

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 7609.

29 JAN 1932

Date of writing Report 15-12-31 19 When handed in at Local Office 13-1-32 19 Port of Kobe
No. in Survey held at Tama Date, First Survey 11-12-30 Last Survey 15-12-31 19
Reg. Book. Number of Visits 36

Single
on the Twin Screw vessel Motor Vessel "NACHISAN MARK"
Triple
Quadruple
Built at Tama By whom built Mitsui Bussan Kaisha Yard No. 183 When built 1931
Engines made at Tama By whom made Mitsui Bussan Kaisha Engine No. 183 When made 1931
Donkey Boilers made at Tama By whom made Mitsui Bussan Kaisha Boiler No. 183 When made 1931
Brake Horse Power 2180 Owners Mitsui Bussan Kaisha Port belonging to Kobe
Nom. Horse Power as per Rule 362 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
Trade for which vessel is intended Ocean Going 21578 Supercharge 39318

L ENGINES, &c.—Type of Engines Mitsui B-W Airless Injection Turbo Piston 4 stroke cycle 4 Single or double acting Single
Maximum pressure in cylinders 45 kg/cm² Diameter of cylinders 550 mm Length of stroke 1000 mm No. of cylinders 8 No. of cranks 8
Position of bearings, adjacent to the Crank, measured from inner edge to inner edge 730 mm Is there a bearing between each crank Yes
Revolutions per minute 145 Flywheel dia 1845 mm Weight 900 kg. Means of ignition Kind of fuel used Californian
Crank Shaft, dia. of journals as per Rule 360 mm Crank pin dia. 360 mm Crank Webs Mid. length breadth 720 mm Thickness parallel to axis 219 mm
as fitted 360 mm M. d. length thickness 219 mm shrunk Thickness around eye hole 176 mm
Flywheel Shaft, diameter as per Rule 615 mm Intermediate Shafts, diameter as per Rule 105 mm Thrust Shaft, diameter at collars as per Rule 107 mm
as fitted 615 mm as fitted 105 mm as fitted 107 mm
Main Shaft, diameter as per Rule 113 mm Is the shaft fitted with a continuous liner Yes
as fitted 113 mm
Bronze Liners, thickness in way of bushes as per Rule 0.646 mm Thickness between bushes as per Rule 0.486 mm Is the after end of the liner made watertight in the
as fitted 11/16 mm as fitted 17/32 mm
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 No
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
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
If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. 12-11 Pitch 10-7/8 No. of blades 3 Material Bronze whether Moveable No Total Developed Surface 40 sq. feet
Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Governor Means of lubrication
Oil Thickness of cylinder liners 34 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with
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 No
Cooling Water Pumps, No. 2 Centrifugal 120 ltr/hr. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
Ge Pumps worked from the Main Engines, No. 2 Diameter 150 mm Stroke 175 mm Can one be overhauled while the other is at work Yes
Pumps connected to the Main Bilge Line No. and Size 1-150 to Ballast pump 2-20 to Bilge pump attached main diesel engine
How driven Independent motor driven

Last Pumps, No. and size 1-150 to the bilge Diesel Lubricating Oil Pumps, including Spare Pump, No. and size 2 Gear pumps 50 ltr/hr. each

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 3-2 1/2 Ballast direct 1-4 1/2 Bilge direct 2-2 1/2 Effluent 1-3 1/2 Tunnel Well

Holds, &c. N^o 1 Hold 2-3 N^o 2 Hold 2-3 1/2 N^o 3 Hold 2-3 N^o 4 Hold 2-3

Dependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2-20 mm Dia 165 mm Stroke 230 mm

all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces
from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Both

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

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

all pipes pass through the bunkers How are they protected

all pipes pass through the deep tanks Have they been tested as per Rule

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

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

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

1 Air Compressors, No. 3 No. of stages Two Diameters 320 + 250 mm Stroke 190 mm Driven by Direct coupled to
auxiliary engine

2 Heavy Air Compressors, No. 1 No. of stages Diameters 2 1/2 Stroke 6 Driven by Hand

11 Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

1 Blowing Air Pumps, No. 1 Blower 1 Combined blower 188 mm dia Stroke Driven by Exhaust Gas
Supercharging 1 blower 188 mm dia Stroke Driven by Exhaust Gas
as per Rule 170 mm as fitted 170 mm

11 Auxiliary Engines crank shafts, diameter as fitted 170 mm

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

the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces

are a drain arrangement fitted at the lowest part of each receiver Yes

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 by Rules

Starting Air Receivers, No. 2 Total cubic capacity 460 cu. ft. Internal diameter 4'-8 3/4" thickness 1/8" Working pressure by Rules 355 lb.

Seamless, lap welded or riveted longitudinal joint Material Steel Range of tensile strength 28-32 Working pressure by Rules 355 lb.

007352-007362-0097

IS A DONKEY BOILER FITTED? *yes* If so, is a report now forwarded? *yes*
PLANS. Are approved plans forwarded herewith for Shafting *22-4-31 29-6-31* Receivers *10-7-30* Separate Tanks *15-9-3, 14-9-31*
(If not, state date of approval)
Donkey Boilers *8-8-30* General Pumping Arrangements *25-6-31 29-7-30* Oil Fuel Burning Arrangements *25-7-31*

SPARE GEAR 1 Cylinder head, 1 cylinder liner, 1 set of studs & nuts for one cyl. cover, 1 fuel valve complete, 1 fuel spindle, 1 valve bush with stem, 8 atomizers, 1 stem for overflow valve, 8 springs, 1 inlet valve complete, 1 stem, 8 springs, 1 roller with pin, 8 exhaust valve complete, 4 seats with nuts for stem, 4 stems, 8 springs, 1 roller with pin, 1 starting valve complete, 1 stem, 2 sets of packing rings on 1 seat, 8 springs for stem, 8 springs for piston, 1 roller with pin, 8 safety caps, safety valve, 1 safety valve complete, 2 stems, 2 seats, 8 springs, 1 piston complete with rings & pin, 8 sets piston rings, 8 sets of scraper rings, 2 sets of telescopic pipes with packing, 1 pair of crank pin beams, 2 bolts with nuts for crank pin beams, 1 pair of guide pin beams, 1 pair of main bearing beams of each size, 2 studs with nuts, 1 set of coupling bolts, 10 chain links, 1 fuel pump complete, 14 pistons with bushes, 8 pipes from fuel pump to fuel valve, 8 cushion valves, 1 roller with pin, 14 pipes for return, 8 filters for fuel oil strainer, 2 sets of each size spring, 1 discharge valve complete, 1 cushion valve complete, assorted number of rubber rings for seals, cooling water jacket etc., 1 length of pipe for starting air of each size with unions & flanges, 2 meter pantegon & palmette, packing of each size, 3 thermometer pipes for cooling water on exhaust valves, 1 set of coupling bolts tunnel shafting, assorted nuts & bolts; also spare gear for auxiliary pump.

The foregoing is a correct description,

J. Ukas

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1930 Dec. 11-22 Jan. 21 Feb. 23 March 13 June 29 July 8-7-28 Aug. 19-20-25-27-31 Oct. 2-13-15-21-26-30 Nov. 4-9-11
During erection on board vessel -- 1931 Nov. 18-21-25-27-30 Dec. 8-10-12-15
Total No. of visits 36

Dates of Examination of principal parts—Cylinders *15-10-31* Covers *27-8-31* Pistons *27-8-31* Rods *—* Connecting rods *5-10-31*
Crank shaft *27-8-31* Flywheel shaft *—* Thrust shaft *26-6-31* Intermediate shafts *21-6-31* Tube shaft *—*
Screw shaft *21-10-31* Propeller *21-10-31* Stern tube *19-10-31* Engine seatings *2-9-31* Engines holding down bolts *21-11-31*
Completion of fitting sea connections *19-10-31* Completion of pumping arrangements *8-12-31* Engines tried under working conditions *8-12-31*
Crank shaft, Material *Steel* Identification Mark *LLOYD N° 8756 K.K.* Flywheel shaft, Material *—* Identification Mark *LLOYD N° 759, 760, 761, 762, 21-6*
Thrust shaft, Material *Steel* Identification Mark *LLOYD N° 758 21-6-31* Intermediate shafts, Material *Steel* Identification Marks *761, 762, 21-6*
Tube shaft, Material *—* Identification Mark *M.K. —* Screw shaft, Material *Steel* Identification Mark *LLOYD N° 765 4-7-31 M.K.*

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 *no* If so, have the requirements of the Rules 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 under Special Survey in accordance with the Rules and approved plans; the materials and workmanship are good and on completion the machinery has been efficiently installed in the vessel and tested under full working conditions and eligible in an opinion for classification with the vessel of T.L.M.C 12 oil engine, T.S. 12.31 P.L. and D.B. 100 lb.

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 ... *£50- : ✓*
Special ... *£1189 : 50 ✓*
Donkey Boiler Fee ... *£63 : ✓*
Travelling Expenses (if any) ... *£126 : ✓*
When applied for, *12 Jan. 1932*
When received, *18/3/32*

Committee's Minute *FRI. 5 FEB 1932*
Assigned *T.L.M.C. 12.31 C.L.*
Oil Eng. 100 lb.

G. Pickering & Self A.D. Morris
Engineer Surveyor to Lloyd's Register of Shipping.

