

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No 7750

10 SEP 1946

Received at London Office 30 AUG 1946

Date of writing Report 9-8-1946 When handed in at Local Office

Port of

PLYMOUTH, DARTMOUTH

No. in Survey held at
Reg. Book.

Date, First Survey

15.5-45

Last Survey

21-7-1946

Number of Visits

14

Single
on the
Triple
Screw vesselFLINTLOCK.Tons { Gross 187
Net

Built at

Dartmouth

By whom built

Philip & Son Ltd

Yard No. 1130

When built 1946-7

Engines made at

Loughborough

By whom made

Pettere Ltd.

Engine No. 321

When made do

Donkey Boilers made at

Clyde

By whom made

✓

Boiler No. ✓

When made °

Brake Horse Power

280

Owners

The Admiralty

Port belonging to

Nom. Horse Power as per Rule

59

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

Trade for which vessel is intended

Coasting

OIL ENGINES, &c.—Type of Engines Heavy Oil, Solid injection 2 or 4 stroke cycle 2 Single or double acting S.A.

Maximum pressure in cylinders

850 lbs/sq. in.

Diameter of cylinders

8 1/2"

Length of stroke

13"

No. of cylinders

4

No. of cranks

4

Mean Indicated Pressure

100 lbs/sq. in.

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

10 3/4"

Is there a bearing between each crank

Yes

Revolutions per minute

500

Flywheel dia.

34"

Weight

1150 lbs

Means of ignition

Compression

Kind of fuel used

Heavy oil

Crank
Shaft,Solid forged
Semi built
All builtdia. of journals
as per Rule
as fitted

6"

Crank pin dia.

5 3/4"

Crank Webs

Mid. length breadth
Mid. length thickness8 1/2"
2 1/4"

shrink

Thickness parallel to axis
Thickness around eyehole✓
✓

Flywheel Shaft, diameter

as per Rule
as fitted

Intermediate Shafts, diameter

as per Rule
as fitted

5 1/2"

Thrust Shaft, diameter at collars

as per Rule
as fitted

4 3/4"

Tube Shaft, diameter

as per Rule
as fitted

Screw Shaft, diameter

as per Rule
as fitted5 1/4" at top of cone
5 1/2" at bodyIs the tube
screw

shaft fitted with a continuous liner

No

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

✓

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

shaft

Yes

If so, state type

Newark

Length of Bearing in Stern Bush next to and supporting propeller

22"

Propeller, dia.

49"

Pitch

31"

No. of blades

3

Material

Bronze

whether Moveable

Solid

Total Developed Surface

6.8 sq. feet

Method of reversing Engines

Direct

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

Yes

Means of lubrication

Forced

Thickness of cylinder liners

✓

Are the cylinders fitted with safety valves

Yes

Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material

Yes

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

Up funnel

Cooling Water Pumps, No.

Two

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

Yes

Bilge Pumps worked from the Main Engines, No.

One

Diameter

4 1/4"

Stroke

3 1/2"

Can one be overhauled while the other is at work

✓

Pumps connected to the Main Bilge Line

No. and Size

One 2800 gals/hr

How driven

Main Engine

One 50 tons/hr

Hamworthy Centrifugal

Aux Engine

Is the cooling water led to the bilges

Only 3/8" bore pipe from Compressor

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

Ballast Pumps, No. and size The above Centrifugal Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size One - no connected Spare

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

Yes

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces

4 @ 2 1/2" dia

In Pump Room

In Holds, &c.

2 @ 2 1/2" dia

Fore peak & Cofferdam

One each @ 2 1/2" dia

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One @ 2 1/2" dia (included above)

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

Yes

Are the Bilge Suctions in the Machinery Spaces

led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Yes

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

Yes

Are they fitted with Valves or Cocks

Yes

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

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

Clyde

What pipes pass through the bunkers

Clyde

How are they protected

✓

What pipes pass through the deep tanks

Clyde

Have they been tested as per Rule

✓

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

Clyde

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

✓

Main Air Compressors, No.

One

No. of stages

One

Diameters

4 1/2"

Stroke

4 1/2"

Driven by Main Engine

Auxiliary Air Compressors, No.

One

No. of stages

2

Diameters

4" & 1 3/4"

Stroke

3"

Driven by Aux Engine

Small Auxiliary Air Compressors, No.

✓

No. of stages

✓

Diameters

✓

Stroke

✓

Driven by

What provision is made for first Charging the Air Receivers

The above Aux Compressor

Scavenging Air Pumps, No.

Pooter type blower

Diameter

✓

Stroke

✓

Driven by Main Engine

Auxiliary Engines crank shafts, diameter

as per Rule
as fitted

See attached report

No.

Position

Have the Auxiliary Engines been constructed under special survey

Yes

Is a report sent herewith

Yes

005740-005755-0260

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Foundation

FLINTLOCK

AIR RECEIVERS:—Have they been made under survey *Yes* State No. of Report or Certificate *C 3509/10 (C Not)*
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes*
 Can the internal surfaces of the receivers be examined and cleaned *Yes* Is a drain fitted at the lowest part of each receiver *Yes*
Injection Air Receivers, No. *C None* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*
 Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure by Rules *✓*
Starting Air Receivers, No. *2* Total cubic capacity *22.4 cu ft.* Internal diameter *24"* thickness *3/8"*
 Seamless, lap welded or riveted longitudinal joint *✓* Material *O.H. Steel* Range of tensile strength *26/30 tons/sq in* Working pressure by Rules *✓*
 CIRCUMFERENTIAL SEAMS Actual *350 lbs/sq in*

IS A DONKEY BOILER FITTED? *C No* If so, is a report now forwarded? *✓*
 Is the donkey boiler intended to be used for domestic purposes only *✓*
PLANS. Are approved plans forwarded herewith for Shafting *16-2-45* Receivers *Not Rpt.* Separate Fuel Tanks *✓*
 (If not, state date of approval)
 Donkey Boilers *✓* General Pumping Arrangements *29-3-45* Pumping Arrangements in Machinery Space *✓*
 Oil Fuel Burning Arrangements *✓*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes & to Admiralty Specification*
 State the principal additional spare gear supplied *As per Admiralty Specification*

FOR PHILIP & SON, LIMITED

The foregoing is a correct description,

Philip
 ASS^t MANAGING DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops - - *Not Rpt*
 During erection on board vessel - - *1945 May 15. Sep 13. 1946 Apr 18. May 14. 21. June 7. 13. 21. July 1. 4. 12. 14. 18. 20*
 Total No. of visits *14*
 Dates of Examination of principal parts—Cylinders *Not Rpt* Covers *Not Rpt* Pistons *Not Rpt* Rods *✓* Connecting rods *Not Rpt*
 Crank shaft *Not Rpt* Flywheel shaft *✓* Thrust shaft *Not Rpt* Intermediate shafts *7-5-46* Tube shaft *✓*
 Screw shaft *18-4-46* Propeller *18-4-46* Stern tube *18-4-46* Engine seatings *18-4-46* Engines holding down bolts *12-7-46*
 Completion of fitting sea connections *18-4-46* Completion of pumping arrangements *18-7-46* Engines tried under working conditions *18-7-46*
 Crank shaft, Material *Steel* Identification Mark *2477 F.H. 6.3.44* Flywheel shaft, Material *✓* Identification Mark *✓*
 Thrust shaft, Material *Steel* Identification Mark *26 H.C. 17.8.45* Intermediate shafts, Material *Steel* Identification Marks *2516 H.M.D. 16.1.46*
 Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Steel* Identification Mark *2497 H.M.D. 3.5.46*
 Identification Marks on Air Receivers *E 4530* *E 4531* *Spare. 2498 H.M.D. 3.5.46*
Lloyd's Test H.T.P. 700 lbs/sq in *Lloyd's Test H.T.P. 700 lbs/sq in*
W.P. 350 lbs/sq in *W.P. 350 lbs/sq in*
H.C. 26.9.45 *H.C. 26.9.45*

Is the flash point of the oil to be used over 150° F. *Yes*
 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 *C 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 *C No*
 Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *MATCH LOCK*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been constructed & installed under special survey in accordance with the approved plans, the Secretary's letter, the Society's Rules & the Admiralty's specification. The workmanship & materials are good & when tried at full power at sea it was found satisfactory in every respect & eligible, in my opinion, to have the records of L.M.C. 7.46.09 & the notations of Oil Engine 2 S.C.S.A. 4 Cy. 8 1/2" x 13". 59 HP.

The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee .. £
 Special *1/3 Balance of fee* *See letter*
 Donkey Boiler Fee *5 : 13/4*
 Travelling Expenses (if any) £
 When applied for, *19*
 When received, *19*

Committee's Minute *REL 20 SEP 1946*
 Assigned *+ LMC 7.46 Oil Eng. O.G.*

Duffy
 Engineer Surveyor to Lloyd's Register of Shipping.