

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 1770  
18 DEC 1953

4c. Writing Report 19 When handed in at Local Office 9. DEC. 1953 Port of Kobe  
Survey held at Kobe Date, First Survey 3rd March, 1953 Last Survey 16th Oct., 1953  
Number of Visits 27  
on the M.V. "HIYEHARU MARU" Tons Gross 7937.58 Net 4378.74  
Screw vessel  
Kobe, Japan Mitsubishi Heavy Industries Reorganized Ltd., Kobe Shipyard & Eng. Works Yard No. 855 When built  
Shin Nihon Kisen K.K. Port belonging to Nishinomiya, Japan  
Kobe, Japan By whom made Mitsubishi, Kobe Engine No. 1034 When made Oct., 1953  
Kobe, Japan By whom made - " - Generator No. 15231 When made Oct., 1953  
B.H.P. of each Set 390 M.N. of each Set as per Rule 78 x 2 Capacity of each Generator 260 Kilowatts  
intended for essential services

ENGINES, &c.—Type of Engines 6G 27.5/42 (MRB6) 2 or 4 stroke cycle 4 Single or double acting Single  
num pressure in cylinders 47 kgs/cm<sup>2</sup> Diameter of cylinders 275mm Length of stroke 420mm No. of cylinders 6 No. of cranks 6  
indicated pressure 6.85kgs/cm<sup>2</sup> Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 350mm  
re a bearing between each crank Yes Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 4.75x10<sup>7</sup>GD<sup>2</sup> Revolutions per minute 400  
Wheel dia. 1600mm Weight 3,200kgs Means of ignition compression Kind of fuel used diesel oil  
Solid forged Shaft, dia. of journals 162mm as per Rule 170mm Crank pin dia. 170mm Crank Webs Mid. length breadth 240mm Thickness parallel to axis  
as fitted 170mm Mid. length thickness 93mm Thickness round eye hole  
Wheel Shaft, diameter as per Rule Generator armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 9.8 x 10<sup>6</sup> GD<sup>2</sup>  
Means provided to prevent racing of the engine Yes Means of lubrication forced Kind of damper if fitted None fitted  
cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Both  
Water Pumps, No. and how driven 1 each Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes  
Lubricating Oil Pumps, No. and size 1-Single acting horizontal piston type, driven by D.E. 75mm dia., 40mm stroke  
Compressors, No. 2 No. of stages 2 Diameters H.P. mm L.P. mm Stroke 180mm Driven by Dynamo Engine  
Suction Air Pumps or Blowers, No. How driven AR496, AR497, AR526

RECEIVERS:—Have they been made under Survey Yes State No. of Report or Certificate  
other than main engines Spring loaded safety valves dia. 15mm x lift 2mm, dia. 30mm x lift 2mm  
full details of safety devices Yes  
The internal surfaces of the receivers be examined and cleaned Yes  
A drain arrangement fitted at the lowest part of each receiver Yes  
Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness  
Material Range of tensile strength Working pressure  
Air Receivers, No. 1 Total cubic capacity 500 l Internal diameter 680 mm Shell 16 mm  
butt thickness 22 mm  
Material plate Range of tensile strength 46-48 Working pressure 30 kgs/cm<sup>2</sup>

ELECTRIC GENERATORS:—Type Semi enclosed, drip proof, 3 phase synchronous  
Voltage of supply 230 volts Full Load Current 815 Amperes Direct or Alternating Current A.C.  
Alternating current system, state the periodicity 60 cycle Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown  
off Yes Generators, are they compounded as per Rule is an adjustable regulating resistance fitted in series with each shunt field Yes  
Terminals accessible, clearly marked, and furnished with sockets Are they so spaced Yes  
Insulated that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes  
Generators are under 100 kw. full load rating, have the makers supplied certificates of test Yes and do the results comply with the requirements Yes  
Generators are 100 kw. or over have they been built and tested under survey Yes  
of driven machinery other than generator One main starting air compressor coupled with magnetic clutch each.

IS.—Are approved plans forwarded herewith for Shafting app.D.18-3-53 Receivers 4-6-53 Separate Tanks  
(If not, state date of approval) Torsional Vibration characteristics if applicable been approved 7-8-53 - 13-8-53 Armature shaft Drawing No. A-238837  
(State date of approval and name of previous duplicate case, if any)  
Spare gear required by the Rules been supplied 1 cylinder, 1 piston and connecting rod complete, 2 crank bearing  
complete, 1 gudgeon pin brass, 1 connecting rod bottom end bearing complete, 1 cyl. cover with valves  
complete, 6 exhaust valves complete, 5 air inlet valves complete, 2 starting air valves complete,  
1 relief valves complete, 4 piston rings for one cyl., 5 fuel valves complete, 2 fuel pump main  
complete, fuel pipes, 1 set of comp. piston rings for one piston, 1 set of com. suc. & del.  
as complete.

Generator:—2 sets of carbon brushes, 2 brush holders.

The foregoing is a correct description,

H. Ashima  
for S. Murakami  
Director & General Manager

Manufacturer.



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Dates of Survey while building { During progress of work in shops - - 1953: Mar. 3, 24 Apr., 2, 7, 9, 10, 11, 16, 18, 21 May, 23, June, 18, 20, 23, 25, 27, 30, July, 2, 4, 7, 9, 10, 18  
During erection on board vessel - - Oct. 10, 14, 16  
Total No. of visits 27

Dates of Examination of principal parts - Cylinders 27.6.53 2.7.53 Covers 9.7.53 10.7.53 Pistons 4.7.53 4.7.53 Piston rods -  
Connecting rods 4.7.53 4.7.53 Crank and Flywheel shafts 9.7.53 20.6.53 Intermediate shafts -

Crank shaft { Material forged steel Tensile strength T. 33.7 T/sq.in. B. 33.7  
Elongation T. 32.0 % B. 34.0 % in 2" Identification Marks KW-CK134-2, MK-F520-9

Flywheel shaft, Material - Identification Marks -  
Identification marks on Air Receivers /Starting AR526 LLOYD'S TEST KOB W.P. 30kgs/cm2 W.T.P. 48.5 kgs/cm2 YK LR 8-8-53

Is this machinery duplicate of a previous case Yes If so, state name of vessel M.V. "ASOHARU MARU"

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The Electric Generators have been constructed

under Special Survey in accordance with the Rules, Approved Plans and Secretary's letters.

The materials and workmanship are sound and good.

The Electric Generators have been examined under full working condition on the shop trials and comprehensive sea trials and found satisfactory.

The amount of Fee ... £ 112,000

Travelling Expenses (if any) £ See Rpt. 1

When applied for DEC 10 1953

When received 19

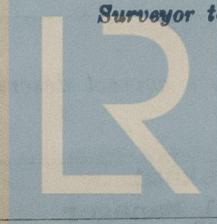
TUESDAY 12 JAN 1954

Committee's Minute

Assigned

See Rpt. 4b.

Surveyor to Lloyd's Register of Shipping.



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