

REPORT ON OIL ENGINE MACHINERY.

No.

89171/4

pt. 4b.

Received at London Office 4 AUG 1926
 Date of writing Report 4 AUG 1926 When handed in at Local Office 4 AUG 1926 Port of London (Spurwich)
 in Survey held at Spurwich Date, First Survey 22 APRIL 1925 Last Survey 18 JULY 1925
 Book. 3 Engines for Auxiliary purposes. Nos 899-900-903 Number of Visits 18
 on the Single } Screw vessels
 Twin }
 Triple }
 Built at Howdon-on-Tyne By whom built Northumbrian S.B. Co. Yard No. When built
 Engines made at Spurwich By whom made Vickers - Pettus Ltd Engine No. When made 1925
 Boilers made at ✓ By whom made ✓ Boiler No. When made ✓
 Brake Horse Power 90 each engine Owners Port belonging to
 m. Horse Power as per Rule (25.7) Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Type of Engines Semi-Diesel 2 or 4 stroke cycle 2 Single or double acting Single
 Maximum pressure in cylinders 390 lb. No. of cylinders 2 No. of cranks 2 Diameter of cylinders 12"
 Length of stroke 14" Revolutions per minute 300 Means of ignition Electric + Hot surface Kind of fuel used Grade oil
 Is there a bearing between each crank Yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 14 3/8"
 Distance between centres of main bearings 2'-0 1/2" Is a flywheel fitted Yes Diameter of crank shaft journals as fitted 5 1/4"
 Diameter of crank pins 5 1/4" ✓ Breadth of crank webs as fitted 8 3/4" ✓ Thickness of ditto as fitted 3 1/4" ✓
 Diameter of flywheel shaft as per Rule as fitted ✓ Diameter of tunnel shaft as per Rule as fitted ✓ Diameter of thrust shaft as per Rule as fitted ✓
 Diameter of screw shaft as per Rule as fitted ✓ Is the screw shaft fitted with a continuous liner the whole length of the stern tube ✓
 Is the after end of the liner made watertight in the propeller boss ✓ If the liner is in more than one length are the joints burned ✓
 Does the liner do 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 ✓
 Are the liners fitted, is the shaft lapped or protected between the liners ✓ If without liners, is the shaft arranged to run in oil ✓
 Is the outer gland fitted to stern tube ✓ Length of stern bush ✓ Diameter of propeller ✓
 Diameter of propeller ✓ No. of blades ✓ state whether moveable ✓ Total surface ✓ square feet
 Is the governor or other arrangement fitted to prevent racing of the engine when declutched Yes Thickness of cylinder liners 7/8"
 Are the cylinders fitted with safety valves ✓ Means of lubrication Are the exhaust pipes and silencers water cooled or lagged with
 conducting material water cooled. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine
 No. of cooling water pumps one Is the sea suction provided with an efficient strainer which can be cleared
 No. of bilge pumps fitted to the main engines ✓ Diameter of ditto ✓ Stroke ✓
 Can be overhauled while the other is at work ✓ No. of auxiliary pumps connected to the main bilge lines ✓ How driven ✓
 No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room ✓
 No. of ballast pump ✓ How driven ✓ Sizes of pumps ✓
 Is the ballast pump fitted with a direct suction from the engine room bilges ✓ State size ✓ Is a separate auxiliary pump suction fitted in
 Engine Room and size ✓ Are all the bilge suction pipes fitted with roses ✓ Are the roses in Engine Room always accessible ✓
 Are the sluices on Engine Room bulkheads always accessible ✓ Are all connections with the sea direct on the skin of the ship ✓
 Are the key valves or cocks ✓ Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates ✓
 Are the discharge pipes 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 pipes, cocks, valves and pumps in connection with the machinery accessible at all times ✓ Are the bilge suction pipes, cocks and valves arranged so as to prevent any
 communication between the sea and the bilges ✓ Is the screw shaft tunnel watertight ✓ Is it fitted with a watertight door ✓
 Is the vessel a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓
 No. of main air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 No. of auxiliary air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 No. of small auxiliary air compressors one for the three engines No. of stages one Diameters 3" Stroke 4" Driven by Belt.
 No. of scavenging air pumps ✓ Diameter ✓ Stroke ✓ Driven by ✓
 Diameter of auxiliary Diesel Engine crank shafts as per Rule as fitted ✓ Are the air compressors and their coolers made so as to be easy of access ✓

RECEIVERS:—No. of high pressure air receivers ✓ Internal diameter ✓ Cubic capacity of each ✓
 Seamless, lap welded or riveted longitudinal joint ✓ Range of tensile strength ✓
 working pressure by Rules ✓ No. of starting air receivers 6 Internal diameter 11 1/2"
 cubic capacity 275 Cubic feet each bottle Material Steel Seamless, lap welded or riveted longitudinal joint Seamless
 Range of tensile strength 28-32 tons thickness 1/4" Working pressure by rules 540 lb. 501 ✓ Is each receiver, which can be isolated.
 Is the receiver fitted with a safety valve as per Rule Yes Can the internal surfaces of the receivers be examined No What means are provided for cleaning their
 internal surfaces none Is there a drain arrangement fitted at the lowest part of each receiver Yes

IS 'A DONKEY BOILER FITTED? ✓

If so, is a report now forwarded? ✓

HYDRAULIC TESTS:— ✓

DESCRIPTION.	DATE OF TEST.			WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
	<i>Engine Nos.</i>						
	<i>899</i>	<i>900</i>	<i>903</i>				
ENGINE CYLINDERS <i>Liners</i>	<i>30-4-25</i>	<i>6-5-25</i>	<i>6-5-25</i>	<i>390 lb</i>	<i>800 lb</i>	<i>Lloyd test. A.S.T.</i>	
" " COVERS	<i>4-5-25</i>	<i>23-5-25</i>	<i>4-5-25</i>	<i>390 lb</i>	<i>800 lb</i>	" " "	
" " JACKETS	<i>4-5-25</i>	<i>23-5-25</i>	<i>8-6-25</i>	<i>5-10 lb</i>	<i>50 lb</i>	" " "	
<i>Reaplate</i> " Plates WATER PASSAGES	<i>11-5-25</i>	<i>23-5-25</i>	<i>23-5-25</i>	<i>5-10 lb</i>	<i>30 lb</i>	" " "	
MAIN COMPRESSORS 1st Stage	—	—	—	—	—	—	
<i>Air bottles</i> (5) " 2nd "	—	—	—	<i>300 lb</i>	<i>600 lb</i>	<i>Lloyd test. T.H. Bottles numbered. 104 208 - 104 204 - 104 205 - 104 209 - 104 211 - 104 212.</i>	
" 3rd "	—	—	—	—	—	—	<i>30-4-25.</i>
AIR RECEIVERS-STARTING <i>valves</i>	<i>8-6-25</i>	<i>13-6-25</i>	<i>8-6-25</i>	<i>300 lb</i>	<i>600 lb</i>	<i>Lloyd test. A.S.T.</i>	
" INJECTION	—	—	—	—	—	—	
AIR PIPES	<i>8-6-25</i>	<i>13-6-25</i>	<i>8-6-25</i>	<i>300 lb</i>	<i>600 lb</i>	<i>Lloyd test. A.S.T.</i>	
FUEL PIPES	<i>18-6-25</i>	<i>13-6-25</i>	<i>1-7-25</i>	<i>700 lb</i>	<i>1200 lb</i>	" " "	
FUEL PUMPS <i>+ 2 bi-pass valves</i>	<i>23-5-25</i>	<i>18-6-25</i>	<i>1-7-25</i>	<i>700 lb</i>	<i>2000 lb</i>	" " "	
SILENCERS	<i>11-5-25</i>	<i>5-6-25</i>	<i>23-5-25</i>	<i>5-10 lb</i>	<i>30 lb</i>	" " "	
" WATER JACKETS	<i>11-5-25</i>	<i>5-6-25</i>	<i>23-5-25</i>	<i>5-10 lb</i>	<i>30 lb</i>	" " "	
SEPARATE FUEL TANKS	<i>18-6-25</i>	<i>13-6-25</i>	<i>13-6-25</i>	—	<i>7 1/2 lb</i>	" " "	

PLANS. Are approved plans forwarded herewith for shafting *Yes*
(If not, state date of approval)

Receivers ✓

Separate Tanks *Yes*

SPARE GEAR

See separate list.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *1925. Apr 22 30. May 4 6 11 23. JUNE 5 8 13 17 18 19 26 29 July 1 3 9 18*
{ During erection on board vessel - - }
Total No. of visits *18.*

Dates of Examination of principal parts—Cylinders *22-4-25 6-5-25* Covers *22-4-25 6-5-25* Pistons *22-4-25 6-5-25* Rods ✓ Connecting rods *22-4-25 16-5-25*
Crank shaft ✓ Thrust shaft ✓ Tunnel shafts ✓ Screw shaft ✓ Propeller ✓ Stern tube ✓ Engine seatings ✓
Engines holding down bolts ✓ Completion of pumping arrangements ✓ Engines tried under working conditions ✓
Completion of fitting sea connections ✓ Stern tube ✓ Screw shaft and propeller ✓
Material of crank shafts *Steel* Identification Marks on Do. *LLOYD'S No 953 A.L. 7/4/25 " 954 A.L. 7/4/25 " 959 A.L. 24/4/25* Identification Mark on Do. ✓
Material of tunnel shafts ✓ Identification Marks on Do. ✓ Material of screw shafts ✓ Identification Marks on Do. ✓
Is the flash point of the oil to be used over 150° F. *Yes.*
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. *These engines have been constructed under special survey, in accordance with the Society's Rules, the materials & workmanship are good. The hydraulic tests as stated above were satisfactory. The engines were run at full power on test bench & found satisfactory.*

The engines have been dispatched to Messrs The Northumberland Shipbuilding Co. Ltd. Howdon, n. Tyne.

The amount of Entry Fee ... £ *7 16 0* When applied for, *1925*
Special ... £ ...
Donkey Boiler Fee ... £ ...
Travelling Expenses (if any) £ ...

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned



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