

REPORT ON OIL ENGINE MACHINERY.

No. 15868.

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ately

of writing Report 18th Febr. 19 48. When handed in at Local Office 27th Febr. 19 48 Port of Gothenburg

in Survey held at Gothenburg Date, First Survey 15th Nov. 1945 Last Survey 19th February 19 48.

Book. Number of Visits 139

789 on the Twin Screw vessel "STOCKHOLM" Tons Gross 11650 Net 6040

at Gothenburg By whom built A-B. Götaverken Yard No. 611 When built 1948

ines made at Gothenburg By whom made A-B. Götaverken Engine No. 1840-41 When made 1948

key Boilers made at Gothenburg By whom made A-B. Lindholmens Varv Boiler No. 2761-62 When made 1946

ke Horse Power 2 x 6000 Owners A-B. Svenska Amerika Linien Port belonging to Gothenburg

n. Horse Power as per Rule MN = 2832 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

de for which vessel is intended General

ENGINES, &c. — Type of Engines Heavy oil, crosshead type 2 or 4 stroke cycle 2 Single or double acting Single

imum pressure in cylinders 49 kg/cm² (29.15/16") (51.3/16")

in Indicated Pressure 6.75 kg/cm² Diameter of cylinders 760 mm. Length of stroke 1300 mm No. of cylinders 2 x 8 No. of cranks 2 x 8

in of bearings, adjacent to the crank, measured from inner edge to inner edge 974 mm. Is there a bearing between each crank Yes

olutions per minute 110 Flywheel dia. 2368 mm. Weight 8830 kgs. Means of ignition Compression Kind of fuel used Diesel oil

ink dia. of journals as appd. 520/130 mm. Mid. length breadth --- Thickness parallel to axis 320 mm.

aft. Semi built as fitted 520/130 mm. Crank pin dia. 520/105 mm. Crank webs Mid. length thickness --- shrunk Thickness around eye hole 250 mm.

wheel Shaft, diameter as per Rule --- Intermediate Shafts, diameter as appd. 405 mm. Thrust Shaft, diameter at collars as fitted 520 mm.

be Shaft, diameter as per Rule --- as fitted 405 mm. as appd. 461 mm. in body Is the screw shaft fitted with a continuous liner Yes

onze Liners, thickness in way of bushes as appd. 22.5 mm. as fitted 22.5 mm. Thickness between bushes as appd. 22 mm. as fitted 22 mm. Is the after end of the liner made watertight in the

PELLER boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner One length

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-

resive Fits tightly 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

of tube shaft No If so, state type --- Length of bearing in Stern Bush next to and supporting propeller 2000 mm.

PELLER, dia. 4840 mm. Pitch 6325 mm. No. of blades 4 Material Bronze whether moveable No Total developed surface 9.8 metres

ethod of reversing Engines compr. air Direct with Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of

rication Forced Thickness of cylinder liners 55 mm. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled

agged with non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

Led to a 3 fresh water & 4160 lit/min. 3 salt water & 4590

to the engine Cooling Water Pumps, No. lit/min. the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

ge Pumps worked from the Main Engines, No. None Diameter --- Stroke --- Can one be overhauled while the other is at work ---

mps connected to the Main Bilge Line { No. and size 1 ballast & bilge 200 t/h., 2 bilge & 55 t/h., 1 emergency bilge & 130 t/hour.

How driven All driven by electric motors

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

angements ---

llast Pumps, No. and size 1 & 200 t/hour Power Driven Lubricating Oil Pumps, including spare pump, No. and size 3 & 225 M³/hour

ve two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary

ge pumps, No. and size: — In machinery spaces C/D, 1 x 2" to each C/D in tunnel frames: 73/74, 55/56 and 37/38, 1 x 3" to tunnel well

holds, &c. Nos. 1, 2, 3, 5 and 6 holds: 2 x 3" to each. No. 4 refrigerated cargo hold: 2 x 3" and 2 x 2".

dependent Power Pump Direct Suctions to the engine room bilges, No. and size Aux. E.R.: 2 x 5 1/2". Main E.R.: 4 x 5 1/2"

re 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

ossible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

re all Sea Connections fitted direct on the skin of the Ship tank top Are they fitted with valves or cocks Valves Are they fixed

efficiently high on the ship's side to be seen without lifting the platform plates Not all All spindles above Are the overboard discharges above or below the deep water line Both

re 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

hat pipes pass through the bunkers No coal bunkers How are they protected ---

hat pipes pass through the deep tanks No deep tanks Have they been tested as per Rule ---

re all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times Yes

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

aces, or from one compartment to another Yes Is the shaft tunnel watertight Yes Is it fitted with a watertight door Yes worked from

2.2 of a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork --- platform in E.R.

1.1 Main Air Compressors, No. None No. of stages --- diameters --- stroke --- driven by --- bulkhead

uxiliary Air Compressors, No. 3 No. of stages 2 diameters 280/320 mm. stroke 150 mm. driven by El. motors

small Auxiliary Air Compressors, No. 2 No. of stages 1 diameters 60 mm. stroke 60 mm. driven by 1 by el. motor 1 hand driven

hat provision is made for first charging the air receivers By the small hand driven air compressor each main engine

avenging Air Pumps, No. Also an additional pump diameter 360 mm. stroke 1300 mm. driven by crosshead

uxiliary Engines crank shafts, diameter as appd. approved 190 mm. No. 3 - 6 cyl. and 2 - 3 cyl. Position Auxiliary engine room floor

ave the auxiliary engines been constructed under special survey Yes Is a report sent herewith Yes

Euk
6/4/48

011844-011843-0104

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. ---
Starting Air Receivers, No. 2 ✓ Total cubic capacity 2 x 19.7 M³ Internal diameter 1800-1850 mm. thickness 25 - 25.5 mm.
Seamless, lap welded or riveted longitudinal joint. Riveted ✓ Material S.M.Steel Range of tensile strength 44.2-48.5 kg/mm² Working pressure Actual 25.

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. Also for heating coils ✓

PLANS. Are approved plans forwarded herewith for shafting. London 3.5.1945 Receivers. London 12.1.1946 Separate fuel tanks. ---
(If not, state date of approval) London
Donkey boilers. Gothenburg 8.3.1945 General pumping arrangements. 1.8.45 & 9.2.46 Pumping arrangements in machinery space. London 1.8.1
Oil fuel burning arrangements. ---

SPARE GEAR.

Has the spare gear required by the Rules been supplied. Yes ✓
State the principal additional spare gear supplied. 2 bronze propellers, 2 propeller shafts with liners, 1 cylinder liner, 1 cylinder cover, 6 exhaust gas valves, 1 piston, 1 crank pin bearing, 1 top end bearing complete and 2 top halves, 1 main bearing, 2 fuel oil pumps.

The foregoing is a correct description, and the particulars of the installation as fitted as approved for torsional vibration characteristics.

AKTIEBOLAGET GÖTAVERKEN

Manufacturer.

Dates of Survey while building
During progress of work in shops - - -
During erection on board vessel - - -
Total No. of visits. 139

Dates of examination of principal parts—Cylinders 21.5-14.6.46 Covers 21.5-14.6.46 Pistons 6-8.5.1946 Rods 5.11.45-14.1 Connecting rods 30.1-1
Crank shaft 15.4 & 22.5.46 Flywheel shaft --- Thrust shaft 22.5 & 21.6.46 Intermediate shafts 28.10.46-10.9.47 Tube shaft ---
Screw shaft 26.10 & 25.11.46 Propeller 23.10.46 & 16.4.47 Stern tube 9 & 10.7.46 Engine seatings 18.9.1946 Engine holding down bolts 10.12.46
Completion of fitting sea connections 13.8.1947 Completion of pumping arrangements 6.2.1948 Engines tried under working conditions 26.10.46

Crank shaft, material S.M.Steel Identification mark LLOYD'S 6371 KL 19.2.46 LLOYD'S 446/7 US 10.5.46
Thrust shaft, material S.M.Steel Identification mark LLOYD'S 107 TO 21.6.46 LLOYD'S 445 US 10.5.46
Intermediate shafts, material S.M.Steel Identification mark LLOYD'S 1 TO 26.10.46
Tube shaft, material --- Identification mark --- Screw shaft, material S.M.Steel Identification mark LLOYD'S 6 TO 31.1.46

Identification marks on air receivers Nos. 1502-1503
LLOYD'S TEST 40-KG.
WP 25 KG.
TO 1.10.46
Identification marks on intermediate shafts LLOYD'S 137 TO 28.10.46 LLOYD'S 702/6807 TO 12.11.46 LLOYD'S 978/6806 TO 30.12.46 LLOYD'S 678/701 TO 2.1.47 LLOYD'S 979 TO 31.1.46
LLOYD'S 6805 TO 17.2.47 LLOYD'S 677/9 OS 10.9.47

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. Yes ✓
Description of fire extinguishing apparatus fitted. 12 - 15 litres foam extinguishing apparatus (6 in main E.R. and 6 in aux.E.R.).
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. No ✓ 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. Yes ✓
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 machinery has been built under special survey in accordance with the Rules and approved plan and has been fitted on board under my supervision and to my satisfaction. The workmanship and materials are good and test sheets for the latter are attached.

The machinery has been tested under full working power on a trial trip and found in order.
The torsional vibration characteristics are approved as per Secretary's letter dated the 3rd May, 1945, initialled "E". ✓

This machinery is eligible, in my opinion, to be classed in the Register Book, viz:- +LMC 2,48
Tail shafts fitted with CL, 2 Donkey Boilers á 100 lbs. per square inch.

Note: At the Builders' request survey was carried out by the undersigned on Sunday 26/10 1947 from 6:30 to 18:30.

Air Receiver
The amount of Fee ... Kr. 200:00
Special ... Kr. 6320:00
Exhaust Gas Econ. ... Kr. 60:00
Sunday Fee ... Kr. 40:00
Travelling Expenses (if any) ... Kr. 3:50
When applied for 27th Febr. 1948.
When received --- 19 ---

Committee's Minute FRI. 9 APR 1948

Assigned +LMC 2.48 Oil Equip
C.L. 2 x B. 100 lbs.

Engineer Surveyor to Lloyd's Register of Shipping
Lloyd's Register Foundation