

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 7387.

Received at London Office

13 JUL 1931

Date of writing Report 4-6-1931 When handed in at Local Office 22-6-1931 Port of Kobe.

No. in Survey held at Yama.
Reg. Book.Date, First Survey Sept. 10th 1930. Last Survey May 25th 1931.
Number of Visits 17.Single
on the ~~Triple~~
~~Quadruple~~Screw ~~cocked~~ MOTOR VESSEL "SANTO MARU"Tons { Gross 3234.
Net

Built at Yama

By whom built Mitsui Bussan Kaisha Yard No. 184 When built May 1931.

Owners Dairen Kisen Kabushiki Kaisha

Port belonging to Dairen.

Oil Engines made at Yama

By whom made Mitsui Bussan Kaisha Contract No. 31.32.33 When made May 1931.

Generators made at Shibaura

By whom made Shibaura Seisaku-Sho Contract No. 3041296
3041299
3041297 When made May 1931.

No. of Sets 3 Engine Brake Horse Power 100 Nom. Horse Power as per Rule 29. Total Capacity of Generators 180 Kilowatts.

OIL ENGINES, &c.—Type of Engines 231-MTHK-35 Mitsui Burmeister 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 36 Kg/cm² Diameter of cylinders 310 mm Length of stroke 350 mm No. of cylinders 2 for each No. of cranks 2 for each engine.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 352 mm Is there a bearing between each crank Yes

Revolutions per minute 400 Flywheel dia. 1240 mm Weight 2650 Kg. Means of ignition Due to Compression Kind of fuel used Heavy Oil fuel

Crank Shaft, dia. of journals as per Rule approved 170 mm Crank pin dia. 170 mm Crank Webs Mid. length breadth 225 dia circle Thickness parallel to axis ✓
as fitted 170 mm Mid. length thickness 95 mm Thickness around eye holeFlywheel Shaft, diameter as per Rule (one forging with crank shaft). as per Rule ✓
as fitted 335 mm Intermediate Shafts, diameter as fitted ✓ Thickness of cylinder liners 30 mm.

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication forced.

Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers ~~water cooled~~ lagged with non-conducting material Yes

Cooling Water Pumps, No. 1 for each Engine Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Lubricating Oil Pumps, No. and size 1 geared pump for each Engine P.C.D. 55 mm

Air Compressors, No. 1 on each Engine No. of stages 2 Diameters HP 280 / L.P. 320 mm Stroke 170 mm Driven by Aux. Diesel Engine.

Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

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 Yes What means are provided for cleaning their inner surfaces man hole.

Is there a drain arrangement 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 by Rules ✓

Starting Air Receivers, No. Two (common with Main Engine) Total cubic capacity 380 cub. ft Internal diameter 4 ft - 1 1/2 inch thickness 3/4"

Seamless, lap welded or riveted longitudinal joint T.R.L.J. Material steel Range of tensile strength 26-28 Tons/sq. in Working pressure by Rules 517 lb/sq. in.

ELECTRIC GENERATORS:—Type Multipole Compound wound

Pressure of supply 220 volts. Load 273 Amperes. Direct or Alternating Current Direct current

If alternating current system, state frequency of periods per second ✓

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes.

Generators, do they comply with the requirements regarding rating Yes are they compound wound Yes

are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator ✓

is an adjustable regulating resistance fitted in series with each shunt field Yes Are all terminals accessible, clearly marked, and furnished with sockets Yes

are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes shielded Are the lubricating arrangements of the generators as per Rule Yes

PLANS. Are approved plans forwarded herewith for Shafting 20-8-30 Receivers. ✓ Separate Tanks ✓
(If not, state date of approval)

SHAFTING. As per the Rules, checked and found satisfactory.

Spare Air Receiver;—One in number. Total cubic capacity 250 litres.

Internal dia 400 mm. Thickness 13 mm, ✓

Seamless, steel. Working pressure 30 Kg/cm²

The foregoing is a correct description.

S. W. Kai.

Manufacturer.



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Dates of Survey while building { During progress of work in shops - - 1930. Sept. 10, Oct 13, 31. Nov. 8. Dec. 16, 20, 22. 1931. Jan. 30. Mar. 13.
During erection on board vessel - - - 20.30 Apr. 9. 20. May 1. 11. 23. 25
Total No. of visits 17.

Dates of Examination of principal parts—Cylinders 16-12-30 to 30-3-31 Covers 16-12-30 Pistons ditto Piston rods ✓

Connecting rods 20-12-30 to 30-1-31 Crank and Flywheel shaft 20-12-30 Intermediate shaft ✓

Crank and Flywheel shafts, Material Forged steel, see below. Identification Mark

Intermediate shafts, Material ✓ Identification Marks ✓

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.)

Identification marks on 3 Crank Shafts:-

LLOYD'S
No. 2929
ADM. R
20-12-30

Marks on Generators:-

No. 3041296

LLOYD'S TEST

No. 251

J.F.N. R 2-3-31

No. 3041297

LLOYD'S TEST.

No. 252

J.F.N. R 2-3-31

No. 3041299

LLOYD'S TEST.

No. 250

J.F.N. R 17-2-31

The machinery herein described has been constructed under special survey in accordance with the Rules and approved plans; the material and workmanship are good and on completion the machinery has been efficiently installed in the vessel, coupled with the generators and tested under full working and parallel running conditions, and found to be efficient and eligible in my opinion to have record of ✕ LMC 5.31.

The amount of Fee ... £ : : When applied for, 19
Travelling Expenses (if any) £ : : When received, 19

Committee's Minute

TUE. 21 JUL 1931

Assigned

See J.F.N. Rpt.

K. Kihigami S. P. P. P.
Surveyor to Lloyd's Register of Shipping.



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