg/cm² Working pressure by Rules 25 kg/cm²

IS A DONKEY BOILER FITTED? yes If so, is a report now forwarded? yes
 Is the donkey boiler intended to be used for domestic purposes only no

PLANS. Are approved plans forwarded herewith for Shafting 18/7/39 Receivers 6/2/37 Separate Fuel Tanks
 (If not, state date of approval) 19/2/37
 Donkey Boilers 13/1/38 3 2/8/34 General Pumping Arrangements 6/11/38 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 1 Solid 4 bladed C. I propeller. 1 Screws shaft.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
 { During erection on board vessel - - }
 Total No. of visits

Dates of Examination of principal parts—Cylinders	Covers	Pistons	Rods	Connecting rods
Crank shaft	Flywheel shaft	Thrust shaft	Intermediate shafts	Tube shaft
Screw shaft	Propeller	Stern tube	Engine seatings	Engines holding down bolts
Completion of fitting sea connections	Completion of pumping arrangements	Engines tried under working conditions		
Crank shaft, Material	Identification Mark	Flywheel shaft, Material	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
 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.)

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

H. Sutherland
 Engineer Surveyor to Lloyd's Register of Shipping.



Committee's Minute
 Assigned + dmb. 8.29 oil inf
58-1800

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

FRI. 23 FEB 1940