

REPORT ON OIL ENGINE MACHINERY.

No. 78876

Received at London Office

Report 12th June 1952 When handed in at Local Office 17.6.1952 Port of Glasgow.
Survey held at Glasgow Date, First Survey 10th March 1952 Last Survey 6th June 1952
Number of Visits

Rules Single
the Twin
Triple
Screw vessel
H.V. "NORTHGATE"
Tons Gross 429
Net 224
By whom built Cleland (Successor) Ltd.
Yard No. When built 1941
By whom made British Polar Engines Ltd.
Engine No. E918 When made 1952
Boiler No. When made
Port belonging to Hull.
Owners Hull Gate Shipping Co Ltd.
Power 350
Is Refrigerating Machinery fitted for cargo purposes
Is Electric Light fitted
Which vessel is intended Open sea service

Types of Engines Heavy Oil Engine H.44.I.4 2 or 4 stroke cycle 2 Single or double acting Single
Pressure in cylinders 780 lbs/sq. in. Diameter of cylinders 250 mm Length of stroke 420 mm No. of cylinders 4 No. of cranks 4
Rated Pressure 98.6 lbs/sq. in. Ahead Firing Order in Cylinders 4-2-3-1. Span of bearings, adjacent to the crank, measured
edge to inner edge 366 mm Is there a bearing between each crank YES Revolutions per minute 350
Weight 2650 Moment of inertia of flywheel (lbs. in² or Kg. cm²) 2160 Means of ignition CONP. Kind of fuel used S.M.O.
dia. of journals as per Rule 170 mm Crank pin dia. 170 mm Crank webs Mid. length breadth 226 mm Thickness parallel to axis
Mid. length thickness 95 mm shrunk Thickness around eyehole

Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as fitted 205 mm
Screw Shaft, diameter as per Rule Is the tube screw shaft fitted with a continuous liner
Thickness between bushes as per Rule Is the after end of the liner made watertight in the

If the liner is in more than one length are the junctions made by fusion through the whole thickness of 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
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
shaft 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

Reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of
Thickness of cylinder liners 19.5 mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled
with non-conducting material LACED If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned
engine Cooling Water Pumps, No. ONE Is the sea suction provided with an efficient strainer which can be cleared within the vessel

s worked from the Main Engines, No. ONE Diameter 85 mm Stroke 60 mm Can one be overhauled while the other is at work
ected to the Main Bilge Line (No. and size How driven
g 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
ts

Power Driven Lubricating Oil Pumps, including spare pump, No. and size
dependent means arranged for circulating water through the Oil Cooler Suctions, connected to both main bilge pumps and auxiliary
No. and size:—In machinery spaces In pump room

Power Pump Direct Suctions to the engine room bilges, No. and size
bilge suction pipes in holds and tunnel well fitted with strum-boxes Are the bilge suction in the machinery spaces led from easily
ud-boxes, 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

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
h 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
pass through the bunkers How are they protected
pass through the deep tanks Have they been tested as per Rule

s, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times
gement 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
om one compartment to another Is the shaft tunnel watertight Is it fitted with a watertight door worked from
essel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Compressors, No. ONE No. of stages TWO diameters 55-140 mm stroke 240 mm driven by MAIN ENG.
Air Compressors, No. No. of stages diameters stroke driven by
Shipliary Air Compressors, No. No. of stages diameters stroke driven by
sion is made for first charging the air receivers
Air Pumps, No. ONE diameter 590 mm stroke 240 mm driven by MAIN ENG.
Engines crank shafts, diameter as per Rule No. Position
auxiliary engines been constructed under special survey Is a report sent herewith

24
7
52

004213-004221-0180

AIR RECEIVERS:—Have they been made under survey YES State No. of report or certificate C90817 C90823

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. Two Cubic capacity of each 30 CU. FT. Internal diameter 21" thickness 13/32"

Seamless, welded or riveted longitudinal joint RIVETED Material M.S. Range of tensile strength 26/22 T Working pressure 245 PSI

Starting Air Receivers, No. Two Total cubic capacity 30 CU. FT. Internal diameter 21" thickness 13/32"

Seamless, welded or riveted longitudinal joint RIVETED Material M.S. Range of tensile strength 26/22 T Working pressure 245 PSI

IS A DONKEY BOILER FITTED YES 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 16-2-52 Separate fuel tanks YES

Donkey boilers YES General pumping arrangements YES Pumping arrangements in machinery space YES

Oil fuel burning arrangements YES

Have Torsional Vibration characteristics been approved YES Date of approval 27th May 1952

SPARE GEAR.

Has the spare gear required by the Rules been supplied YES

State the principal additional spare gear supplied YES

The foregoing is a correct description.

John S. Ralston Manufacturer.

Dates of Survey while building March 10th April 3rd to 30th May 9th to 23rd June 2nd to 6th

During progress of work in shops - - March 10th April 3rd to 30th May 9th to 23rd June 2nd to 6th

During erection on board vessel - - March 10th April 3rd to 30th May 9th to 23rd June 2nd to 6th

Total No. of visits ENG. II

Dates of examination of principal parts—Cylinders 3-4-52 Covers 9-5-52 Pistons 10-3-52 Rods ✓ Connecting rods 1-4-52

Crank shaft 16-1-52 Flywheel shaft 5-2-52 Thrust shaft 17-4-52 Intermediate shafts 2-5-52 Tube shaft 2-5-52

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 ✓

Crank shaft, material O.H. STEEL Identification mark 2083 NWT Flywheel shaft, material O.H. STEEL Identification mark 7852 W.J.I.

Thrust shaft, material O.H. STEEL Identification mark 8042 W.J.I. Intermediate shafts, material ✓ Identification marks ✓

Tube shaft, material ✓ Identification mark ✓ Screw shaft, material ✓ Identification mark ✓

Identification marks on air receivers Nº 90817 4-2-52 G.H. Nº 90823 4-2-52 G.H.

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 ✓

Description of fire extinguishing apparatus fitted ✓

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 ✓

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, &c. This engine has been built under Special Survey

in accordance with the Secretary's letter and approved plans. The materials and workmanship

are good and on completion the engine was tried on the test bed at the maker's works

with satisfactory results. It has now been dispatched to the Clerk S.B. & Repairing Co. Ltd. to

be fitted as replace engine to H.V. Northgate and is eligible in my opinion for the record

of L.M.C. (with date) when efficiently installed on board.

The torsional vibration characteristics have been approved for a service speed of 350 RPM. provided

a notice board be fitted at the control station stating that the engine is not to be operated

continuously between 238 and 275 RPM and the engine tachometer be marked accordingly.

The amount of Entry Fee ... £ 25 : 0

Special ... £ : When applied for 19

Donkey Boiler Fee... £ : When received 19

Travelling Expenses (if any) £ : 19

Committee's Minute GLASGOW 24 JUN 1952

Assigned Deferred for completion

A. G. Smith

Engineer Surveyor to Lloyd's Register of Shipping.



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