

REPORT ON OIL ENGINE MACHINERY.

No. 2853 Kobe

Kobe

Received at London Office 28 JUN 1955

Date of writing Report 19 When handed in at Local Office JUN 20 1955 Port of KOBE & Kobe: 4th November, 1954 Kobe: 9th May 1955.
 No. in Survey held at Kobe, Osaka & Date, First Survey Last Survey
 Reg. Book. Number of Visits 46 (Kobe)

Single }
 on the Deck }
 Triple }
 Screw vessel M.V. "NISEHARU MARU"

Tons {
 Gross
 Net

Built at By whom built Hitachi Shipbuilding & Eng., Co., Ltd. Yard No. 120 When built
 Engines made at Osaka, Japan By whom made Sakurajima Shipyard Engine No. 2021 When made Apr. 1955
 Donkey Boilers made at By whom made Boiler No. When made
 Brake Horse Power 5,530 Owners Nissan Kisen K.K. Port belonging to Tokyo
 M.N. Power as per Rule 1,106 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
 Trade for which vessel is intended

OIL ENGINES, &c. — Type of Engines B & W 674VTF160 2 or 4 stroke cycle 2 Single or double acting Single
 Maximum pressure in cylinders 49kg/cm² Diameter of cylinders 740mm Length of stroke 1,600mm No. of cylinders 6 No. of cranks 6
 Mean Indicated Pressure 6.5kg/cm² Ahead Firing Order in Cylinders 1-5-3-4-2-6 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 972.6mm Is there a bearing between each crank Yes Revolutions per minute 115
 Flywheel dia 1,903mm Weight 2,198kgs Moment of inertia of flywheel (xxxxx Kg. cm.²) 44x10⁶ Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, {
 dia. of journals as per Rule 486.16mm
 as fitted 550mm Crank pin dia 550mm Crank webs Mid. length breadth 1,160mm Thickness parallel to axis 335mm
 All built as fitted 550mm Mid. length thickness 280mm shrunk Thickness around eye-hole 320mm

Flywheel Shaft, diameter as per Rule Intermediate Shaft, diameter as per Rule Thrust Shaft, diameter at collars as fitted
 as fitted as fitted as per Rule 500mm
 as per Rule 392.14mm

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the {tube} shaft fitted with a continuous liner {
 as fitted as fitted 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 propeller boss as fitted as fitted
 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

Propeller, dia. Pitch No. of blades Material whether moveable Total developed surface sq. feet
 Moment of inertia of propeller (lbs. in.² or Kg. cm.²) Kind of damper, if fitted

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 52mm 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. Is the sea suction provided with an efficient strainer which can be cleared within the vessel
 Bilge Pumps worked from the Main Engines, No. 1 Diameter 150mm Stroke 200mm Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line {
 No. and size
 How driven
 Is the cooling water led to the bilges 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 Power Driven Lubricating Oil Pumps, including spare pump, No. and size
 Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:— In machinery spaces In pump room
 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 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

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 brasscovering 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

What provision is made for first charging the air receivers
 Scavenging Air Pumps, No. 2 Roots Blowers diameter 818.6mm dia. x 1498mm long driven by Main engine
 Auxiliary Engines crank shafts, diameter as per Rule r.p.m. 393 No. Position
 Have the auxiliary engines been constructed under special survey Is a report sent herewith

AIR RECEIVERS:—Have they been made under survey. State No. of report or certificate

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned Is a drain fitted at the lowest part of each receiver

Injection Air Receivers, No. Cubic capacity of each Internal diameter thickness

Seamless, welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

Starting Air Receivers, No. Total cubic capacity Internal diameter thickness

Seamless, welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

IS A DONKEY BOILER FITTED 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 App. date 28-2-55 Receivers Separate fuel tanks

Donkey boilers General pumping arrangements Pumping arrangements in machinery space

Oil fuel burning arrangements

Have Torsional Vibration characteristics been approved Yes Date of approval 28-2-55

SPARE GEAR.

B.S.R. 39/49 RPM

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied 6-Fuel valves complete 1-Exhaust valve complete,

1-starting air valve complete, 1-Cylinder safety valve complete, 5 set Piston rings, 1-Piston rod, 1 set O.F. pump complete.

The foregoing is a correct description,

Manufacturer.

[Signature]

Dates of Survey while building During progress of work in shops -- 1954: Nov. 4,9,30, Dec. 4,11,14,23,24,27 1955: Jan.10,14,21,24,28,29,31 Feb.4,9,14, 15,21,25,28, Mar. 2,4,5,11,14,17,19,22,23,24,29,30,31 Apr. 9,12,13,14,23,28 May, 4,6,7,9

Total No. of visits 46 (Kobe)

Dates of examination of principal parts—Cylinders 2-3-55 Covers 31-3-55 pistons 11-3-55 Rods 11-3-55 Connecting rods 4-3-55

Crank shaft 21-1-55 Flywheel shaft Thrust shaft 21-1-55 Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engine holding down bolts

Completion of fitting sea connections Forged and No. K-CK 428 Completion of pumping arrangements Engines tried under working conditions

Crank shaft, material Cast Steel Identification mark HI LR 21-1-55 Flywheel shaft, material Identification mark

Thrust shaft, material E.F. Forged Identification mark No. HC-F502 Intermediate shafts, material Identification marks

Tube shaft, material Identification mark HI LR 21-1-55 Screw shaft, material Identification mark

Identification marks on air receivers

Welded receivers, state Makers' Name

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

Description of fire extinguishing apparatus fitted

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.V. "NIKKEI MARU" & M.V. "NICHIRYU"

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery has been constructed under the supervision of the Society's Surveyors in accordance with the Rules, approved Plans and Secretary's letters.

The materials were found to be sound and free from defects and the workmanship is good.

The machinery was examined during shop trials under full and overload conditions and found good.

It is submitted that this machinery will be eligible for a Notation of +LMC when installed on board the vessel to the satisfaction of the Society's Surveyors. with date

The amount of Entry Fee ... £ : : KOB ¥ 444,000

Special ... £ : : KOB ¥ 28,320

Donkey Boiler Fee ... £ : :

Travelling Expenses (if any) £ : :

When applied for KOB JUN - 8. 1955

When received 19

FRIDAY 30 SEP 1955

Committee's Minute

Assigned Sec Rpt. 46.



Lloyd's Register Foundation

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