Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No 12419

Received at London Office JUN 10 1939

Date of writing Report 1st June 1939 When handed in at Local Office 9th June 1939 Port of GOTHENBURG

No. in Reg. Book. Survey held at GOTHENBURG Date, First Survey 14th Feb. Last Survey 9th May 1939 Number of Visits 28

on the Single / ~~Twin~~ / ~~Triple~~ / ~~Quadruple~~ Screw vessel YARD Nº 54 (A.B. ÖRESUNDSVARVET) Tons Gross Net

Built at LANDSKRONA By whom built A.B. ÖRESUNDSVARVET Yard No. 54 When built 1939

Engines made at GOTHENBURG By whom made A.B. GÖTAVERKEN Engine No. 1339 When made 1939

Donkey Boilers made at — By whom made — Boiler No. — When made —

Brake Horse Power 4200 Owners M. KONOW & Co Port belonging to OSLO

Nom. Horse Power as per Rule 653 Is Refrigerating Machinery fitted for cargo purposes — Is Electric Light fitted YES

Trade for which vessel is intended —

OIL ENGINES, &c.—Type of Engines Vertical crosshead direct Oil Engine 2 or 4 ~~stroke~~ cycle 4 ~~Single or double~~ acting S.A

Maximum pressure in cylinders 45 kgs/cm² Diameter of cylinders 740 m/m (29⅛") Length of stroke 1500 m/m (59 1/16") No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 8 kgs/cm²

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1004 Is there a bearing between each crank Yes

Revolutions per minute 112 ~~Flywheel~~ Turning wheel dia. 2136 m/m Weight 1900 kgs Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, { ~~Solid forged~~ / ~~Semi built~~ / All built dia. of journals ~~as per Rule~~ Approved 488 m/m as fitted 492 m/m with 134 centre hole Crank pin dia. 492 m/m Crank Webs Mid. length breadth — Mid. length thickness — ~~shrunk~~ Thickness parallel to axis 310 m/m Thickness around eyehole 274 m/m

Flywheel Shaft, diameter as per Rule — as fitted —

Intermediate Shafts, diameter as per Rule — as fitted —

Thrust Shaft, diameter at collars as per Rule 373 m/m as fitted 375 m/m

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 shaft — 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 Direct with compressed air Is a governor or other arrangement fitted to prevent racing of the engine ~~when declutched~~ Yes Means of lubrication Forced

Thickness of cylinder liners Top 53.5 m/m Bottom 32 m/m Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes 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. Two; 200 tons/hour each 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 Two; 98 tons/hour each.

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 led 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 —

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 —

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 — 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. None No. of stages — Diameters — Stroke — Driven by —

~~Manœuvring~~ **~~Auxiliary~~ Air Compressors,** No. One No. of stages 2 Diameters 320-280 m/m Stroke 150 m/m Driven by Steam engine

~~Small~~ **Auxiliary Air Compressors,** No. One No. of stages 2 Diameters 232-90 m/m Stroke 220 m/m Driven by Dies. oil engine

What provision is made for first Charging the Air Receivers The steam driven manœuvring compressor

Scavenging Air Pumps, No. — Diameter — Stroke — Driven by —

Auxiliary Engines crank shafts, diameter ~~as per Rule~~ Approved 150 m/m as fitted 150 m/m No. 1 aux. oil engine; 1 steam engine Position —

Have the Auxiliary Engines been constructed under special survey Yes Is a report sent herewith Yes, of the oil engine.

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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 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. None 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. 2 Total cubic capacity 2×13.5 = 27 m³ Internal diameter 1850 & 1800 thickness 25.5 & 25 m/m

Seamless, lap welded or riveted longitudinal joint Riveted Material S.M. Steel Range of tensile strength 43 - 46.6 kg/m/m² Working pressure by Rules 25.2 kg/cm² Actual 25 kg/cm²

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 19.4.38; 5.7.38 Receivers 27.5.38. Separate Fuel Tanks 7.9.38
(If not, state date of approval)

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 Yes

State the principal additional spare gear supplied 6 fuel valves complete, 2 exhaust valves complete and 4 additional spindles, 2 starting air valve spindles, 3 telescopic cooling pipes, 1 half of crank pin bosses, 2 halves of main bearing bosses, 2 main bearing bolts and nuts and one fuel pump complete.

The foregoing is a correct description,

AKTIEBOLAGET KOTAVERKEN

Manufacturer.

Dates of Survey while building — During progress of work in shops: 1939. Feb. 14. 20. 23. March 3. 7. 8. 14. 15. 17. 17. 24. 27. 28. 31. April 3. 6. 11. 12. 14. 14. 20. 20. 21. 22. 24. 25. May 4. 9.

During erection on board vessel: –

Total No. of visits 28

Dates of Examination of principal parts—Cylinders 20-23/4.39 Covers 20-23/4 39 Pistons 20.2.39 Rods 20.2.39 Connecting rods 6.4.39

Crank shaft 14.3.39. Flywheel shaft – Thrust shaft 4.5.39 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 12.4.39

Crank shaft, Material S.M. Steel Identification Mark 91734 Lloyd's L.S. 2462/3 L.S. 4.3.39 Flywheel shaft, Material – Identification Mark –

Thrust shaft, Material S.M. Steel Identification Mark Lloyd's No 429 4.5.39 Intermediate shafts, Material – Identification Marks –

Tube shaft, Material – Identification Mark – Screw shaft, Material – Identification Mark –

Identification Marks on Air Receivers № 445/6
LLOYD'S TEST 40 Kg.
W.P. 25 Kg.
S.J. 24.4.39.

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 No

Is this machinery duplicate of a previous case Yes If so, state name of vessel "Britannia" Götaverken Yard № 533.

General Remarks (State quality of workmanship, opinions as to class, &c. This main engine has been built under Special Survey and all the Requirements of the Rules have been complied with. The shafting as per forging reports attached. The workmanship is good and the material fulfils the Requirements of the Rules. The dimensions are as specified and in accordance with the Rules and approved plans. The engine has been tested under full working power on test bed and found to work satisfactorily.

This vessel is at present under construction at Landskrona where the engine will be installed. A copy of this report should be forwarded to the Helsingborg Surveyor.

Certificate (if required) to be sent to

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

The amount of Entry Fee	£	:	When applied for,
Special (2/3 rds)	K/P	1363.56	9th June 1939
~~Donkey Boiler~~ starting air rec. Fee	K/P	15.60	When received,
Travelling Expenses (if any)	£	:	5. 8. 1939

FRI. 3 NOV 1939

Steen Johnsen
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned See Minute F.E. 1826