

REPORT ON OIL ENGINE MACHINERY.

No. 2956
-6 MAR 1929

Received at London Office 12 MAY 1928

Date of writing Report 11 May 1928. When handed in at Local Office

Port of Stockholm

No. in Survey held at Sickla Skm. Gusts.
Reg. Book.

Date, First Survey 27 May 1927 Last Survey 8 May 1928.

Number of Visits 7

Single
on the Twin
Triple

Screw vessels

Steel Twin Ss "HERBJÖRN"

Tons { Gross 8038
Net 4767

Built at Gothenburg

By whom built Aktieb. Jötaverken

Yard No. 4/5 When built 1928.

Engines made at Stockholm

By whom made Aktieb. Atlas Diesel

Engine No. 80/85 When made 1928.

Donkey Boilers made at

By whom made SHIPS 9/8 HERBJÖRN

Boiler No. When made 1905.

Brake Horse Power 100

Owners Rederiet. Hansson

Port belonging to Gothenburg

Nom. Horse Power as per Rule 46

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

IL ENGINES, &c.—Type of Engines Stationary Diesel Oil Engine (Type 2429) 2 stroke cycle Single or double acting
Maximum pressure in cylinders 35 $\frac{kg}{cm^2}$ No. of cylinders 2 Diameter of cylinders 290 mm. No. of cranks 2 Length of stroke 40 mm.
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 984 mm. Is there a bearing between each crank no

Revolutions per minute 275 Flywheel dia. 1400 mm. Weight 1185 kg. Means of ignition compression Kind of fuel used Brude Oil

Crank Shaft, dia. of journals as per Rule 178 mm. Crank pin dia. 195 mm. Crank Webs Mid. length breadth 260 mm. Thickness parallel to axis shrunk
as fitted 200 " Mid. length thickness 110-120 " Thickness around eye-hole

Flywheel Shafts, diameter as fitted Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as fitted
as fitted as fitted as fitted

Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube shaft fitted with a continuous liner {

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per rule 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 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 Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication

pumps Thickness of cylinder liners none fitted Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material 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. / Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps fitted to 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

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size

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 Engine and Boiler 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 Space

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. more fitted No. of stages Diameters Stroke Driven by

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

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

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted

AIR RECEIVERS:—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. Yes What means are provided for cleaning their inner surfaces mudstole 120 mm.

Is there a drain arrangement fitted at the lowest part of each receiver. yes

High Pressure Air Receivers, No. more fitted, solid injection Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Starting Air Receivers, No. 1 Total cubic capacity 100 litres Internal diameter 340 mm. thickness 15 mm.

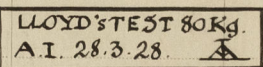
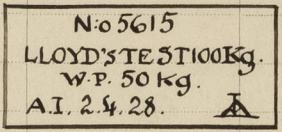

Seamless, lap welded or riveted longitudinal joint lap welded Material S. M. Steel Range of tensile strength 38 $\frac{kg}{cm^2}$ as a min. Working pressure by Rules 5 $\frac{kg}{cm^2}$

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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	28.3.28.	35 $\frac{\text{kg}}{\text{cm}^2}$	80 $\frac{\text{kg}}{\text{cm}^2}$	LLOYD'S TEST 80 Kg. A.I. 28.3.28. 	
" " COVERS	(Cover is in one piece with the cylinder)				
" " JACKETS	28.3.28.		4 $\frac{\text{kg}}{\text{cm}^2}$		
" PISTON WATER PASSAGES	(open pistons)				
MAIN COMPRESSORS—1st STAGE	} none fitted				
" 2nd "					
" 3rd "					
AIR RECEIVERS—STARTING	2.4.28.	50 $\frac{\text{kg}}{\text{cm}^2}$	100 $\frac{\text{kg}}{\text{cm}^2}$	No 5615 LLOYD'S TEST 100 Kg. W.P. 50 Kg. A.I. 2.4.28. 	
" INJECTION					
AIR PIPES					
FUEL PIPES	28.3.28.	300 $\frac{\text{kg}}{\text{cm}^2}$	600 $\frac{\text{kg}}{\text{cm}^2}$		
FUEL PUMPS	28.3.28.	300 "	600 "		
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

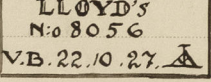
PLANS. Are approved plans forwarded herewith for Shafting £ 28.5.25 Receivers £ 25.10.26. Separate Tanks.
(If not, state date of approval)
Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR as per list, approved on the 4th Febr. 1926, will be inspected, when machinery is being fitted in ship.

The foregoing is a correct description.

Manufacturer.

Dates of Survey while building
During progress of work in shops - - 27/5, 22/10, 21/11, 1927; 20.28/3, 2/4, 8/5, 1928.
During erection on board vessel - -
Total No. of visits in shop 7.

Dates of Examination of principal parts—Cylinders with Covers 20.28/3, 28, Pistons 28/3, 28 Rods Connecting rods 27/5, 21/11, 27/12
Crank shaft 22/10, 27/3, 28. Flywheel shaft Thrust shaft Intermediate shafts Tube shaft
Screw shaft Propeller Stern tube Engine sealings Engines holding down bolts
Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions in shop 20/3-4
Crank shaft, Material S.M. Steel Identification Mark LLOYD'S No 8056 Flywheel shaft, Material Identification Mark
Thrust shaft, Material Identification Mark V.B. 22.10.27.  Intermediate shafts, Material Identification Marks
Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

Is the flash point of the oil to be used over 150° F.

Is this machinery duplicate of a previous case yes If so, state name of vessel see Mem. report no. 2923

General Remarks (State quality of workmanship, opinions as to class, &c.)

I am of opinion that this engine is of superior material and workmanship, and as it has been designed and constructed under Special Survey, I have respectfully to submit that it be approved as auxiliary to a classed main engine

The amount of Entry Fee ... £ : When applied for,
Special Survey in shop, £k: 218.40 11 May 1928
Donkey Boiler Fee ... £ : When received,
Travelling Expenses (if any) £ : 28.50 June 28 1928
Total £k: 246.90
Committee's Minute TUE. 12 MAR 1929

Assigned see Minute on
Got. Rpt 7428 attached

A. Bakson
Engineer Surveyor to Lloyd's Register of Shipping.
Assisted by Mr. K. J. Anderson



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Foundation