

YACHT.

REPORT ON OIL ENGINE MACHINERY.

No. 11920
THU. MAY. 11 1924

Received at London Office

Report 19 When handed in at Local Office 24. 4. 1924 Port of Wintertthur & Middlesbrough
 Survey held at Wintertthur & Middlesbrough Date, First Survey 31st July 1923 Last Survey 19th April 1924
 Number of Visits 43

the Single Motor Yacht "PRINCESS" Tons ^{Gross} _{Net}
Twin Screw Propellers

Built at Haverston-Hill By whom built Burners S.P.Co Yard No. 46 When built 1924
Wintertthur By whom made Henry Sulger Bros Engine No. 5367 When made 1924

Motors made at Annan By whom made Cochrane & Co Boiler No. 8902 When made 1923
 Power 1040 (Two ENGS) Owners Port belonging to

Power as per Rule 228 (2 ENGS) Is Refrigerating Machinery fitted for ships use yes Is Electric Light fitted yes
Is fitted with submarine signalling

ENGINES, &c.—Type of Engines Sulger Diesel Engines (Type S 38) 2 or 4 stroke cycle 2 Single or double acting Single
 in cylinders 38 ATMS No. of cylinders 4 Each try No. of cranks 4 Each try Diameter of cylinders 380 mm

660 mm Revolutions per minute 170 Means of ignition Temper^{re} due Compression Kind of fuel used Heavy fuel oil
 between each crank yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 500 mm

Centres of main bearings 760 mm Is a flywheel fitted yes Diameter of crank shaft journals as per Rule 244 mm
as fitted 250 mm

Centres of cranks 250 mm Breadth of crank webs as per Rule 324.5 mm Thickness of ditto as per Rule 136.6 mm
as fitted 340 mm as fitted 140 mm

Diameter of tunnel shaft as per Rule 6.3" Diameter of thrust shaft as per Rule 244 mm as fitted 250 mm flywheel & thrust on one shaft
as fitted 6.3" as fitted 250 mm

Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes (2 liners)
liner in A Bracket
 Is the liner made watertight in the propeller boss yes If the liner is in more than one length are the joints burned yes

Do the bearings 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
 Is the shaft lapped or protected between the liners no (outside of tube) without liners, is the shaft arranged to run in oil yes

Is the shaft fitted to stern tube yes Length of stern bush 2'-3"; Bracket Bush 2'-6" Diameter of propeller 7'-3"
10'-6" No. of blades 4 Bronze state whether moveable no Total surface 16 1/2 sq square feet

Is a governor or other arrangement fitted to prevent racing of the engine when disconnected yes Thickness of cylinder liners 30 mm
Direct Are the exhaust pipes and silencers water cooled or lagged with

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 If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine to Atmos

No. of cooling water pumps each try Is the sea suction provided with an efficient strainer which can be cleared yes
1 double acting 1 double acting Diameter of ditto 115 mm Stroke 85 mm

No. of bilge pumps fitted to the main engines each engine How driven Electric
yes yes No. of auxiliary pumps connected to the main bilge lines one

No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 2 @ 3"
2 @ 2"; aft 1 @ 2"; Forward 1 @ 3" Boiler Room 1 @ 2" No. of ballast pumps 1 How driven Electric Sizes of pumps 6 1/2" x 6" stroke

Is a separate auxiliary pump suction fitted in Is a separate auxiliary pump suction fitted in
yes State size 3" Are all the bilge suction pipes fitted with roses yes Are the roses in Engine Room always accessible yes

Are all connections with the sea direct on the skin of the ship yes Are all connections with the sea direct on the skin of the ship yes
no Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates yes

Are they each fitted with a discharge valve always accessible on the plating of the vessel yes Are they each fitted with a discharge valve always accessible on the plating of the vessel yes
both Are the bilge suction pipes, cocks and valves arranged so as to prevent any

Are the bilge suction pipes, cocks and valves arranged so as to prevent any Are the bilge suction pipes, cocks and valves arranged so as to prevent any
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
her deck

No. of stages 3 Diameters 450/410/95 Stroke 300 mm Driven by Main shaft
 Air compressors 1 Each engine No. of stages 3 Diameters 200 = 5 3/8" - 4 1/2" Stroke 5 3/4" Driven by Electric

No. of stages 2 Diameters 110/95 Stroke 120 mm Driven by Hot bulb Engine
 Auxiliary air compressors 1 Type MC. 6 No. of stages 2 Diameters 110/95 Stroke 120 mm Driven by Hot bulb Engine

Diameter 800 mm Stroke 5-20 mm Driven by Main shaft
 Air pumps 1 Double acting each engine Diameter 800 mm Stroke 5-20 mm Driven by Main shaft

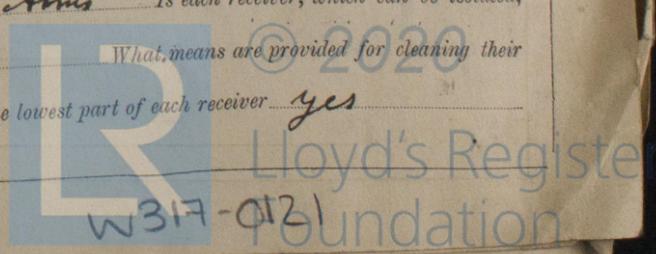
Are the air compressors and their coolers made so as to be easy of access yes Are the air compressors and their coolers made so as to be easy of access yes
as per Rule 3 1/4" as fitted 3 1/4"

CEIVERS:—No of high pressure air receivers 1 Each engine Internal diameter 246 mm Cubic capacity of each 85 Litres
Injection 1 Each engine Internal diameter 246 mm Cubic capacity of each 85 Litres

Seamless, lap welded or riveted longitudinal joint Seamless Range of tensile strength 28-32 tons sq
17. Steel Seamless, lap welded or riveted longitudinal joint Seamless Range of tensile strength 28-32 tons sq

No. of starting air receivers 10 Internal diameter 410 mm Internal diameter 410 mm
12 mm working pressure by Rules 92 Atms No. of starting air receivers 10 Internal diameter 410 mm

Capacity 10 x 380 = 3800 Litres Material S.M. Steel Seamless, lap welded or riveted longitudinal joint Seamless
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IS A DONKEY BOILER FITTED? *yes*

If so, is a report now forwarded? *yes*

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	21.3.23; 22.3.23; 11.4.23; 12.4.23	38 Atms	75 Atms	B	Test sat
" " COVERS	" " "	80	80	"	" held at
" " JACKETS	24.3.23; 26.3.23; 9.4.23; 17.4.23; 18.4.23	1 Atm	3 Atms	"	" boehra
" " PISTON WATER PASSAGES	24.4.23, 7.5.23	3 "	6 "	"	"
MAIN COMPRESSORS—1st STAGE	14.4.23, 16.4.23	3 "	35 "	"	"
" " 2nd "	" "	17.5 "	35 "	"	"
" " 3rd "	17.4.23, 18.4.23	70 "	140 "	"	"
AIR RECEIVERS—STARTING	31.5.23, 1.6.23	70 "	140 "	"	"
" " INJECTION	24.4.23	70 "	140 "	"	" DON
AIR PIPES	31.5.23 } + { 12.9.24 to 1.6.23 } + { 25.3.24	70 "	140 "	"	" an
FUEL PIPES	9.5.23; 23.5.23;	70 "	140 "	"	" lic press
FUEL PUMPS & Valves	19.3.23; 22.3.23	70 "	140 "	"	" ves 2
SILENCER <i>Exhaust Pipes</i>	21.3.23	1 "	6 "	"	" boiler
" " WATER JACKET	8.6.23 14.6.23	1 "	3 "	"	" Descrip
SEPARATE FUEL TANKS	1.2.24 4.2.24	3 ft head	15 ft head	✓	" 3 3/4"

PLANS. Are approved plans forwarded herewith for shafting *15.2.23* Receivers *INJECTION - 16.2.23* Starting *16.2.23* Separate Tanks *✓*

SPARE GEAR *As per Winterthur Report No. 38 with the following additions: One for oil transfer pump and a quantity of assorted bolts and nuts*

The foregoing is a correct description,

See Winterthur Report No. 38. Manufacturer.

Dates of Survey while building	During progress of work in shops - -	
	During erection on board vessel - -	1923 July 31 Aug. 8, 20, 29 Sept. 17, 24, 26 Oct. 2, 9, Nov. 14, 19, 21, 22, 24, 26 Dec. 1, 19, 28 (1924) Jan. 14, 16, 18, 24
	Total No. of visits	43

Dates of Examination of principal parts—Cylinders	✓	Covers	✓	Pistons	✓	Rods	✓	Connecting rods	✓
Crank shaft	✓	Thrust shaft	✓	Tunnel shafts	13.8.23 Barlington 14.8.23	Screw shaft	4.10.23	Propeller	16.1.24
Engines holding down bolts	31.3.24	Completion of pumping arrangements	19.4.24	Engines tried under working conditions	19				
Completion of fitting sea connections	16.1.24	Stern tube	26.11.23	Screw shaft and propeller	16.1.24				
Material of crank shaft	✓	Identification Mark on Do.	✓	Material of thrust shaft	✓	Identification Mark on Do.			
Material of tunnel shafts	Ing Steel	Identification Marks on Do.	4368-D	Material of screw shafts	Ing Steel	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	no	If so, state name of vessel	✓						

General Remarks (State quality of workmanship, opinions as to class, &c.) *To complete the survey the hot-bull and auxiliary compressor (sect 2, Para 20) requires to be examined under working conditions, stated this will be done at Gosport. The Southampton Surveyors have been advised.*

The machinery of this vessel has been built under Special Survey as per Winterthur and copies of certificate forwarded herewith. See also Gls Ppt N: 42999 on the Donkey Boiler.

The main engines and auxiliaries have now been satisfactorily fitted on board in with the Rules, examined under full working conditions and all found satisfactory except the engine & auxiliary compressor which were not examined under working conditions: Report on Electric Motor.

The machinery is in a good and safe working condition and renders the vessel eligible in to have the records of LMC-4.24 and Donkey Boiler Press 100 lbs when the survey has been completed.

The amount of Entry Fee ... £	:	:	When applied for,
Special ... £	:	:	19
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £	:	:	19

Wm Morrison
Engineer Surveyor to Lloyd's Register of

Committee's Minute

Assigned *19.6.24 + LMC 4.24. C.L. oil engines*

CERTIFICATE WRITTEN
19.6.24

MAY 9 1924



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Foundation