

REPORT ON OIL ENGINE MACHINERY.

Kobe No. F-2278
Yokohama
682C

Kobe MAY 10 1955

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No. in Survey held at Tamashima & Yokohama Date, First Survey 5th Nov. 1954 6th Jun. 1955 (Yokohama)
Reg. Book. 14th October 1954 Last Survey 12th March, 1955. Number of Visits 13 (Kobe) 78 (Yokohama)

Single on the Twin Triple Quadruple } Screw vessel M.V. "KENWA MARU" Tons { Gross 6573.45 Net 3746.51
Built at Yokohama, Japan By whom built Uraga Shipbuilding Yard, The Uraga Dock Co., Ltd. Yard No. 673 When built 6-1955
Engines made at Tamashima, Japan By whom made Uraga Tamashima Diesel Kogyo K.K. Engine No. 270 When made 3-1955
Donkey Boilers made at Yokohama, Japan By whom made Uraga Shipbuilding Yard, The Uraga Dock Co., Ltd. Boiler No. 10856 When made 3-1955
Brake Horse Power 4300 Owners Nitto Shosen K.K. Port belonging to Tokyo
M.N. Power as per Rule 860 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 Uraga Sulzer 6SD72 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 52.7kg/cm² Diameter of cylinders 720mm Length of stroke 1250mm No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure 6.04kg/cm² Ahead Firing Order in Cylinders 6-2-4-3-5-1 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 934mm Is there a bearing between each crank Yes Revolutions per minute 128

Flywheel dia. 2423.90mm Weight 1700kgs Moment of inertia of flywheel (lbs. in² or Kg. cm²) 5000kg/cm² Means of ignition Compression Kind of fuel used Diesel
Crank Shaft, dia. of journals as per Rule 447mm as fitted 490mm Crank pin dia. 490mm Crank webs Mid. length breadth 800mm Thickness parallel to axis 305mm
Semi built as per Rule 490mm as fitted 490mm Mid. length thickness 295mm shrunk Thickness around eye-hole 243mm
Flywheel Shaft, diameter as per Rule — Intermediate Shaft, diameter as per Rule 314mm Thrust Shaft, diameter at collars as fitted 490mm
as fitted — as fitted 325mm as per Rule 348mm

Tube Shaft, diameter as per Rule — Screw Shaft, diameter as per Rule 364mm Is the tube shaft fitted with a continuous liner { Yes }
as fitted — as fitted 375mm as fitted —

Bronze Liners, thickness in way of bushes as per Rule 18.7mm Thickness between bushes as per Rule 14mm Is the after end of the liner made watertight in the propeller boss Yes
as fitted 22mm as fitted 19mm 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 — If so, state type — Length of bearing in Stern Bush next to and supporting propeller 1510mm

Propeller, dia. 4800mm Pitch 3312mm No. of blades 4 Material Blade: Mn. Bronze Boss: Cast iron whether moveable (no) Total developed surface 80.73 sq. feet
Moment of inertia of propeller (lbs. in² or Kg. cm²) 8050 Kg m² Kind of damper, if fitted —

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when decelerated Yes Means of lubrication Forced Thickness of cylinder liners 4.5mm 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 — 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. No Diameter — Stroke — Can one be overhauled while the other is at work —
Pumps connected to the Main Bilge Line { No. and size 1 - Bilge Pump: 30" R x 35" M, 4 S Pump 170" M³ x 30" M, Bilge Ballast Pump 200" M³ x 20" M }
How driven elect. motor driven, elect. motor driven, steam driven

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 - 200" M³ x 20" M Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 - 160" M³ x 45" 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 Common 3" x 5", (Direct) 3" x 1, 5" x 1, emergency 7" x 1. In pump room —
In holds, &c. NOS. 1, 2, 3, 4 holds 3" x 2 each hold, NO. 5 hold 3" x 3 Deep Tanks P. 3" x 1, S 3" x 1

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2 (3" x 1, 5" x 1)
Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes 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 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 brasscovering plate Yes

What pipes pass through the bunkers No How are they protected —
What pipes pass through the deep tanks No 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 Yes Is it fitted with a watertight door Yes worked from upper deck

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 225/250mm stroke 170mm driven by Aux. engines
Small Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 36/90 stroke 90 driven by Hand starting diesel engine

What provision is made for first charging the air receivers Small air compressor driven by 5 HP hand starting diesel engine
Scavenging Air Pumps, No. 6 diameter 950mm stroke 520mm driven by levers (Main eng.)

Auxiliary Engines crank shafts, diameter as per Rule 127.4mm as fitted 155mm No. 2 Position Port and Stbd. side of manoeuvring 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 YAR 53, YAR 54
 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. — Cubic capacity of each — Internal diameter — thickness —
 Seamless, welded or riveted longitudinal joint — Material — Range of tensile strength — Working pressure —
Starting Air Receivers, No. 2 Total cubic capacity 8500^l x 2 Internal diameter 1740 mm thickness Shell 38 mm End 40
 Seamless, welded or riveted longitudinal joint Welded Material O.H. Steel Range of tensile strength 43.2~44.7 Working pressure 33.9 kg/cm²

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 no Receivers 7-12-55 (Kobe) Separate fuel tanks 7-2-55 (Kobe)
 Donkey boilers 7-12-54 (Kobe) General pumping arrangements 30-11-54 (Kobe) Pumping arrangements in machinery space 7-12-54 (Kobe)
 Oil fuel burning arrangements 27-12-54 (Kobe)
 Have Torsional Vibration characteristics been approved Yes Date of approval 15-2-55

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes 6/6/55 for 128 RPM
 State the principal additional spare gear supplied 1-cylinder liner, 1-piston crown, 1-scavenging pump piston
1-scaveng pump driving lever, 1 set - cam shaft driving gear, 1-guide shoe etc.

[Signature]
 The foregoing is a correct description,

Uruga Tamashima Diesel Works Ltd.,
 TAMASHIMA.
 Manufacturer. *[Signature]*

Dates of Survey while building	During progress of work in shops --	1954: Oct. 14, Nov. 8, 15, 29 Dec., 8, 20, 23	1954: Nov. 5, 8, 12, 24, 27	DEC. 3, 10, 15, 17, 20, 22, 24, 27, 29
	During erection on board vessel --	1955: Jan. 18, Feb. 26, Mar. 9, 10, 11, 12	1955: JAN. 7, 10, 12, 14, 17, 19, 21, 24, 26, 28, 31	FEB. 2, 4, 7, 9, 11, 14, 16, 18, 21, 23, 25, 28
Total No. of visits		13 (Kobe)	78 (Yokohama)	
	Dates of examination of principal parts	Cylinder 8-Nov-54	Covers 2-Mar-54	pistons 4-Feb-54
Crank shaft		15-Nov-54	18-Jan-55	15-Jun-54
	Flywheel shaft			9-Mar-54
Screw shaft				
	Propeller			
Completion of fitting sea connections				
	Completion of pumping arrangements			
Crank shaft, material	O.H. Steel	Identification mark	LLOYD'S NO. K-CK417	
Thrust shaft, material	O.H. Steel	Identification mark	LLOYD'S NO. K-F1572	
Tube shaft, material		Identification mark		
Identification marks on air receivers				

Welded receivers, state Makers' Name Uruga Shipbuilding Yard, The Uruga Dock Co., Ltd., Yokosuka
 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 Foam extinguisher; Portable 9 x 12, 45 l x 2, hydrant 3, sand box at boiler platform.
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo no
 If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with no
 Is this machinery duplicate of a previous case Yes If so, state name of vessel M.V. "YOKOHAMA MARU"
M.V. "NEW YORK MARU"

General Remarks (State quality of workmanship, opinions as to class, &c. This main engine has been constructed under Special Survey in accordance with the Rules, Approved plans and Secretary's letters. The workmanship and material are sound and good.
 The main engine has been examined under full working condition in the shop and found satisfactory.
 This engine is intended for the installation in the ship No. 673 being built by the Uruga Dock Co., Ltd., Yokosuka.
 It is recommended that this engine is eligible in our opinion to have a record of +LMC with date when satisfactorily installed in the vessel.

The machinery has been satisfactorily installed in the vessel and tested under working condition.
 It is submitted that the machinery of this vessel is eligible to be classed with this Society with the notation of +LMC 6.55, DBS 6.55 and TS (CL) 6.55 Crank case explosion device fitted as per plan in accordance with cir. NO. 2045.
 The amount of Entry Fee ... ¥392,000
 during installation ¥226,000
 Special (Yokohama) ¥123,000
 Pumps, Air Receivers, etc. ¥15,000
 Donkey Boiler Fee... ¥57,150
 (Yokohama) ¥15,000
 Travelling Expenses (if any) ¥15,000
 Kobe

Committee's Minute
 Assigned + Lmc 6.55 subject (with test endt)

FRIDAY - 5 AUG 1955
 Engineer Surveyor to Lloyd's Register of Shipping.
 Lloyd's Register Foundation