

REPORT ON OIL ENGINE MACHINERY.

No. 14695

Received at London Office 11 MAY 1954

Writing Report 30th April 1954 When handed in at Local Office 19 Port of Copenhagen
Survey held at Copenhagen Date, First Survey 11th December 53 Last Survey 7th 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 Sotaverken Yard No. 540 When built
made at Copenhagen By whom made A. J. Burmeister & Wain Engine No. 5220 When made 1954

Boilers made at By whom made Boiler No. When made
Horse Power { Maximum Service 6500 Owners Messrs. Anet Knudsen, Haugerund 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

Engines, &c. — Type of Engines D.M. 575 V.I.P. 170/60 complex overhead type 2 or 4 stroke cycle 2 Single or double acting single
Pressure in cylinders 50 kg/cm² Diameter of cylinders 750 mm Length of stroke 170/60 mm No. of cylinders 5 No. of cranks 5
Indicated Pressure 6.5 kg/cm² 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

Weight Moment of inertia of flywheel (lbs. in² or Kg. cm²) 11000 kgm² Means of ignition compr. Kind of fuel used Heavy oil 150°F
" " " " balance wts. (" " " ") 47600 kgm²

Solid forged Semi built All built 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
220 mm central hole 420 mm central hole Mid. length thickness 305 mm shrunk Thickness around eye-hole 345 mm

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
ft, diameter as fitted Screw Shaft, diameter as fitted 500 mm 160 mm central hole
Is the (tube screw) shaft fitted with a continuous liner

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
boss 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-
Is If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland fitted at the after
stern tube 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
Moment of inertia of propeller including entrained water (lbs. in² or Kg. cm²) 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 lagged 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
Pumps worked from the Main Engines, No. and capacity Can one be overhauled while the other is at work

Connected to the Main Bilge Line { No. and capacity of each How driven
Draining 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
Pumps, No. and capacity Power Driven Lubricating Oil Pumps, including spare pump, No. and size

Independent means arranged for circulating water through the Oil Cooler Branch Bilge Suctions
In machinery spaces In pump room

Bilge Suctions to the engine room bilges, No. and size
Bilge suction pipes in holds and tunnel well fitted with strum-bowes Are the bilge suction in the machinery spaces led from easily
strum-bowes, 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
Height 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 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

How are they protected
Have they been tested as per Rule

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

Means provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
Compressors, No. No. of stages diameters stroke driven by
Compressors, No. No. of stages diameters stroke driven by
Dry Air Compressors, No. No. of stages diameters stroke driven by

How is made for first charging the air receivers
Air Pumps or Blowers, No. 2 off 2x312 m³/min How driven by main engine
Have they been made under survey Engine Nos.
Makers name Position of each in engine room Report No.

0035 25-003532-0328

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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..... 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.....

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

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1/2 53 - 22/12 - 24/12 - 4/1 54 - 6/1 - 8/1 - 11/1 - 14/1 - 16/1 - 22/1 - 26/1 - 29/1 - 2/2 - 6/2 - 9/2 - 13/2 - 14/2 - 18/2 - 24/2 - 27/2 - 29/2 - 30/2 - 6/3 - 7/3 1954
During erection on board vessel - 24/2 - 27/2 - 2/3 - 6/3 - 9/3 - 10/3 - 11/3 - 12/3 - 13/3 - 20/3 - 22/3 - 27/3 - 28/3 - 27/3 - 29/3 - 30/3 - 6/4 - 7/4 1954

Dates of examination of principal parts: Cylinders 26/1 - 29/1 - 27/2 Covers..... Pistons 4/1 - 11/1 - 15/2 Rods 2/2 Connecting rods 17/1

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 2917 KH 9-2-54 Flywheel shaft, material, Identification mark KH 16-2-54

Thrust shaft, material cast S.M. Steel Identification mark KH 9-2-54 Intermediate shafts, material S.M. Steel Identification marks KH 16-2-54

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.....

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 Surveyor's letters Eng. 15/4 52 - 30/4 52 - 22/10 53 and 4/1 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 S.L.M.C. when fitted in the ship under Special Survey

The amount of Entry Fee ... £ 48 00.00
Special ... £
Donkey Boiler Fee... £
Travelling Expenses (if any) £

When applied for 7.5 1954
When received 19
A. L. Hansen.
Engineer Surveyor to Lloyd's Register of Shipping.

Certificate (if required) to be sent to
(The Surveyor is requested not to write on or below the space for Committee's Minute)

TUESDAY 24 AUG 1954

See Kiel 1060

