

REPORT ON OIL ENGINE MACHINERY.

No. 15220A
APR 13 1930

Received at London Office

Date of writing Report 9 April 1930 When handed in at Local Office 19 Port of Amsterdam
No. in Survey held at Amsterdam Date, First Survey 15 June Last Survey 4 April 1930
Reg. Book. Number of Visits 49

584 on the ^{Single} ^{Twin} ^{Triple} ^{Quadruple} Screw vessel "M.V. OTINA"
Tons ^{Gross} 6216.62 ^{Net} 3603.90

Built at Odense By whom built Odense's Skibvaerkft's Yard No. 73 When built 1930
Engines made at Amsterdam By whom made N.V. Werkspoor Engine No. 706 When made 1930
Donkey Boilers made at Amsterdam By whom made do D. Boiler No. 2790 When made 1930
Brake Horse Power 2800 Owners THE ANGLO SAXON PETROLEUM CO. LD Port belonging to LONDON
Nom. Horse Power as per Rule 377 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES
Trade for which vessel is intended OCEAN GOING OIL CARRIER

L ENGINES, &c.—Type of Engines Diesel ^{25%} ^{55%} ⁴ Single or double acting ^{single}
Maximum pressure in cylinders 700 lbs Diameter of cylinders 650 mm Length of stroke 1400 mm No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure 135 lbs

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. 2260 mm Weight 6000 kg Means of ignition ⁴⁴¹ ³¹² ³ ³²⁵ Kind of fuel used Diesel oil
Crank Shaft, ^{Solid forged} ^{Semi built dia. of journals} ^{All built} as per Rule ⁴⁴¹ ³¹² ³ ³²⁵ approved as fitted 460 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth 870 mm Thickness parallel to axis 4
Flywheel Shaft, diameter as per Rule ⁴⁴¹ ³¹² ³ ³²⁵ approved as fitted 500/340 mm Intermediate Shafts, diameter as per Rule ⁴⁴¹ ³¹² ³ ³²⁵ approved as fitted 350 mm Thrust Shaft, diameter at collars as per Rule ⁴⁴¹ ³¹² ³ ³²⁵ approved as fitted 340 mm Thickness around eye-hole 4

Tube Shaft, diameter as per Rule ⁴⁴¹ ³¹² ³ ³²⁵ approved as fitted 370 mm Screw Shaft, diameter as per Rule ⁴⁴¹ ³¹² ³ ³²⁵ approved as fitted 370 mm Is the ¹²¹² ¹²¹² tube ¹²¹² ¹²¹² shaft fitted with a continuous liner YES

Bronze Liners, thickness in way of bushes as per Rule ¹⁷¹ ¹²¹² ¹²¹² approved as fitted 19.5 mm Thickness between bushes as per Rule ¹⁷¹ ¹²¹² ¹²¹² approved as fitted 15 mm 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 YES

Does 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 or other appliance fitted at the after end of the tube YES
If so, state type YES Length of Bearing in Stern Bush next to and supporting propeller 1480 mm

Propeller, dia. 4200 mm Pitch 35 Domm No. of blades 4 Material Bronze whether Moveable NO Total Developed Surface 62 sq. feet
Method of reversing Engines by air Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of lubrication Grease
Thickness of cylinder liners 55 mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with non-conducting material water If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine funnel

Boiling Water Pumps, No. 3 ³ ³ ³ 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. 2 ² ² ² Diameter ² ² ² Stroke 35 mm Can one be overhauled while the other is at work YES
Pumps connected to the Main Bilge Line No. and Size 2 rotary type 35 mm and 1 duplex 8" x 8" x 10" How driven Main engine Steam driven

Is the 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
Ballast Pumps, No. and size one 8" x 8" x 10" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 rotary 40 mm/min 1 duplex 8" x 8" x 10"
Are there 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 In Pump Room

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

Are the pipes that pass through the bunkers YES How are they protected YES
Are the pipes that pass through the deep tanks 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

Are all wood vessels, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork YES
Main Air Compressors, No. 1 No. of stages 2 Diameters 206-184 Stroke 160 mm Driven by 6 one by Steam engine 5 " " Diesel "

Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 206-184 Stroke 160 mm Driven by 6 one by Steam engine 5 " " Diesel "
Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 206-184 Stroke 160 mm Driven by 6 one by Steam engine 5 " " Diesel "

Is any special provision made for first Charging the Air Receivers 1 compressor driven by steam engine
Are there any Air Pumps, No. 1 Diameter 206 Stroke 160 mm Driven by 6 one by Steam engine 5 " " Diesel "

Auxiliary Engines crank shafts, diameter as per Rule 441 312 3 325 approved as fitted 370 mm Position 3412 3412 3412 3412
Have the Auxiliary Engines been constructed under special survey YES Is a report sent herewith YES



FOR REMAINING ITEMS PLEASE SEE COPENHAGEN RPT. NO.

15220-027

AIR RECEIVERS:—Have they been made under survey Yes State No. of Report or Certificate 4446-4447 H.P. 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. - Cubic capacity of each - Internal diameter - thickness -
 Seamless, lap welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure -
Starting Air Receivers, No. 2 Total cubic capacity 300 cub feet Internal diameter 1495 mm thickness 21 mm
 Seamless, lap welded or riveted longitudinal joint welded Material SMS Range of tensile strength 29.0-34.5 Working pressure -

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 Yes

PLANS. Are approved plans forwarded herewith for Shafting E 29-1-37 x 22-4-37 Receivers 25-11-37 Separate Fuel Tanks -
 (If not, state date of approval)
 Donkey Boilers E 10-1-37 General Pumping Arrangements - Pumping Arrangements in Machinery Space 20-4-37
 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,
WERKSPOOR N.V. Shuppen Manufacturer.

Dates of Survey while building
 During progress of work in shops— June 15-19, July 20, Aug 13, Sept 27, Oct 4-8-9-17-12, 14-16-18-21-22, Nov 1-4-8-17-18-23-24, Jan 4-10-18, 14, 16, 18, 21, 25 Feb 1-2-4-8-10-25-26, March 2-4-7-9-15-21-22-24-25, April 1-4.
 During erection on board vessel— -
 Total No. of visits -

Dates of Examination of principal parts—Cylinders 19 Jan 12-15 Covers 19 Jan 12 Feb Pistons 20 Nov 17 Dec Rods 7 Feb 21 March Connecting rods 1 Dec 14 Jan
 Crank shaft 17 Nov 12 Jan 8 March Flywheel shaft 8 March Thrust shaft 17 Dec 19 Jan 8 March Intermediate shafts 17 Dec 4 March Tube shaft -
 Screw shaft 17 Dec 21 Feb Propeller - Stern tube 7 March Engine sealings - Engines holding down bolts -

Completion of fitting sea connections - Completion of pumping arrangements - Engines tried under working conditions -
 Crank shaft, Material SMS Identification Mark Nº 4387-4388 Flywheel shaft, Material SMS Identification Mark Nº 1100
 Thrust shaft, Material SMS Identification Mark NP 12-1-30 Intermediate shafts, Material SMS Identification Marks W.P. 15-12-5
 Tube shaft, Material - Identification Mark - Screw shaft, Material SMS Identification Mark 4510. H.P. 4.

Identification Marks on Air Receivers 4446-4447
Clayton's 550 LBS
W.P. 350 LBS
H.P.B. 2-2-30

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 tanker 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 Yes If so, state name of vessel MV 'ONOBA'
 General Remarks (State quality of workmanship, opinions as to class, &c.)

*The Machinery has been made in accordance with the approved plans Secretary's letters and the Society's rules.
 Workmanship throughout good*
The Machinery has been shipped to Odense and will be fitted aboard Mess Odense's Yard N° 73

The amount of Entry Fee 60 - When applied for, 11-4-1938
 Special 3/4 fee = 750 -
 Donkey Boiler Fee 1100 - When received, 19
 Travelling Expenses (if any) 16 -
 Committee's Minute See Opn 76. 10589
 Assigned -

should be 783 ft. 4 1/5ths

PAID AS PER LETTER C.Y. dated 10/5/38

Burgdoffer
 Engineer Surveyor Lloyd's Register of Shipping.

Lloyd's Register Foundation