

REPORT ON OIL ENGINE MACHINERY.

No. 198b.

Received at London Office

27 JAN 1947

Date of writing Report 17-1-1947. When handed in at Local Office

19 Port of GRONINGEN.

No. in Survey held at Delfzijl

Date, First Survey 19-7-46

Last Survey 15-1-47

Number of Visits 13

4585 ~~XXXXXX~~ Single Screw vessel

"ARBO"

Tons { Gross 200
Net 126

Built at Waterhuizen

By whom built N.V. Scheepsw. Gebr. v. Diepen.

Yard No. 805

When built 1933

Engines made at Appingedam

By whom made N.V. Appingedammer Bronsm. fabr.

Engine No. 1666

When made 1933

Donkey Boilers made at

By whom made

Boiler No.

When made

Brake Horse Power 135

Owners J. de Boer

Port belonging to Delfzijl

Horse Power as per Rule 35.4

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted yes

Trade for which vessel is intended

sea going trade.

OIL ENGINES, &c. — Type of Engines

Heavy Oil

2 or 4 stroke cycle 4

Single or double acting

single

Maximum pressure in cylinders 45 Kg/cm²

✓

Diameter of cylinders 284 mm

180

13 1/4

Length of stroke 350 mm

No. of cylinders 3

No. of cranks 3

Mean Indicated Pressure 5.85 Kg/cm²

✓

Span of bearings, adjacent to the crank, measured from inner edge to inner edge 380 mm

400

Is there a bearing between each crank yes

Revolutions per minute 320

✓

Flywheel dia. 1400 mm

Weight 1650 Kg.

Means of ignition solid in-

jection

Kind of fuel used Diesel oil

Crank Shaft, Solid forged

dia. of journals as per Rule

as fitted 160 mm

Crank pin dia. 160 mm

Crank webs

Mid. length breadth 210 mm

Mid. length thickness 100 mm

shrink

Thrust Shaft, diameter at collars

as fitted 110 mm

Flywheel Shaft, diameter

Intermediate Shafts, diameter

as per Rule

as fitted 105 mm

(is screw shaft)

Tube Shaft, diameter

as per Rule

Screw Shaft, diameter

as fitted 110 mm

Is the

screw

shaft fitted with a continuous liner

no

Bronze Liners, thickness in way of bushes

as per Rule

Thickness between bushes

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 or other appliance fitted at the after

end of tube shaft no If so, state type Length of bearing in Stern Bush next to and supporting propeller 460 mm

Propeller, dia. 1350 mm Pitch 850 mm No. of blades 4 Material Bronze whether moveable no Total developed surface 7.05 sq. feet

Method of reversing Engines clutch with reversing gear. Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of

lubrication forced Thickness of cylinder liners 30/25 Are the cylinders fitted with safety valves no Are the exhaust pipes and silencers water cooled

one on engine + one stand-by Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

back to the engine. Cooling Water Pumps, No. Is the shaft tunnel watertight Mch. art. Is it fitted with a watertight door worked from

Bilge Pumps worked from 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 two à 12 T/h How driven belt-driven from main- or aux. engine via overhead line of shafting.

Is the cooling water led to the bilges no 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 size two à 12 T/h Power Driven Lubricating Oil Pumps, including spare pump, No. and size one stroke 32 Ø 37

Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both main bilge pumps and auxiliary

bilge pumps, No. and size:—In machinery spaces two à 2". In pump room

In holds, &c. two à 2" aft., one à 2" forward rise of floor more than 5 degrees.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size two à 2".

Are all the bilge suction pipes in holds well fitted with strum-boxes yes Are the bilge suction pipes 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 yes

Are all Sea Connections fitted direct on the skin of the Ship yes Are they fitted with valves or cocks cocks Are they fixed

sufficiently high on the ship's side to be seen without lifting the platform plates yes Are the overboard discharges above or below the deep water line above

Are they each fitted with a discharge valve always accessible on the plating of the vessel yes Are the blow off cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers none 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 yes

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 yes Is the shaft tunnel watertight Mch. art. 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. No. of stages diameters stroke driven by

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

Small Auxiliary Air Compressors, No. two No. of stages two diameters 95/45 mm stroke 70 mm driven by belt- main- or by hand.

What provision is made for first charging the air receivers Aux. engine hand-started

Scavenging Air Pumps, No. diameter stroke driven by

Auxiliary Engines crank shafts, diameter 51 mm Position engine room starboard

Have the auxiliary engines been constructed under special survey no Is a report sent herewith

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AIR RECEIVERS:—Have they been made under survey no State No. of report or certificate -
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 and cleaned yes Is a drain fitted at the lowest part of each receiver yes
Injection Air Receivers, No. three Cubic capacity of each 95 litres Internal diameter 253 mm thickness 7 mm
Seamless, lap welded or riveted longitudinal joint seamless Material S.M. Steel Range of tensile strength - Working pressure 20 Kg/cm²
Starting Air Receivers, No. - Total cubic capacity - Internal diameter - thickness -
Seamless, lap 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 20-8-46 Receivers 20-8-46 Separate fuel tanks -
(If not, state date of approval)
Donkey boilers - General pumping arrangements - Pumping arrangements in machinery space 20-8-46
Oil fuel buring arrangements -

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes.
State the principal additional spare gear supplied -

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
During progress of work in shops - -
During erection on board vessel - -
Total No. of visits 13.

Dates of examination of principal parts—Cylinders 8-10-46 Covers 8-10-46 Pistons 8-10-46 Rods 8-10-46 Connecting rods -
Crank shaft 10-9-46 Flywheel shaft - Thrust shaft 25-10-46 Intermediate shafts 25-10-46 Tube shaft -
Screw shaft 25-10-46 Propeller 25-10-46 Stern tube 25-10-46 Engine seatings 10-9-46 Engine holding down bolts -
Completion of fitting sea connections 25-10-46 Completion of pumping arrangements 15-1-47 Engines tried under working conditions 15-1-47
Crank shaft, material S.M. Steel Identification mark Lloyd's No. 238. Flywheel shaft, material - Identification mark -
Thrust shaft, material - Identification mark - Intermediate shafts, material - Identification marks -
Tube shaft, material - Identification mark - Screw shaft, material - Identification mark -
Identification marks on air receivers -

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 yes.

Description of fire extinguishing apparatus fitted -

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo no. If so, have the requirements of the Rules been complied with -

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with not required.

Is this machinery duplicate of a previous case - If so, state name of vessel -

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

The machinery and airreceivers have been opened up, examined and tested (see repair report).
The pumping arrangement has been altered and brought up in accordance with the approved plan.
The machinery has been tested under full working condition and was found satisfactory and in my opinion it is eligible the notation L.M.C.1-47 and T.S. seen 1-47, to be placed in the Register Book.

The amount of Entry Fee ... £ : :
Special ... £1. 225.-- } When applied for 19
Donkey Boiler Fee... £ : : } When received 19
Travelling Expenses (if any) £

(Committee's Minute

Assigned

L.M.C. 1.47 Oil Eng.
S. 1.47

FRI. 21 FEB 1947

Engineer Surveyor to Lloyd's Register of Shipping.



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