

# REPORT ON OIL ENGINE MACHINERY.

No. 14695

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Writing Report 30<sup>th</sup> April 1954 When handed in at Local Office 19 Port of Copenhagen  
 Survey held at Copenhagen Date, First Survey 11<sup>th</sup> December 53 Last Survey 7<sup>th</sup> April 1954  
 Number of Visits 37

Single on the Tonnage Triple Screw vessel. M/S "A. J. Knudsen"  
 Tons Gross 11199 Net 6816

Bothenburg By whom built Sötaverken.  
 made at Copenhagen By whom made A. Burmeister & Wain Yard No. 540 When built  
 Engine No. 5220 When made 1954

Boilers made at By whom made Boiler No. When made  
 Horse Power { Maximum Service 6500 Owners Messrs. Knut Knudsen, Høngerund Port belonging to  
 per Rule 1300

Is Refrigerating Machinery fitted for cargo purposes. Is Electric Light fitted.  
 for which vessel is intended Open sea service

GINES, &c. — Type of Engines 2 x 575 V.T.F. 17% compound crosshead type 2 or 4 stroke cycle 2 Single or double acting single  
 pressure in cylinders 50 kg/cm<sup>2</sup> Diameter of cylinders 150 mm Length of stroke 170 mm No. of cylinders 5 No. of cranks 5

Indicated Pressure 6.5 kg/cm<sup>2</sup> Span of bearings (i.e., distance between inner edges of bearings in crank) 1442 mm Is there a bearing between each crank Yes Revolutions per minute { Maximum Service 110

dia. Weight Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. m.<sup>2</sup>) 12000 kgm<sup>2</sup> Means of ignition comp. Kind of fuel used Heavy oil 150°F  
 " " " " balance wts. ( " " " " ) 47600 kgm<sup>2</sup>

Solid forged dia. of journals as per Rule 544 mm Crank pin dia. 630 mm Crank webs Mid. length breadth 1400 mm Thickness parallel to axis 560/325 mm  
 Semi-built dia. of journals as fitted 630 mm Crank webs Mid. length thickness 305 mm shrunk Thickness around eyehole 345 mm  
 All built 220 mm central hole 420 mm central hole

Shaft, diameter as per Rule 445 mm Intermediate Shafts, diameter as per Rule 470 mm Thrust Shaft, diameter at collars as per Rule 425 mm  
 as fitted 160 mm central hole

ft, diameter as per Rule Screw Shaft, diameter as per Rule Is the (tube screw) shaft fitted with a continuous liner  
 as fitted

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  
 as fitted If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

er 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-  
 If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland fitted at the after  
 If so, state type Length of bearing in Stern Bush next to and supporting propeller

dia. Pitch No. of blades Material whether moveable Total developed surface sq. feet  
 inertia of propeller including entrained water (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) Kind of damper, if fitted

reversing Engines Direct by engine Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of  
 forced Thickness of cylinder liners 55 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled  
 with non-conducting material lapped If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

Cooling Water Pumps, No. and how driven Working F.W.  
 Spare F.W. S.W. Is the sea suction provided with an efficient strainer which can be cleared within the vessel  
 ps worked from the Main Engines, No. and capacity Can one be overhauled while the other is at work

ected to the Main Bilge Line (No. and capacity of each How driven  
 ng 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  
 its

aps, No. and capacity Power Driven Lubricating Oil Pumps, including spare pump, No. and size  
 dependent means arranged for circulating water through the Oil Cooler Branch Bilge Suctions  
 :—In machinery spaces In pump room

e Suctions to the engine room bilges, No. and size  
 ilge suction pipes in holds and tunnel well fitted with strum-boxes Are the bilge suction in the machinery spaces led from easily  
 urved-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Connections fitted direct on the skin of the Ship Are they fitted with valves or cocks Are they fixed  
 gh on the ship's side to be seen without lifting the platform plates Are the overboard discharges above or below the deep water line

h 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  
 pass through the bunkers How are they protected  
 e of pass through the deep tanks Have they been tested as per Rule

cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times  
 ement 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  
 n one compartment to another Is the shaft tunnel watertight Is it fitted with a watertight door worked from

el, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork  
 mpressors, No. No. of stages diameters stroke driven by  
 Compressors, No. No. of stages diameters stroke driven by

ry Air Compressors, No. No. of stages diameters stroke driven by  
 n is made for first charging the air receivers  
 ir Pumps or Blowers, No. 2 off 2 x 312 m<sup>3</sup>/min How driven by main engine Engine Nos.  
 Have they been made under survey Position of each in engine room Report No.

Makers name

003525-003532-0328

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AIR RECEIVERS:—Have they been made under survey... State No. of report or certificate... State full details of safety devices... Can the internal surfaces of the receivers be examined and cleaned... Is a drain fitted at the lowest part of each receiver... Injection Air Receivers, No. Cubic capacity of each Internal diameter thickness Seamless, welded or riveted longitudinal joint Material Range of tensile strength Working pressure Starting Air Receivers, No. Total cubic capacity Internal diameter thickness Seamless, welded or riveted longitudinal joint Material Range of tensile strength Working pressure 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 (If not, state date of approval) Receivers Separate fuel tanks Donkey boilers General pumping arrangements Pumping arrangements in machinery space Oil fuel burning arrangements Have Torsional Vibration characteristics been approved Date and particulars of approval 22nd October 1953 SPARE GEAR. Has the spare gear required by the Rules been supplied State if for "short voyages" only State the principal additional spare gear supplied

AKTIESELSKABET  
BURMEISTER & WAIN'S MASKIN- OG SKIBBYGGERI  
VHD

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building During progress of work in shops - 1/12 53 - 22/12 - 24/12 - 4/1 54 - 6/1 - 8/1 - 11/1 - 14/1 - 16/1 - 22/1 - 24/1 - 29/1 - 2/2 - 4/2 - 9/2 - 13/2 - 14/2 - 16/2 - 24/2 - 27/2 - 1/3 - 6/3 - 9/3 - 10/3 - 14/3 - 17/3 - 19/3 - 20/3 - 22/3 - 27/3 - 28/3 - 27/3 - 29/3 - 30/3 - 6/4 - 7/4 1954 During erection on board vessel - - - - - Total No. of visits 37 Dates of examination of principal parts - Cylinders 26/1 - 29/1 - 24/2 Covers Pistons 4/1 - 11/1 - 25/2 Rods 2/2 Connecting rods 14/1 Crank shaft 9/2 Flywheel shaft Thrust shaft 9/2 Intermediate shafts 16/2 Tube shaft Screw shaft Propeller Stern tube Engine seatings Engine holding down bolts Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions in the ship Crank shaft, material cast S.M. Steel Identification mark 2417 2418 2419 Flywheel shaft, material Identification mark 2417 2418 2419 Thrust shaft, material cast S.M. Steel Identification mark 2417 2418 2419 Intermediate shafts, material S.M. Steel Identification marks 2417 2418 2419 Tube shaft, material Identification mark Screw shaft, material Identification mark Identification marks on air receivers

Welded receivers, state Makers' Name 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 Full description of fire extinguishing apparatus fitted in machinery spaces 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 What is the special notation desired 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, Speed restrictions, &c.) The engine has been built under Special Survey in accordance with requirements of the Rules, the approved plans and the Secretary's letters Eng. 15/4 52 - 30/4 52 - 22/10 53 and 2/1 54. The material used have been tested as required by the Rules and the workmanship is good. On completion the engine was tested in the shop under full power working condition and manoeuvres of the engine and found satisfactory. A notice board at the control station stating that the engine is not to operate continuously between tentative limits of 64 and 76 R.P.M. This notice board is not fitted. The engine is now dispatched for installation in the ship. Recommend the machinery to have notation of \* L.M.C. when fitted in the ship under Special Survey

The amount of Entry Fee ... £ 48 00.00 When applied for 7.5 1954 Special ... £ 1455.00 When received 19 Donkey Boiler Fee ... £ Travelling Expenses (if any) £ Committee's Minute TUESDAY 24 AUG 1954 Assigned See Kiel 1060

A. L. Hansen.  
Engineer Surveyor to Lloyd's Register of Shipping.