

REPORT ON OIL ENGINE MACHINERY.

No. 19218
15 AUG 1952

Received at London Office

Date of writing Report 1st August 1952 When handed in at Local Office 13th August 52 Port of Gothenburg

No. in Reg. Book 40968 Survey held at Trollhättan Date, First Survey 26th June, 1950 Last Survey 27th May 1952 Number of Visits 10

40968 on the ~~XXXX~~ ~~XXXX~~ ~~XXXX~~ ~~XXXX~~ Screw vessel "N.A.R.V.A." Approx. Tons Gross 1100 Net 500

Built at Norrköping By whom built A-B. Norrköpings Vary och Verkstad Yard No. 138 When built 1952

Engines made at Trollhättan By whom made Nydqvist & Holm A-B. Engine No. 1461 When made 1952

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

Brake Horse Power { Maximum 900 Service 900 Owners U.S.S.R. Port belonging to Russian

M.N. as per Rule 202 $\frac{BHP}{5} = 180$ Is Refrigerating Machinery fitted for cargo purposes --- Is Electric Light fitted ---

Trade for which vessel is intended General, Tanker

OIL ENGINES, &c. — Type of Engines Heavy oil, trunk type 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 50 kg/cm² Diameter of cylinders 345 mm Length of stroke 580 mm No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure 6.23 kg/cm² Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 504 mm. Is there a bearing between each crank Yes Revolutions per minute { Maximum 250 Service 250
Flywheel dia. 1656 mm. Weight 2065 kgs. Moment of inertia of flywheel (kg. cm. sec.²) 7899 Means of ignition Compr. Kind of fuel used Diesel oil

Crank Shaft, Solid forged dia. of journals appd. 230 mm. as fitted 230 mm. Crank pin dia. 230 mm. Crank webs Mid. length breadth 310 mm. Mid. length thickness 124 mm. Thickness parallel to axis --- Thickness around eyehole ---

Flywheel Shaft, diameter as per Rule --- as fitted --- Intermediate Shafts, diameter as per Rule --- as fitted 165 mm. Thrust Shaft, diameter at collars as per Rule 174.9 mm. as fitted 174.9 mm.

Tube Shaft, diameter as per Rule --- as fitted --- Screw Shaft, diameter as per Rule 198 mm. as fitted 198 mm. Is the shaft fitted with a continuous liner (screw) No

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 fitted at the after end of stern tube Yes. If so, state type Cedervall's "Adjustable" No. 7 length of bearing in Stern Bush next to and supporting propeller 800 mm.

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 None fitted

Method of reversing Engines Direct with compr. air Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of lubrication Forced Thickness of cylinder liners 27.5 Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged 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. and how driven 1 x 475 lit/min. Direct Working F.W. --- S.W. --- Spare F.W. --- S.W. --- Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. and capacity 1 x 475 lit/min. Can one be overhauled while the other is at work ---

Pumps connected to the Main Bilge Line (No. and capacity of each) --- (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 capacity --- Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 x 265 lit/min.

Are two independent means arranged for circulating water through the Oil Cooler Yes Branch Bilge Suctions ---

No. and size:—In machinery spaces --- In pump room ---

In holds, &c. --- Direct Bilge 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 suction 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 ---

STARTING ~~XXXX~~ Air Compressors, No. 1 No. of stages 2 diameters 85/210 mm. stroke 250 mm. driven by the engine

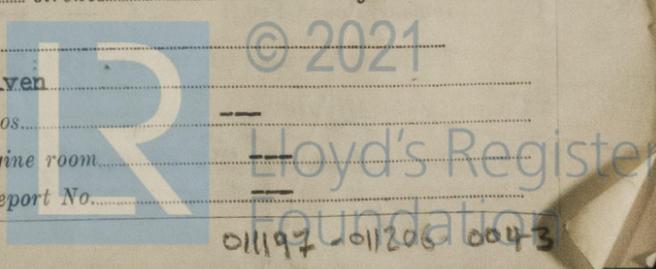
Auxiliary Air Compressors, No. --- No. of stages --- diameters --- stroke --- driven by ---

Small Auxiliary Air Compressors, No. --- No. of stages --- diameters --- stroke --- driven by ---

What provision is made for first charging the air receivers --- Scavenging Air Pumps or Blowers, No. 1 (D.A.) crank type How driven Engine driven Engine Nos. --- Auxiliary Engines Have they been made under survey --- Makers name --- Position of each in engine room --- Report No. ---



JM
11/9/52



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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..... 13.2.1950..... Receivers..... Separate fuel tanks.....
 (if not, state date of approval)
 Donkey boilers..... General pumping arrangements..... Pumping arrangements in machinery space.....
 Oil fuel burning arrangements.....
 Have Torsional Vibration characteristics been approved..... Yes..... Date and particulars of approval..... London 13.2.1950 for 250 r.p.m. with barred speed range of 98 - 118 r.p.m.

SPARE GEAR.

Has the spare gear required by the Rules been supplied..... Yes. To be checked State if for "short voyages" only..... No
 on board
 State the principal additional spare gear supplied.....

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

NYDQVIST & HOLM AKTIEBOLAG
 Technical Department
Andersson
 Manufacturer.

Dates of Survey while building
 During progress of work in shops - - 26th May, 1950 - 27th May, 1952.
 During erection on board vessel - - - - -
 Total No. of visits..... 10
 Dates of examination of principal parts—Cylinders 26.2.1952 Covers 26.2.1952 Pistons 31.3.1952 Rods..... Connecting rods 31.3.1952
 Crank shaft 20.2.1952 Flywheel shaft..... Thrust shaft 20.2.1952 Intermediate shafts 20.6.1950 Tube shaft.....
 Screw shaft 20.6.1950 Propeller..... Stern tube 26.5.1950 Engine seatings..... Engine holding down bolts.....
 Completion of fitting sea connections..... Completion of pumping arrangements..... Engines tried under working conditions 23.5.1952
 Crank shaft, material El.-Steel Identification mark LLOYD'S No. 2184 SJ 20.2.52 Flywheel shaft, material..... Identification mark.....
 Thrust shaft, material S.M. Steel Identification mark LLOYD'S No. 827 SJ 20.2.52 Intermediate shafts, material El.-Steel Identification mark LLOYD'S No. 108 AS 20.6.50
 Tube shaft, material..... Identification mark..... Screw shaft, material El.-Steel Identification mark LLOYD'S No. 108 AS 20.6.50
 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..... Yes..... If so, state name of vessel..... M/T "Ishim", A-B. Norrköpings Varv och Verkstad Yard No. 135, Gothenburg First Entry Report

General Remarks (State quality of workmanship, opinions as to class, Speed restrictions, &c.....)
 This machinery has been built under Special Survey in accordance with the Rules and approved plans.
 The workmanship and materials are good and test sheets in respect of the latter are attached.
 The engine has been tried under full working power in shop and found to work satisfactorily.
 A notice board stating that the engine is not to be run continuously between 98 and 118 R.P.M. has been delivered with the engine and the tachometer will be marked accordingly.
 This machinery is eligible, in my opinion, to be classed +LMC with date when securely fitted on board the vessel under inspection and to the satisfaction of the Society's Surveyors.

The amount of Entry Fee (2/3) Kr. 970:00 :
 Special £ -- : -- : When applied for 13th Aug. 1952.
 Donkey Boiler Fee... .. £ -- : -- : When received 19
 Travelling Expenses (if any) Kr. 264:00 :

Andersson
 Engineer Surveyor to Lloyd's Register of Shipping.
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Committee's Minute
 Assigned *Sir F.E. Mch. rph. Spm 8912*

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.