

REPORT ON OIL ENGINE MACHINERY.



pt. 4b.

Received at London Office 30 MAY 1951

Date of writing Report 19 When handed in at Local Office 29 MAY 1951 19 Port of NEWCASTLE-ON-TYNE

Survey held at NEWCASTLE ON TYNE Date, First Survey 16th May 1950 Last Survey 17th May 1951

g. Book. Number of Visits 50

Single on the Twin Triple Quadruple Screw vessel M.V. "ATHELFOAM" Tons Gross Not Available Net 1100

Yard No. 1212 When built

By whom built SMITH'S DOCK CO. LD.

By whom made R & W. HAWTHORN LESLIE & CO. LD. Engine No. 4075 When made 1951

WALLSEND ON TYNE By whom made THE NORTH EASTERN MARINE ENG. CO. (1938) LTD. Boiler No. 3196 When made 1938

MAX 2 Owners ATHEL FOAM LTD. Port belonging to LIVERPOOL

4450 SERVICE Owners

902 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

OPEN SEA SERVICE

ENGINES, &c. — Type of Engines HAWTHORN-DOXFORD OPPOSED PISTON 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 640 LBS/SQ" Diameter of cylinders 670mm Length of stroke 2320mm No. of cylinders 4 No. of cranks 4 THREE-THROW

89 LBS/SQ" Ahead Firing Order in Cylinders 1-3-4-2 Span of bearings, adjacent to the crank, measured BETWEEN EACH 3-THROW Revolutions per minute 112

2020 mm Is there a bearing between each crank 3-THROW

2493 mm Wheel dia. 1.15 TNS Moment of inertia of flywheel (lbs. in² or Kg. cm²) 0.497 Means of ignition COMPRESS Kind of fuel used HEAVY OIL

as per Rule APPROVED dia. of journals as fitted 500mm Crank pin dia. 500mm Crank webs Mid. length breadth 710mm Thickness parallel to axis 285mm

as fitted 500mm Mid. length thickness 285mm shrunk Thickness around eye hole 219mm

Intermediate Shafts, diameter as per Rule as fitted 22 3/8" 2 18" Thrust Shaft, diameter at collars as fitted 500mm

Screw Shaft, diameter as per Rule as fitted 21" Is the (tube) shaft fitted with a continuous liner YES

as per Rule 1/64" Thickness between bushes as per Rule as fitted 27/32" Is the after end of the liner made watertight in the

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

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 7'-2"

propeller, dia. 17'-0" Pitch 12.89 to 10.34 No. of blades 4 Material M. BRONZE whether moveable No Total developed surface 100 sq. feet

Moment of inertia of propeller (lbs. in² or Kg. cm²) 4.85 TNS FT/SEC² Kind of damper, if fitted DOXFORD BIBBY DETUNER (SEE OVERLEAF)

method of reversing Engines COMPRESS AIR Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of ignition FORCED Thickness of cylinder liners 25mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled

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. 1FW } M.E. DRIVEN. 1SW } Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. NONE Diameter - Stroke - Can one be overhauled while the other is at work

Bilge Pumps connected to the Main Bilge Line (No. and size) How driven

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

Power Driven Lubricating Oil Pumps, including spare pump, No. and size M.E. DRIVEN 45 TNS/HR.

two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both main bilge pumps and auxiliary pumps, No. and size:—In machinery spaces In pump room

Independent Power Pump Direct Suctions to the engine room bilges, No. and size

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

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

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

at pipes pass through the bunkers How are they protected

at pipes pass through the deep tanks Have they been tested as per Rule

all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times

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

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

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

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provision is made for first charging the air receivers

charging Air Pumps, No. Two diameter 1700 mm stroke 548 mm driven by LEVERS FROM NOS. 1 & 2 ENGINES

Auxiliary Engines crank shafts, diameter as per Rule No Position

the auxiliary engines been constructed under special survey Is a report sent herewith

Jm
7/6/51



AIR RECEIVERS:—Have they been made under survey YES State No. of report or certificate FUSIBLE PLUG.
 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. - Cubic capacity of each - Internal diameter - thickness -
 Seamless, welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure -
 Starting Air Receivers, No. TWO Total cubic capacity 300 cu. ft Internal diameter 4'-6" thickness 1 3/8"
 Seamless, welded or riveted longitudinal joint ELECT. WELD Material M.S. Range of tensile strength SHELL 28/32 TNS/0" Working pressure Actual 60

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 YES Receivers 13.1.50 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 of approval 4.1.50

SPARE GEAR.
 Has the spare gear required by the Rules been supplied YES
 State the principal additional spare gear supplied AS PER ATTACHED LISTS.

NOTE:
 DOXFORD - BIBBY DETUNER. } FIXED MEMBER $W.K^2 = 4.5 TNS FT^2$ 4.0
 } FLOATING " " = 10.0 " "

R & W. HAWTHORN, LESLIE & CO. LIMITED
 The foregoing is a correct description, and the particulars of the installation as fitted are as Approved for the TORSIONAL VIBRATION CHARACTERISTIC Manufacturer.

Dates of Survey while building
 During progress of work in shops - 11.50, MAY 16, 18, 24, 26, JUNE 15, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, SEPT. 1, 11, 19, 21, 29, OCT. 12, 24, 30, NOV. 9, 23, 29, DEC. 1, 12, 19, 28, 11.51, JAN. 9, 15, 19
 During erection on board vessel - 20, FEB. 6, 14, 16, 20, 22, 26, 28, MAR. 2, 6, 8, 14, 16, 20, 22, 29, 30, APR. 3, 6, 17, 27, 30, MAY 8, 15, 17
 Total No. of visits 50

Dates of examination of principal parts—Cylinders 24.10.50 ETC Covers - Pistons 16.2.51 ETC. Rods 16.2.51 ETC. Connecting rods 22.2.51
 Crank shaft 18.5.50 ETC. Flywheel shaft - Thrust shaft IN CRANKSHAFT Intermediate shafts 6.2.51/15.5.51 Tube shaft -
 Screw shaft 9.1.51 AND 22.2.51 Propeller - Stern tube 8.5.51 Engine scatings - Engine holding down bolts -
 Completion of fitting sea connections - Completion of pumping arrangements - Engines tried under working conditions -
 Crank shaft, material F.O.H.I.S. Identification mark AB. 25.2.51 Flywheel shaft, material - Identification mark -
 Thrust shaft, material F.O.H.I.S. Identification mark IN CRANKSHAFT Intermediate shafts, material F.O.H.I.S. Identification marks JD. 11.51, 11.51, 11.51, 11.51
 Tube shaft, material - Identification mark - Screw shaft, material F.O.H.I.S. Identification mark JD. 7.2.51
 Identification marks on air receivers " LLOYDS TEST. TP. 950 LBS. WP. 600 LBS. AB. 12.12.50 "

Welded receivers, state Makers' Name R & W. HAWTHORN LESLIE & CO. LD. NEWCASTLE ON TYNE.
 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.)
The engine referred to herein has been constructed under Special Survey in accordance with the approved plans, Society's Rules, & Secretary's letters. The material and workmanship are good. The engine has been despatched to Southbank on Tees for installation in Messrs Smith's Dock Co. Ltd. vessel, Ship No. 1212.

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

The amount of Entry Fee 2/3 (CONSTRUCT) £ 170 : 6 : 0
 Special EW CONSTRUCTN £ 17 : 16 : 0
 2 AIR RECEIVERS (66 TNS) £ 8 : 0 : 0
 Donkey Boiler Fee... £ : :
 Travelling Expenses (if any) £ : :
 When applied for 29 MAY 1951
 When received 19

Abulker
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUES. 11 DEC 1951
 Assigned See F.E. mchey spk.