

REPORT ON OIL ENGINE MACHINERY.

No. 12135

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Writing Report 1/4 19 47 NEWCASTLE-ON-TYNE 22/4/48 Received at London Office
 Survey held at Copenhagen When handed in at Local Office 22/4/48 Port of Copenhagen
 Date, First Survey 26/3 1945 Last Survey 24/3 19 47
 "AROS" Number of Visits 41
 Screw vessel B & W ENGINE DESIGNATED "HELSEBORG I"
 Tons Gross 3162 Net 2132
 By whom built Blyth Dry Dock & Shiprepair Co. Yard No. 334
 By whom made a/s Bunnish & Wain Engine No. 3837 When built 1946
 By whom made Boiler No. When made
 Horse Power 3950 Owners
 Horse Power as per Rule 830 900 = MN Is Refrigerating Machinery fitted for cargo purposes YES. Is Electric Light fitted yes
 for which vessel is intended INTERNATIONAL

ENGINES, &c. — Type of Engines 8 1/2 V Diesel, trunk type 2 or 4 stroke cycle 2 Single or double acting single
 Maximum pressure in cylinders 4.9 kg/cm² 24 1/2 lb Diameter of cylinders 620 mm length of stroke 150 mm No. of cylinders 8 No. of cranks 8
 Indicated Pressure 6.5 kg/cm² 147 lb
 of bearings, adjacent to the crank, measured from inner edge to inner edge 796 mm
 Revolutions per minute 120 Flywheel dia. 2136 mm Weight 2097 kg Is there a bearing between each crank yes
 Means of ignition compression Kind of fuel used Diesel oil
 dia. of journals as per Rule 399 mm as fitted 435 mm Crank pin dia. 435 mm Crank webs Mid. length breadth 730 mm Mid. length thickness 270 mm Thickness parallel to axis 270 mm Thickness around eye-hole 187.5 mm
 Intermediate Shafts, diameter as per Rule 328 mm as fitted 330 mm Thrust Shaft, diameter at collars as fitted 400 mm
 Shaft, diameter as per Rule 370.2 mm as per New Rule 375 mm as fitted 380 mm Is the (tube) shaft fitted with a continuous liner (no liner)
 Shaft, diameter as fitted 350.2 mm at Couplings as per Rule 350 mm as fitted

Is the after end of the liner made watertight in the stern tube, is the space charged with a plastic material insoluble in water and non-conducting material yes
 If two liners are fitted, is the shaft lapped or protected between the liners yes Is an approved Oil Gland or other appliance fitted at the after end of the shaft yes
 Length of bearing in Stern Bush next to and supporting propeller 1555 mm
 No. of blades 4 Material Bronze whether moveable No Total developed surface 8.3 sq. feet
 Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of preventing water from being syphoned from the engine 2 SAFE WATER 150 T/H

Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled yes
 Cooling Water Pumps, No. 1 F.W. Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes
 Pumps worked from the Main Engines, No. Two Diameter 5 7/8" Stroke 7" Can one be overhauled while the other is at work yes
 Connected to the Main Bilge Line No. and size 1 Ballast pp. 150 T/H 1 Bilge pump, 20 Tons/H 2 M.E. pumps, 5 1/2" dia x 7" How driven Electric motor Electric motor Levers
 Is the shaft tunnel watertight yes Is it fitted with a watertight door yes worked from

Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 OFF 170 t/h
 Independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both main bilge pumps and auxiliary pumps, No. and size: Six @ 2 1/2" In pump room
 &c. No 1 - 2 1/2" P+S; No 2 Hold, 3 1/2" P+S; No 3 Hold, 2 1/2" P+S; No 4 Hold, 2 1/2" P+S; No 5 Hold, 2 1/2" P+S;
 Direct Suctions to the engine room bilges, No. and size 2 @ 4 1/2"
 Are the bilge suction pipes in holds and tunnel well fitted with strum-boxes yes 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 yes
 Are they fitted with valves or cocks valves Are they fixed 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 below
 Are the blow off cocks fitted with a spigot and brass covering plate none How are they protected Have they been tested as per Rule yes

Are the 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, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Is the shaft tunnel watertight yes Is it fitted with a watertight door yes worked from
 Compressors, No. 2 OFF 2-cyl. No. of stages 2 diameters 130 - 115 mm stroke 120 mm driven by electric motor
 Air Compressors, No. No. of stages diameters stroke driven by
 Auxiliary Air Compressors, No. 1 No. of stages 2 diameters stroke driven by Diesel P.
 Is provision made for first charging the air receivers Small aux. air compressor as above - hand started

Air Pumps, No. 2 ROTARY diameter 192 mm stroke 146.5 mm No. 3 driven by main engine
 as per Rule 170 mm
 Auxiliary engines constructed under special survey yes
 Is a report sent herewith yes

004003-004008-0100



State No. of report or certificate *4c.*

AIR RECEIVERS:—Have they been made under survey... *yes*

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*

AUXIL. START. BOTTLE
Injection Air Receivers, No. *1* Cubic capacity of each *250 lit.* Internal diameter *380 mm* thickness *10 mm*

Seamless, lap welded or riveted longitudinal joint *welded* Material *S.M. steel* Range of tensile strength *41-47 kg/mm²* Working pressure Actual... *25*

Starting Air Receivers, No. *1* Total cubic capacity *12 m³* Internal diameter *1806-1854 mm* thickness *24 mm*

Seamless, lap welded or riveted longitudinal joint *riveted* Material *S.M. steel* Range of tensile strength *47.5 kg/mm²* Working pressure Actual... *25*

IS A DONKEY BOILER FITTED... *no* If so, is a report now forwarded... *yes*

Is the donkey boiler intended to be used for domestic purposes only... *yes*

PLANS. Are approved plans forwarded herewith for shafting... *yes* Receivers... *yes* Separate fuel tanks... *yes*

Donkey boilers... General pumping arrangements... Pumping arrangements in machinery space... *yes*

Oil fuel buring arrangements... *yes*

SPARE GEAR.

Has the spare gear required by the Rules been supplied... *yes*

State the principal additional spare gear supplied... *1 propeller shaft.*

and the particulars of the installation as fitted are set forth in the description of the machinery.

AKTIESELSKABET BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI

The foregoing is the correct description of the machinery and the particulars of the installation as fitted are set forth in the description of the machinery.

Dates of Survey while building	During progress of work in shops - -	1945: 26/1, 13/4, 22/5, 30/6, 12/6, 29/7, 7/8, 22/8, 30/8, 7/9, 9/10, 11/12; 1946: 5/1, 18/1, 31/1, 1/2, 12/2, 2/3, 7/3, 16/3, 22/3, 28/3; 1947: 4/1, 16/1, 24/3
	During erection on board vessel - -	7/6, 19/6, 20/6, 23/7, 25/7, 30/7, 31/7, 1/8, 13/9, 4/10, 11/10, 14/10; 1947: 4/1, 16/1, 24/3
	Total No. of visits	41
Dates of examination of principal parts—Cylinders	with Covers	2/7, 7/3, 11/3, 4/6, 28/3, 4/6
	Pistons	28/3, 4/6
	Rods	4/1, 11/10, 16/10, 16/4, 16/4, 7/6
	Connecting rods	4/1, 11/10, 16/10, 16/4, 16/4, 7/6
Crank shaft	Flywheel shaft	18/3, 3/1, 7/3, 4/6
	Thrust shaft	18/3, 3/1, 7/3, 4/6
	Intermediate shafts	18/3, 3/1, 7/3, 4/6
Screw shaft	Propeller	4/1, 4/7
	Stern tube	4/1, 4/7
	Engine scatings	4/1, 4/7
	Engine holding down bolts	4/1, 4/7
Completion of fitting sea connections	Completion of pumping arrangements	Engines tried under working conditions
Crank shaft, material	Identification mark	LLOYD'S N: 6377-8
	Flywheel shaft, material	Identification mark
Thrust shaft, material	Identification mark	LLOYD'S N: 6399
	Intermediate shafts, material	Identification mark
CONN. RODS	Identification mark	LLOYD'S N: 6329-30
Tube shaft, material	Identification mark	LLOYD'S N: 6329-30
	Screw shaft, material	Identification mark
Identification marks on air receivers		LLOYD'S TEST 41 ATM.
		W.P. 25 ATM.
		K.L. 13.9.46.

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... *CO₂ + portable foam extinguishers*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... *no*

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with... *yes*

Is this machinery duplicate of a previous case... *no*

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

This engine has been built under special survey and in accordance with the Society's Rules the approved plans and the Surveyor's Report dated 18/4 & 4/7 46. The bed plate and the installation are of welded made of S.M. steel plates and have been specially examined during construction and during and after the running test under full power and found satisfactory. The torsional vibration characteristics have been approved by letter E dated 4/7 46.

The machinery has been efficiently installed on board, tested under full power working conditions & found satisfactory, & in my opinion is eligible for the notation + L.M.C. 3.48 when the survey has been completed, and the notation T.S.OG.

The amount of Entry Fee... £

2/3 Special ... £2200.-

1 STARTING AIR RECEIVER 125.-

Donkey Boiler Fee... £

Newcastle - Installation £85-0-0

Travelling Expenses (if any) £

When applied for... 24 1947

When received... 19

Committee's Minute

Assigned + L.M.C. 3.48 Oil Eng. O.G.

NEWCASTLE-ON-TYNE

SURVEYOR

ENGINEER SURVEYOR TO LLOYD'S REGISTER

J. Bowman

NEWCASTLE-ON-TYNE

APRIL 1948

Await F.C. Mt.