

REPORT ON OIL ENGINE MACHINERY.

No. 89,174

pt. 4b.

Received at London Office 4 AUG 1926

When handed in at Local Office 4 AUG 1926

Port of London (Spwisch)

Date, First Survey 22 APRIL 1925 Last Survey 18 JULY 1925

Number of Visits 18

in Survey held at Spwisch

on the *Single* } Screw vessels
Twin }
Triple }

Built at *Howdon-on-Tyne* By whom built *Northumbland S.B. Co* Yard No. When built

Engines made at *Spwisch* By whom made *Vickers-Petroleum* Engine No. When made *1925*

Boilers made at *Spwisch* By whom made *Spwisch* Boiler No. When made

Indicated Horse Power *90 each engine* Owners Port belonging to

Net 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 3/16"*

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* Diameter of tunnel shaft *as per Rule* Diameter of thrust shaft *as per Rule*

Diameter of screw shaft *as per Rule* Is the screw shaft fitted with a continuous liner the whole length of the stern tube *Yes*

Is the liner made watertight in the propeller boss *Yes* If the liner is in more than one length are the joints burned *Yes*

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 *Yes*

Are liners fitted, is the shaft lapped or protected between the liners *Yes* If without liners, is the shaft arranged to run in oil *Yes*

Is an outer gland fitted to stern tube *Yes* Length of stern bush *Yes* Diameter of propeller *Yes*

Number of blades *Yes* state whether moveable *Yes* Total surface *Yes* square feet *8"*

Is a governor or other arrangement fitted to prevent racing of the engine when declutched *Yes* Thickness of cylinder liners *2/8"*

Are cylinders fitted with safety valves *Yes* Means of lubrication *Water cooled* 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 *Yes* Diameter of ditto *Yes* Stroke *Yes*

Can be overhauled while the other is at work *Yes* No. of auxiliary pumps connected to the main bilge lines *Yes* How driven *Yes*

No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room *Yes*

No. of ballast pump *Yes* How driven *Yes* Sizes of pumps *Yes*

Is a ballast pump fitted with a direct suction from the engine room bilges *Yes* State size *Yes* Is a separate auxiliary pump suction fitted in Engine Room and size *Yes*

Are all the bilge suction pipes fitted with roses *Yes* Are the roses in Engine Room always accessible *Yes*

Are sluices on Engine Room bulkheads always accessible *Yes* Are all connections with the sea direct on the skin of the ship *Yes*

Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates *Yes*

Are discharge pipes above or below the deep water line *Yes* Are they each fitted with a discharge valve always accessible on the plating of the vessel *Yes*

Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times *Yes* Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges *Yes*

Is the screw shaft tunnel watertight *Yes* Is it fitted with a watertight door *Yes*

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

No. of main air compressors *Yes* No. of stages *Yes* Diameters *Yes* Stroke *Yes* Driven by *Yes*

No. of auxiliary air compressors *Yes* No. of stages *Yes* Diameters *Yes* Stroke *Yes* Driven by *Yes*

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 *Yes* Diameter *Yes* Stroke *Yes* Driven by *Yes*

Diameter of auxiliary Diesel Engine crank shafts *as per Rule* Are the air compressors and their coolers made so as to be easy of access *Yes*

RECEIVERS:—No. of high pressure air receivers *Yes* Internal diameter *Yes* Cubic capacity of each *Yes*

Seamless, lap welded or riveted longitudinal joint *Yes* Range of tensile strength *Yes*

working pressure by Rules *Yes* 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*

Working pressure by rules *540 lb. 504* Is each receiver, which can be isolated, *Yes*

Can the internal surfaces of the receivers be examined *Yes* 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.
	899	900	903				
ENGINE CYLINDERS <i>Liners</i>	30-4-25	6-5-25	6-5-25	390 lbs	800 lbs	Lloyd's test. A.S.T.	
" " COVERS	4-5-25	23-5-25	4-5-25	390 lbs	800 lbs	" " "	
" " JACKETS	4-5-25	23-5-25	8-6-25	5-10 lbs	50 lbs	" " "	
<i>Replate</i> " " WATER PASSAGES	11-5-25	23-5-25	23-5-25	5-10 lbs	30 lbs	" " "	
MAIN COMPRESSORS 1st Stage	—	—	—	—	—	—	
" " <i>Air bottles (6)</i>	—	—	—	300 lbs	600 lbs	Lloyd's test. T.H. Bottles numbered. 104 208 - 104 204 - 104 208 - 104 209 - 104 211 - 104 212. 30-4-25.	
" " 2nd "	—	—	—	—	—	—	
" " 3rd "	—	—	—	—	—	—	
AIR RECEIVERS-STARTING <i>valves</i>	8-6-25	13-6-25	8-6-25	300 lbs	600 lbs	Lloyd's test. A.S.T.	
" " INJECTION	—	—	—	—	—	—	
AIR PIPES	8-6-25	13-6-25	8-6-25	300 lbs	600 lbs	Lloyd's test. A.S.T.	
FUEL PIPES	18-6-25	13-6-25	1-7-25	700 lbs	1200 lbs	" " "	
FUEL PUMPS <i>+ 2 bi-pass valves</i>	23-5-25	18-6-25	1-7-25	700 lbs	2000 lbs	" " "	
SILENCERS	11-5-25	5-6-25	23-5-25	5-10 lbs	30 lbs	" " "	
" " WATER JACKETS	11-5-25	5-6-25	23-5-25	5-10 lbs	30 lbs	" " "	
SEPARATE FUEL TANKS	18-6-25	13-6-25	13-6-25	—	7 1/2 lbs	" " "	

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,

H.S. Depenalt

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 ²³⁻⁴⁻²⁵ 6-5-25 Pistons ²²⁻⁴⁻²⁵ 6-5-25 Rods ✓ Connecting rods ²²⁻⁴⁻²⁵ 11-5-25
 Crank shaft ✓ Thrust shaft ✓ Tunnel shafts ✓ Screw shaft ✓ Propeller ✓ Stern tube ✓ Engine sealings ✓
 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} ✓ Identification Mark on Do. ✓
 " ^{" 954 A.L. 7/4/25} ✓
 " ^{" 959 A.L. 24/4/25} ✓
 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 despatched to Messrs The Northumberland Shipbuilding Co. Ltd. Howdon, n. 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 ... £ 7 : 16 : 0
 Special ... £ : :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 1925
 When received, 1925

W.C. Farnham
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned

