

# REPORT ON OIL ENGINE MACHINERY.

mtb. Rpt. No. 7587

Received at London Office

4 DEC 1948

Date of writing Report 1st Sept. 1948 When handed in at Local Office 2nd Sept. 1948 Port of QUEBEC, P.Q.

No. in Survey held at Lauzon, P.Q. Date, First Survey 7th August, 1947 Last Survey 31st August 1948 Number of Visits 72

Reg. Book. 55111 on the ~~Triple~~ <sup>Single</sup> Screw vessel M. V. "CHING MEN" Tons Gross 909-11 Net 519-34

Built at Lauzon, P.Q. By whom built Geo. T. Davie & Sons Ltd. Yard No. 40 When built 1948 50576P.

Engines made at Cleveland By whom made General Motors Corp. Engine No. 50577S When made 1947 3755

Donkey Boilers made at El Monte Calif. By whom made Clayton Mfg. Co. Boiler No. 3756 When made 1947

Brake Horse Power 1200 each Engine Owners Ming Sung Industrial Co. Port belonging to Shanghai

Nom. Horse Power as per Rule 426 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Yangtze River Service.

**MAIN ENGINES, &c.** Type of Engines Vertical Diesel "V" Type 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 1050 lbs. Diameter of cylinders 8 3/4" Length of stroke 10 1/2" No. of cylinders 12 No. of cranks 6

Mean Indicated Pressure 112 lbs. Is there a bearing between each crank Yes

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 11 3/4" Means of ignition Solid Injection Kind of fuel used Heavy oil

Revolutions per minute 750 Flywheel dia. - Weight - Mid. length breadth 9 1/2" Thickness parallel to axis -

Crank Shaft, Solid forged dia. of journals as per Rule 7 1/4" Crank pin dia. 6 1/4" Crank Webs Mid. length thickness 2-9/16" Thickness around eye-hole -

Flywheel Shaft, diameter as per Rule - Intermediate Shafts, diameter as per Rule 7" Thrust Shaft, diameter at collars as per Rule -

Tube Shaft, diameter as per Rule - Screw Shaft, diameter as per Rule 7.5" Is the tube screw shaft fitted with a continuous liner No

Bronze Liners, thickness in way of bushes as per Rule None fitted Thickness between bushes as fitted - Is the after end of the liner made watertight in the 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 Yes If so, state type Syntron Seal Length of Bearing in Stern Bush next to and supporting propeller SKF Roller

Propeller, dia. 6'-0" Pitch 7'-3" No. of blades four Material Bronze whether Moveable Fixed Total Developed Surface sq. feet

Method of reversing Engines Gear Reverse Reduction - Airflex Couplings Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

Forced Thickness of cylinder liners 1 1/4" Comb Space Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Logged

Cooling Water Pumps, No. 1 (each) fresh 300 G.P.M. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes 1 (each) salt 325 G.P.M.

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 Two x 150 G.P.M. How driven Motor

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 one x 35 G.P.M. Fuel Oil Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two 100 G.P.M. 1 (each) 75 G.P.M.

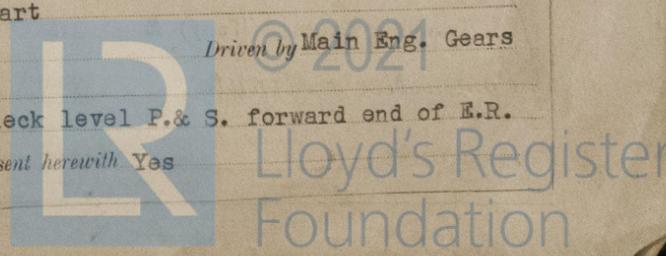
Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size: - In Machinery Spaces Two x 2" In Pump Room -

In Holds, &c. Forward Two x 2", Aft one x 2" Cofferdams one x 2" one x 1 1/2" also one x 5" each hold. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one x 5" x 4" and two x 2 1/2"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces fitted 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 Fitted to W/T Chests Are they fitted with Valves or Cocks Valves

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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  
 Main ~~Injection~~ Air Receivers, No. Four Cubic capacity of each 8-3 Cu.Ft. Internal diameter 15" thickness Heads .494" Shell .3125"  
 Seamless, lap welded or riveted longitudinal joint Lap brazed Material O.H. Steel Range of tensile strength 27.2/28.2 Working pressure by Rules Actual 400  
 Clutch & Generator Starting Air Receivers, No. Three Total cubic capacity 3.5 Cu.Ft. x 3 = 10.5 Internal diameter 14" thickness .125"  
 Seamless, lap welded or riveted longitudinal joint Lap brazed Material O.H. Steel Range of tensile strength 25.8/29.5 Working pressure by Rules Actual 125

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 Yes Clutch & Generator Receivers 20-8-48 N.H. See London letter 24.5.48. Separate Fuel Tanks

PLANS. Are approved plans forwarded herewith for Shafting 23-1-47 N.Y. Donkey Boilers 1-12-47 N.Y. General Pumping Arrangements 28-2-47 N.Y. Pumping Arrangements in Machinery Space 28-2-47 N.Y.

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes  
 State the principal additional spare gear supplied (See Rpt. No. 1232)  
 Reduction Gears:- (Fitted each Engine) Manufactured by Falk Corp., Milwaukee, Wisconsin.

Single reduction reverse gear with airflex clutch. Ratio of Reduction 2.5:1 Engine speed 750 R.P.M. and propeller speed 300 R.P.M. Main pinion pitch circle 13.65" and shaft diameter at bearing 5.91" with 2 1/2" diameter hole. Main gear pitch circle 34.35" and shaft diameter at bearing 7.75".

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building  
 During process of work on board vessel ---  
 1947:- 7, 12, 18, Aug, 2, 9, 11, 27, 29, Sept., 8, 9, 10, 15, 17, 24, 28, 29, 31, Oct., 3, 5, 6, 10, 13, 17, 21, 24, 28, 29, 31, Nov., 4, 5, 9, 15, 19, Dec.  
 1948:- 14, 15, Jan., 23, 25, Feb., 1, 2, 5, 12, 22, Mar., 16, 26, April, 3, 7, 10, 12, 14, 17, 20, 21, 22, May, 1, 4, 5, 8, 12, 14, 17, 21, June, 5, 19, 20, 23, 26, 27, 30, July, 23, 24, 28, 30, 31 Aug.
 Total No. of visits 72

Dates of Examination of principal parts—Cylinders 1/29-5/32-47 Covers 1/29-5/23 Pistons 1/29-5/23 Rods - Connecting rods 1/29-5/23  
 Crank shaft 1/29-5/23-47 Flywheel shaft - Thrust shaft - Intermediate shafts - Tube shaft -  
 Screw shaft 4-12-47 15-12-47 Propeller 20-11-47 Stern tube 15-1-48 Engine sealings 4-12-47 Engines holding down bolts 1-3-48  
 Completion of fitting sea connections 16-4-48 Completion of pumping arrangements 14-6-48 Engines tried under working conditions 23-7-48  
 Crank shaft, Material Forged Steel Identification Mark Lloyd's 5677 P. 5298 S. Flywheel shaft, Material - Identification Mark -  
 Thrust shaft, Material - Identification Mark - Intermediate shafts, Material Forged Steel Identification Marks 4841, 4844  
 Tube shaft, Material Forged Steel Identification Mark 4842, 4848 Identification Mark - Screw shaft, Material Forged Steel Identification Mark 4818, 4819  
 Identification Marks on Air Receivers A.B. (\*66) 32403, 32405, 32406, 32406, 32407, 9-17-47, S.W.P. 400 lbs.  
 Clutch & Generator Receivers A.B. (\*250) 29920, 29939, 29955, 12-11-46 S.W.P. 150 lbs.

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 Yes Tung Oil If so, have the requirements of the Rules been complied with Yes  
 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.V. "KUEI MEN" - Sub. Rpt. 1583

General Remarks (State quality of workmanship, opinions as to class, &c. Please see attached Cleveland Rpt. No. 1233.)  
 The Machinery of this Vessel has now been installed as required by the Rules, tried under full power with the Vessel at a full loaded condition during river trial and found satisfactory. During the light draft, Owners river trial the engine driven salt water impeller, circulating pumps frequently lost their suction and new positive type pumps are being ordered by the Owners, who state that the pumps will be fitted on board as soon as they are received in Shanghai. The donkey boilers were hydrostatically tested and examined in place and their safety valves adjusted under steam. The receivers were built under American Bureau of Shipping Survey (Certificates attached) and have been hydrostatically tested and examined after fitting in place. The materials (test sheets forwarded with "KUEI MEN" Report) and workmanship are satisfactory. In my opinion this Vessel is eligible to have a record of L.M.C. 8,48 with notations Port and Starboard T.S. (O.G.) when Survey has been completed, subject to the propellers and oil glands being removed and the adjacent roller bearings being examined in dry dock after a period of about, but not exceeding, (12) twelve months in service.

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

The amount of Entry Fee	\$ 254.00	When applied for,	Dec. 28 1948
Installation Special		When received,	19
Donkey Boiler Fee			
Travelling Expenses (if any)	4.00		

*J. J. Skelton*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned *Deferred*  
 MON. 11 APR 1949

