

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 1849
SEP 11 1937

Date of writing Report June 2, 1937 When handed in at Local Office

Received at London Office
Port of Cleveland, Ohio.No. in Survey held at Cleveland, Ohio.
Reg. Book.Date, First Survey March 9th, Last Survey April 18th, 1937
Number of Visits 9on the ~~Single~~
~~Triple~~
~~Quadruple~~ Twin Screw vessel

M/S "MERCURY"

Tons } Gross 1518.04
Net 1182.00

Built at Beaumont, Texas By whom built Pennsylvania Shipyards Yard No. 116 When built 1937
Engines made at Cleveland, Ohio By whom made Winton Engine Corp. Engine No. 5314 When made 1937
Donkey Boilers made at Downingtown, Pa. By whom made Downingtown Iron Works Boiler No. ✓ When made ✓
Brake Horse Power 930 Owners Cleveland Tankers, Inc. Port belonging to Cleveland Wilmington, Del
Nom. Horse Power as per Rule 230 ✓ Is Refrigerating Machinery fitted for cargo purposes ✓ No Is Electric Light fitted Yes
Trade for which vessel is intended ✓

OIL ENGINES, &c.—Type of Engines Winton Model 158-6
Port and Starboard 2 or 4 stroke cycle 4 Single or double acting S
Maximum pressure in cylinders 700 lbs. Diameter of cylinders 14" Length of stroke 16" No. of cylinders 6 each engine No. of cranks 6
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 16" Is there a bearing between each crank Yes
Revolutions per minute 300 ✓ Flywheel dia. 36-1/2" Weight 2000# Means of ignition Comp. Kind of fuel used Diesel Oil
Crank Shaft, dia. of journals as per Rule 7.94" Crank pin dia. 9" ✓ Crank Webs Mid. length breadth 11" Thickness parallel to axis ✓
as fitted 9" Mid. length thickness 4-1/8" shrunk Thickness around eye hole
Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
as fitted none as fitted
Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner Yes ✓
as fitted 7-9/16 to 7-5/8 as fitted
Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per rule Is the after end of the liner made watertight in the
as fitted 5/8 as fitted 19/32 propeller boss Yes ✓ 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 ✓ If so, state type Length of Bearing in Stern Bush next to and supporting propeller ✓
Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface 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 15/16" Are the cylinders fitted with safety valves Yes ✓ Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material ✓ 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. 1 - 2 cyl. D.A. Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓
120 G.P.M.
What special arrangements are made for dealing with cooling water if discharged into bilges ✓
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 ✓ How driven ✓
Ballast Pumps, No. and size ✓ Power Driven Lubricating Oil Pumps, ~~xxxxxx~~ 1 30 2 cyl. D.A.
30 G.P.M. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
Are two independent means arranged for circulating water through the Oil Cooler ✓ In Pump Room ✓
Pumps, No. and size:—In Machinery Spaces ✓
In Holds, &c. ✓
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size ✓
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes ✓ 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 ✓
Are all Sea Connections fitted direct on the skin of the ship ✓ Are they fitted with Valves or Cocks ✓
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates ✓ Are the Overboard Discharges above or below the deep water line ✓
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel ✓ Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓
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 ✓
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 ✓ 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. ✓ No. of stages Diameters Stroke Driven by
Small Auxiliary Air Compressors, No. ✓ No. of stages Diameters Stroke Driven by
Scavenging Air Pumps, No. ✓ Diameter Stroke Driven by
Auxiliary Engines crank shafts, diameter as per Rule No. —
as fitted Position —

AIR RECEIVERS:—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 ✓ Is a drain fitted at the lowest part of each receiver Yes
High Pressure Air Receivers, No. ✓ Cubic capacity of each ✓ Internal diameter ✓ thickness ✓
Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure Actual
Starting Air Receivers, No. ✓ Total cubic capacity ✓ Internal diameter ✓ thickness ✓
Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure Actual

014 873 - 014 886 - 0232

IS A DONKEY BOILER FITTED? ✓

If so, is a report now forwarded? ✓

Is the donkey boiler intended to be used for domestic purposes only. No

PLANS. Are approved plans forwarded herewith for Shafting No
(If not, state date of approval)

Receivers No

Separate Tanks No

Donkey Boilers ✓

General Pumping Arrangements ✓

Oil Fuel Burning Arrangements ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied. No

State the principal additional spare gear supplied

- 2 - Exhaust valves complete with cages and springs, etc.
- 2 - Injection valves complete with cages and springs, etc.
- 3 - Fuel injection valve needles.
- 1 - Starting air valve complete with cage, springs, etc.
- 1 - Set of piston rings for one piston.
- 1 - Set of working parts for one cylinder of fuel pump.
- 1 - Set of working parts for one cylinder of lubricating pump.
- 1 - Wrist pin and bushing.
- 1 - Complete crank pin bearing.
- 2 - Crank pin bearing bolts and nuts.
- 2 - Main bearing bolts and nuts.
- 1 - Set of cylinder studs and nuts for cylinder heads.

The foregoing is a correct description.

Winton Engine Mfg Corp. 2 R.R.B. Manufacturer.

Dates of Survey while building { During progress of work in shops - - } March 9, 12, 17, 20 and 27; April 11, 12, 15 and 18, 1937.
{ During erection on board vessel - - }
Total No. of visits ✓

Dates of Examination of principal parts—Cylinders 3/9/37 to Covers 3/9-27/37 Piston 3/9-27/37 Rods ✓ Connecting rods 3/9-27/37
Crank shaft 3/9-17/37 Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts ✓ Tube shaft ✓
Screw shaft ✓ Propeller ✓ Stern tube ✓ Engine seatings ✓ Engines holding down bolts ✓
Completion of fitting sea connections ✓ Completion of pumping arrangements ✓ Engines tried under working conditions ✓
Crank shaft, Material O.H. Steel Identification Mark LLOYDS 3090 3091 1/12/37 1/19/37 GD Flywheel shaft, Material ✓ Identification Mark ✓
Thrust shaft, Material O.H. Steel Identification Mark ✓ Intermediate shafts, Material ✓ Identification Marks ✓
Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material ✓ Identification Mark ✓

Is the flash point of the oil to be used over 150° F. ✓

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with ✓

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ✓

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 Yes If so, state name of vessel M/Y "AVALON" Clv. Rpt. No. 547.

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

The subject engines have been built under Special Survey and on completion were tested under full and intermediate loads at the Builder's plant. The materials, workmanship and tests were found satisfactory. When the engines have been fitted in the vessel and tried out to the satisfaction of the Society's Surveyor, she will be eligible, in my opinion, for record * LMC (with date) in the Register.

Attached to this report are forging reports Nos. ~~3090~~ 3090 and 3091.

Including Auxiliary Engines

The amount of Entry Fee .. \$ 325.50

Special ... £ : : 6/2/ 1937

Donkey Boiler Fee ... £ : : When received, 20.10.37

Travelling Expenses (if any) \$: 3.50

Committee's Minute NEW YORK SEP 1-1937

Assigned See Gal Rpt. 3238

E. D. Hammond

Engineer Surveyor to Lloyd's Register of Shipping.



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