

## REPORT ON OIL ENGINE MACHINERY.

No.

89133

8 JUL 1925

Date of writing Report

18 JUL 1925

When handed in at Local Office

17<sup>th</sup> July 1925 Port of London

No. in Survey held at

Bedford

Date, First Survey

1<sup>st</sup> May 1925

Last Survey

17<sup>th</sup> July 1925

Reg. Book.

on the Single  
Twin  
Triple } Screw vessels

M.V. "O.A. KNUDSEN"

Number of Visits

11

Tons

Gross

Net

Master

Built at Glasgow

By whom built

Rylands &amp; Co. Ltd.

Yard No. 10

When built 1925

Engines made at

Furukawa

By whom made

J. G. Thircaid &amp; Co. Ltd.

Engine No. 4

When made 1925

Donkey Engines made at

Bedford

By whom made

G. H. Allen &amp; Sons &amp; Co. Ltd.

Boiler No. 3632

When made 1925

Brake Horse Power

150 each (looker) Owners

Port belonging to

Nom. Horse Power as per Rule

86

Is Refrigerating Machinery fitted for cargo purposes

✓

Is Electric Light fitted

✓

OIL ENGINES, &c.—Type of Engines *Burmeister & Wain design* 2 or 4 stroke cycle *4* Single or double acting *Simple*

Maximum pressure in cylinders

530 lb

No. of cylinders

3

No. of cranks

3

Diameter of cylinders

325 mm

Length of stroke

350 mm

Revolutions per minute

300

Means of ignition

Compression

Kind of fuel used

Heavy oil

Is there a bearing between each crank

✓

Span of bearings (Page 92, Section 2, par. 7 of Rules)

365 mm

Distance between centres of main bearings

600 mm

Is a flywheel fitted

✓

Diameter of crank shaft journals

as per Rule 140 mm

Diameter of crank pins

190 mm

Breadth of crank webs

as per Rule 226 mm

Thickness of ditto

as per Rule 95.4 mm

Diameter of flywheel shaft

as per Rule

as fitted 310 at boss

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

If 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

✓

If without liners, is the shaft arranged to run in oil

Type of outer gland fitted to stern tube

✓

Length of stern bush

Diameter of propeller

Pitch of propeller

✓

No. of blades

state whether moveable

Total surface

square feet

Method of reversing

✓

Is a governor or other arrangement fitted to prevent racing of the engine when ~~load is off~~

✓

Thickness of cylinder liners

29 mm

Are the cylinders fitted with safety valves

✓

Means of lubrication

Forced

Rotary Pump

Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material *Lagged* If the exhaust is led on board near the waterline, what means are arranged to prevent water from being syphoned back to the engine

within the vessel

✓

No. of bilge pumps fitted to the main engines

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

✓

No. of auxiliary pumps connected to the main bilge lines

How driven

Sizes of pumps

✓

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

and in holds, etc.

✓

No. of ballast pumps

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 they 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 all 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

worked from

✓

If 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

One each set

No. of stages

2

Diameters

62 mm 215 mm

Stroke

220 mm

Driven by *crank shaft*

No. of auxiliary air compressors

0

No. of stages

0

Diameters

0

Stroke

0

Driven by

No. of small auxiliary air compressors

0

No. of stages

0

Diameters

0

Stroke

0

Driven by

No. of scavenging air pumps

0

Diameter

0

Stroke

0

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

AIR RECEIVERS:—No. of high pressure air receivers

2

Internal diameter

94

Cubic capacity of each

90 litres

material

Steel

Seamless, lap welded or riveted longitudinal joint

Solid drawn

Range of tensile strength

29-33 tons

thickness

3"

working pressure by Rules

1025 lb for 850 actual

No. of starting air receivers

Supplied

by shipbuilder

Internal diameter

0

Total cubic capacity

✓

Material

Seamless, lap welded or riveted longitudinal joint

Range of tensile strength

✓

thickness

Working pressure by rules

Is each receiver, which can be isolated,

fitted with a safety valve as per Rule

✓

Can the internal surfaces of the receivers be examined

✓

What means are provided for cleaning their

inner surfaces

✓

Is there a drain arrangement fitted at the lowest part of each receiver

✓

Lloyd's Register  
Foundation

WB85-0076



## IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

## HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS .....					
"    "    COVERS .....	50th hydraulic jacket	1000th paraffin face test			Stamped with date & pressure \$
"    "    JACKETS .....	"	"			"
"    PISTON WATER PASSAGES .....	not cooled				"
MAIN COMPRESSORS—1st STAGE .....	250th bore 50th jackets				"
"    2nd " .....	2000th paraffin				"
"    3rd " .....					"
AIR RECEIVERS—STARTING .....					
"    INJECTION .....	2000th hydraulic	tested by the Charterford Luke Co. before delivery afterwards tested with all fittings complete 2.7.25 \$			
AIR PIPES .....	"				
FUEL PIPES .....	"				
FUEL PUMPS .....	" paraffin				
SILENCER .....	not cooled				
"    WATER JACKET .....	✓				
SEPARATE FUEL TANKS .....	✓				

PLANS. Are approved plans forwarded herewith for shafting

Standard 50 HP per cylinder

Receivers

Separate Tanks

SPARE GEAR Crank pin & main bearing bushes complete with bolts etc. Complete sets of piston & compressor rings. Complete sets of spares for fuel pumps. Fuel, exhaust & starting air valves. Compressor valves & 1st & 2nd cooler coils. Springs for governor & minor spares

The foregoing is a correct description,  
*W.H. Allen, Sons & Co., Ltd.,*  
 Manufacturer.

Dates of Survey while building  
 During progress of work in shops - 1925 May 1. 6. 15. 25 JUNE 5. 9. 12. 14. 26 JULY 2. 17  
 During erection on board vessel -  
 Total No. of visits 11 (IN SHOPS)

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods  
 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 shaft *Super steel* Identification Mark on Do. *864 + 870* Material of thrust shaft Identification Mark on Do.  
*Hutchinson Shackleton, Manchester* *AL + S*  
 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

Standard Engine 50 HP per cylinder  
If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &amp;c.)

These engines have been constructed under special survey & the materials and workmanship are good. The engines are coupled direct to D.C. multi-pole dynamo made by Messrs Allen & Co. Ltd. having an output of 100 kW & 100 volts. Full load trials followed by 10% overload trials were witnessed and the results were satisfactory in every respect. These generating sets are now being forwarded to Messrs Kincaid & Co. Greenock where they will be installed on board.

The amount of Entry Fee ... £ : : When applied for,

Special *2 2/3 per NHP* £ 8 : 12 : 20 JUL 1925

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ 4 : 10 : 10 20 JUL 1925

Committee's Minute

FRI. 13 NOV 1925

Assigned

FRI. 4 DEC 1925

Engineer Surveyor to Lloyd's Register of Shipping.



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