

REPORT ON OIL ENGINE MACHINERY.

No. 14623

Received at London Office. 1 OCT 1948

Date of writing Report 26-9-1948 When handed in at Local Office 29/9/1948 Port of BELFAST

No. in Survey held at BELFAST Date, First Survey 8 Dec. 1947. Last Survey 17 Sept., 1948.
Reg. Book. Number of Visits 113

Single on the Twin Triple Quadruple Screw vessel M.V. "JALTA" Tons Gross 8247.40 Net 4683.68

Built at BELFAST By whom built HARLAND & WOLFE LTD. Yard No. 1343 When built 1948

Engines made at BELFAST By whom made HARLAND & WOLFE LTD. Engine No. 1343 When made 1948

Donkey Boilers made at - D - By whom made - D - Boiler No. 1343 When made 1948

Brake Horse Power 3200 Owners A/S BULLS TANKEREDERI Port belonging to SANDEFJORD

I.N. Power as per Rule 695 @ 128 lbs Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Carrying Petroleum in Bulk

OIL ENGINES, &c. — Type of Engines Heavy Oil Airless Injection 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 630 lbs Diameter of cylinders 19 7/8" 740 7/8" Length of stroke 59 7/8" 1300 7/8" No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 128 lbs Ahead Firing Order in Cylinders 1, 5, 3, 6, 2, 4 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 97 2/4" Is there a bearing between each crank Yes Revolutions per minute 115

Flywheel dia. 2489 7/8" Weight 2590 kg Moment of inertia of flywheel (lbs. in² or Kg. cm²) 2353 x 10⁴ Kg. cm² Means of ignition Lamp Kind of fuel used Diesel

Crank Shaft, Solid forged as per Rule app. dia. of journals 50 5/8" Crank pin dia. 50 5/8" Crank webs Mid. length breadth 840 7/8" Thickness parallel to axis 310 7/8" Semi built as fitted 50 5/8" Crank pin dia. 50 5/8" Crank webs Mid. length thickness 310 7/8" Thickness around eyehole 22 7/8" All built WITH 115 7/8" DIA. HOLE WITH 230 7/8" DIA. HOLE

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as fitted 45 9/16" as per Rule

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the (tube screw) shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 13/16" Thickness between bushes as per Rule 2 1/32" 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 tube shaft No If so, state type Length of bearing in Stern Bush next to and supporting propeller 5'0"

Propeller, dia. 15'6" Pitch 12'0" No. of blades 4 Material M. BRONZE whether moveable Solid Total developed surface 45 sq. feet

Moment of inertia of propeller (lbs. in² or Kg. cm²) Kind of damper, if fitted

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when decoupled Yes Means of lubrication Forced Thickness of cylinder liners 53 7/8" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Cooling Water Pumps, No. 2 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. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and size 1 @ 100 tons/hr., 1 @ 170 tons/hr., 1 @ 58 tons/hr. How driven Steam

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

Ballast Pumps, No. and size 1 @ 170 tons/hr. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 MAIN ENG. DRIVEN @ 100 tons/hr. 1 INDEPENDANT @ 100 tons/hr.

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 3 @ 3 1/2" 1 @ 3 1/2" In pump room 2 @ 4" dia.

In holds, &c.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2 @ 6"

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Are the bilge suction 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 Both 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 Below

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 Yes

What pipes pass through the bunkers How are they protected

What pipes pass through the deep tanks 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 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. No. of stages diameters stroke driven by

Auxiliary Air Compressors, No. 2 No. of stages 2 diameters 260 7/8" - 245 7/8" stroke 130 7/8" driven by Steam

Small Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 2 1/4" - 1 1/2" stroke 3 driven by Electric

What provision is made for first charging the air receivers Steam driven compressors

Scavenging Air Pumps, No. Under piston surface diameter stroke driven by 1 Steam 1 Diesel

Auxiliary Engines crank shafts, diameter as per Rule as approved No. 1 Steam 1 Diesel Position Bottom on starboard bottom platform

Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith Yes

AIR RECEIVERS:—Have they been made under survey. *Yes* State No. of report or certificate *X45*
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. *2* Cubic capacity of each *800 cu ft* Internal diameter *5' 8 1/4"* thickness *1 1/32"*
Seamless, welded or riveted longitudinal joint *Welded* Material *Steel* Range of tensile strength *29/33 ton* Working pressure *356 lb*
Starting Air Receivers, No. *Two* Total cubic capacity *800 cu ft* Internal diameter *5' 8 1/4"* thickness *1 1/32"*
Seamless, welded or riveted longitudinal joint *Welded* Material *Steel* Range of tensile strength *29/33 ton* Working pressure *356 lb*

IS A DONKEY BOILER FITTED *Yes* If so, is a report now forwarded. *Yes*
Is the donkey boiler intended to be used for domestic purposes only. *No*
PLANS. Are approved plans forwarded herewith for shafting. *18-8-47* Receivers. *7-10-47* Separate fuel tanks. *26-7-48*
(If not, state date of approval)
Donkey boilers. *3-7-47* General pumping arrangements. *2-7-48* Pumping arrangements in machinery space. *2-7-48*
Oil fuel burning arrangements. *27-7-48*
Have Torsional Vibration characteristics been approved. *Yes for 115-116* Date of approval *London Letter 11-6-47*

SPARE GEAR.

Has the spare gear required by the Rules been supplied. *Yes list attached*
State the principal additional spare gear supplied.

MARKS ON SPARE SCREW SHAFT

LLOYDS

S350

NK 7-9-48

For HARLAND & WOLFF, LIMITED

The foregoing is a correct description, and the particulars of the installation as fitted are as approved for torsional vibration characteristics. *Manufacturer.*

Dates of Survey while building
During progress of work in shops - *1947 Dec 8 1948 Jan 27 28 18 20 26 Mar 3 4 5 6 10 12 15 18 22 24 25 26 Apr 5 6 7 8 9 12 13 15 16 20 21 23 29 30*
During erection on board vessel - *May 3 6 10 12 13 14 17 18 25 26 28 June 3 4 7 8 9 11 14 15 16 17 18 21 22 23 24 25 28 29 30 July 1 2 5 6 7 8 9 15 16 19 20 22 23 26 27 28 29 30 Aug 3 4 5 6 9 10 11 12 13 16 17 18 19 20 23 25 26 27 30 31 Sept 1 2 3 6 7 8 9 10 11 13 15 16 19*
Total No. of visits *113*

Dates of examination of principal parts—Cylinders. *20-7-48* Covers. *24-6-48* Pistons. *9-6-48* Rods. *21-6-48* Connecting rods. *8-7-48*
Crank shaft. *23-6-48* Flywheel shaft. *—* Thrust shaft. *23-6-48* Intermediate shafts. *21-6-48* Tube shaft. *—*
Screw shaft. *24-6-48* Propeller. *1-7-48* Stern tube. *25-5-48* Engine seatings. *5-6-48* Engine holding down bolts. *30-8-48*
Completion of fitting sea connections. *5-7-48* Completion of pumping arrangements. *17-9-48* Engines tried under working conditions. *16-9-48*
Crank shaft, material. *S. Steel* Identification mark. *AD 23-6-48* Flywheel shaft, material. *—* Identification mark. *—*
Thrust shaft, material. *S. Steel* Identification mark. *AD 23-6-48* Intermediate shafts, material. *Steel* Identification mark. *—*
Tube shaft, material. *—* Identification mark. *—* Screw shaft, material. *Steel* Identification mark. *—*
Identification marks on air receivers. *N° 416 & 417 LLOYDS TEST 584 lb/2" WP 356 lb/2" R.O.B 4-6-48*

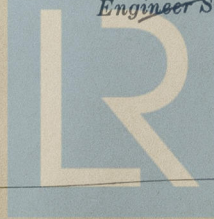
Welded receivers, state Makers' Name. *Messrs Harland & Wolff Ltd.*
Is the flash point of the oil to be used over 150°F. *Yes*
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with. *Yes*
Description of fire extinguishing apparatus fitted. *Steam smothering and foamite*
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. *Oil tankers* 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. *—*
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.) *This machinery has been constructed in accordance with the Rules and approved plans. The materials and workmanship are good. The machinery has been satisfactorily installed on board the vessel, tried under full working conditions and found in good order, and in our opinion is eligible to be classed with Record of 4 HNC 9.48, 2 D.B 150 lbs and notation T.S. C.L. Oil Engine.*

The amount of Entry Fee ... £ *—*
Special ... £ *214*
Donkey Boiler Fee... (2) ... £ *59*
AIR RECEIVERS (3) ... £ *20*
Travelling Expenses (if any) ... £ *26*
WELDED BED PLATE ETC. ...
Committee's Minute ...
Assigned ... *18 OCT 1948*

When applied for *29/9/1948*
When received *19*

W. Russell
Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register
Foundation