

# REPORT ON OIL ENGINE MACHINERY

No. 59875

SEP 12 1938

Received at London Office

JUN 15 1938

13/6/38 Port of Glasgow

PLYMOUTH.

Date of writing Report

When handed in at Local Office

Date, First Survey

4.10.37

Last Survey

24.5.1938

Number of Visits

25

No. in Survey held at Reg. Book.

Dartmouth

780 on the Single Twin Triple Quadruple Screw vessel

Mass Phillips Sons Ltd yard No. 847. (Yacht) AMPEADOR

Gross Tons 10390  
Net Tons 1496

Built at

Dartmouth

By whom built

Phillips Sons Ltd

Yard No. 847

When built 1938-8

Engines made at

Glasgow

By whom made

Glennie Inglis Ltd

Engine No. 1425/48

When made 1938

Donkey Boilers made at

none

By whom made

Boiler No. ✓

When made ✓

Brake Horse Power

320.2

Owners

Vernon W. Macandrew

Port belonging to

Dartmouth

Nom. Horse Power as per Rule

113

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted Yes

Trade for which vessel is intended

Cruising

OIL ENGINES, &c.

Type of Engines

Heavy oil (D.E.V.16 Type)

2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders

650 lbs

Diameter of cylinders

6"

Length of stroke

4"

No. of cylinders

16 each No. of cranks 8 each

Mean Indicated Pressure

110

Is there a bearing between each crank Yes

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge

6 3/4"

Weight

575 lbs

Means of ignition

Comp

Kind of fuel used Diesel oil

Revolutions per minute

975

Flywheel dia.

26"

Crank pin dia.

3 1/2"

Mid. length breadth

5 1/2"

Thick. parallel to axis

shrunk

Crank Shaft, Solid forged Semi built All built

dia. of journals

as per Rule app.

as fitted 4 1/2"

Mid. length thickness

1 3/4"

Thick. around eyehole

shrunk

Flywheel Shaft, diameter

as per Rule ✓

as fitted ✓

Intermediate Shafts, diameter

as per Rule 4 approved

as fitted ✓

Thrust Shaft, diameter at collars

as per Rule app.

as fitted 4"

Tube Shaft, diameter

as per Rule ✓

as fitted ✓

Screw Shaft, diameter

as per Rule 4 approved

as fitted 4 1/2"

Is the tube shaft fitted with a continuous liner

Solid bronze

Bronze Liners, thickness in way of bushes

as per Rule ✓

as fitted ✓

Thickness between bushes

as per Rule ✓

as fitted ✓

Is the after end of the liner made watertight in the

propeller boss

✓

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

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 ✓

shaft

Yes

Is an approved Oil Gland or other appliance fitted at the after end of the tube

Yes

Length of Bearing in Stern Bush next to and supporting propeller

18 1/8"

Material

bronze

Whether Moveable no

Propeller, dia.

56"

Pitch

64"

No. of blades

3

Total Developed Surface

800 sq. ft.

Method of reversing Engines

Differential

Is a governor or other arrangement fitted to prevent racing of the engine when declutched

Yes

Means of lubrication

oil

Are the exhaust pipes and silencers water cooled or lagged with

no

non-conducting material Yes

Cooling Water Pumps, No.

2 each

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Yes

Can one be overhauled while the other is at work

Yes

Bilge Pumps worked from the Main Engines, No.

none

Diameter

Pumps connected to the Main Bilge Line

No. and Size

6-1000 GALS PER HOUR

How driven

Electric motors

Is the cooling water led to the bilges

no

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements

1 second pump of same capacity

Ballast Pumps, No. and size

none

Are two independent means arranged for circulating water through the Oil Cooler

no

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

1-2 1/2" to both pumps + 1-1/2" to cofferdam

In Pump Room

✓

Pumps, No. and size - In Machinery Spaces

1-2 1/2" to ea Comp + 1-2" to cofferdam

In Engine Room, Bilges, No. and size

1-2" to Comp + 1-2" to cofferdam

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

Yes

Are they fitted with Valves or Cocks

Valves

Are all Sea Connections fitted direct on the skin of the ship

Yes

Are they fitted sufficiently high on the ship's side to be seen without lifting the platform plate

Yes

Are the Overboard Discharges above or below the deep water line

above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

no

How are they protected

✓

Have they been tested as per Rule

Yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes

Is 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

Yes

Is the Shaft Tunnel watertight

no

Is it fitted with a watertight door

no

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

Main Air Compressors, No.

2 each

No. of stages

two

Diameters

6"

Stroke

Auxiliary Air Compressors, No.

one

No. of stages

two

Diameters

6"

Stroke

4"

Driven by

Small Auxiliary Air Compressors, No.

no

No. of stages

no

Diameters

no

Stroke

no

Driven by

What provision is made for first Charging the Air Receivers

no

Scavenging Air Pumps, No.

no

Diameter

no

Stroke

no

Position

Auxiliary Engines crank shafts, diameter

as per Rule no

as fitted no

Is a report sent hereto

no

Have the Auxiliary Engines been constructed under special survey

no

Driven by

no

Scavenging Air Pumps, No.

no

Diameter

no

Stroke

no

Position

Star side of engine room

Is a report sent hereto

no

Driven by

no

Have the Auxiliary Engines been constructed under special survey

no

Driven by

no

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no

Driven by

no

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Driven by

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Driven by

no

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no

AIR RECEIVERS:—Have they been made under survey *Yps.* State No. of Report or Certificate *Approved 11/11/37. 421/9/37.*

Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yps.* *Safety valve on air line.*  
Can the internal surfaces of the receivers be examined and cleaned *Yps.* Is a drain fitted at the lowest part of each receiver *Yps.*

Injection Air Receivers, No. *✓* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*  
Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure *✓*  
Starting Air Receivers, No. *5* Total cubic capacity *403.5 ft<sup>3</sup> = 14' 2.25" = 160'* Internal diameter *12 1/2"* thickness *5/8"* *463 lb*  
Seamless, lap welded or riveted longitudinal joint *Seamless* Material *S* Range of tensile strength *28-37 Tons* Working pressure *by Rules 480 ✓*  
Actual *350*

IS A DONKEY BOILER FITTED? *Yps.* If so, is a report now forwarded? *✓*  
Is the donkey boiler intended to be used for domestic purposes only *Yps.*

PLANS. Are approved plans forwarded herewith for Shafting *11.11.35* Receivers *8-10-37 & 21-3-38* Separate Fuel Tanks *none*  
Donkey Boilers *✓* General Pumping Arrangements *Lauch Cooper Aug 4/37* Pumping Arrangements in Machinery Space *Approved Aug 4/37*  
Oil Fuel Burning Arrangements *✓*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *No.*  
State the principal additional spare gear supplied *none*

The foregoing is a correct description,  
GLENIFFER ENGINES, LTD. Manufacturer.

*John Hume* Chief Draughtsman  
Dates of Survey while building  
During progress of work in shops-- *1937. Oct 4-17. Nov 4-16. 24. Dec 2-21. 29.*  
During erection on board vessel-- *1938. Jan 13-17. 31. Feb 5-15. 21-23. March 1-11. 18. 21-25. Apr 11-25. May 3-17. 24.*  
Total No. of visits *224 25* *Sitting out: Jan 27. Feb 4-22. Mar 4-15. 29. Apr 20-29. May 12, 20, 30. June 2, 13, 23. July 1-4.*  
Dates of Examination of principal parts—Cylinders *8-2-38* Covers *18-3-38* Pistons *31-1-38* Rods *—* Connecting rods *31-1-38*  
Crank shaft *8-9-37 (FR)* Flywheel shaft *none* Thrust shaft *31-2-38* Intermediate shafts *Mar 15 Apr 20* Tube shaft *—*  
Screw shaft *Mar 15* Propeller *June 13* Stern tube *Apr 20* Engine seatings *June 23/38* Engines holding down bolts *Aug 11*  
Completion of fitting sea connections *13 June* Completion of pumping arrangements *August 18* Engines tried under working conditions *Aug 11 & 18*  
Crank shaft, Material *Do. Ingot steel* Identification Mark *T92445-650-UK* Flywheel shaft, Material *none* Identification Mark *✓*  
Thrust shaft, Material *do.* Identification Mark *R. 8. 46. L 4-67* Intermediate shafts, Material *Steel* Identification Marks *100-14-6-38 T.*  
Tube shaft, Material *—* Identification Mark *—* Screw shaft, Material *bronz* Identification Mark *100-14-6-38 T.*  
Identification Marks on Air Receivers *581840-45-44-48-82. 4-10-37.*

Is the flash point of the oil to be used over 150° F. *Yps.*  
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes.*  
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *No* 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 *Standard*  
Is this machinery duplicate of a previous case *Yps.* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*This machinery has been built under Special Survey and in accordance with the Rules. The materials and workmanship are good. It has been tried on the bench at full power with satisfactory results.*  
*It has been forwarded to Dartmouth for fitting on board.*  
*This machinery has been securely fitted on board and tested under working conditions and found satisfactory; the materials and workmanship are good.*  
*In my opinion it is eligible to be classed with the record of *Do* L.M.C. 8-38. F.P. above 150° F.*

The amount of Entry Fee .. £ : : When applied for, *14 JUN 1938*  
*5-7* Special ... £ 23 : 2 : *38*  
Donkey Boiler Fee ... £ 5 : 3 : *1/10*  
Travelling Expenses (if any) £ 2 : 0 : *14 JULY 1938*  
Committee's Minute *GLASGOW 14 JUN 1938*  
Assigned *Deferred.*

*John Hume* *Thomas Miller*  
Engineer Surveyor to Lloyd's Register of Shipping.  
TUE 20 SEP 1938  
+ *Dec 8. 38*  
O.G. (B)  
CERTIFICATE WRITTEN  
*Oil Eng.*

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