

REPORT ON OIL ENGINE MACHINERY.

No. 19218

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

No. in Survey held at Trollhättan Date, First Survey 26th June, 1950 Last Survey 27th May 1952
Reg. Book. Number of Visits 1040968 on the ~~XXXX~~ ^{Single} Screw vessel "N A R V A" Approx. Tons Gross 1100
~~XXXX~~ Net 500

Built at Norrköping By whom built A-B. Norrköpings Varv 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 Owners U.S.S.R. Port belonging to Russian
Service 900M.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 7899 Means of ignition Compr. Kind of fuel used Diesel oil
" " " " balance wts. (" " " ")

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

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

Tube Shaft, diameter as per Rule --- Screw Shaft, diameter as appd. 198 mm Is the shaft fitted with a continuous liner { No
as fitted --- at coupling as fitted 198 mm 174 mm (screw)

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 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 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 --- Position of each in engine room ---

Makers name --- Report No. ---

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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. _____ London 13.2.1950 for 250 r.p.m. with
 Have Torsional Vibration characteristics been approved. Yes. _____ Date and particulars of approval. 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.

HYDQVIST & 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. 10 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

Committee's Minute
 Assigned *Sir F.E. Mch. rph. Spm 8912*

Andersson
 Engineer Surveyor to Lloyd's Register of Shipping.
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