

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 548
MAR 1952

Received at London Office

Report 10th Sept. 1951 When handed in at Local Office 10th Sept. 1951 Port of Yokohama & KOBE

Survey held at Niigata and Aioi, Japan. Date, First Survey 22-1-51 Last Survey 10th October 1951
Number of Visits 14

on the ^{Single} ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel Steam Ship "TONAN MARU" Tons { Gross 19320.38
Net 13211.40

OSAKA JAPAN By whom built OSAKA IRON WORKS, LTD. OSAKA -Yard-No. Tonan Maru When built 1932-10

Nihon Suisan K.K. Port belonging to TOKYO

made at Niigata, Japan By whom made Niigata Engineering Co., Ltd. Contract No. 8124 When made 51.6 Mo.

made at Nagasaki, Japan By whom made Mitsubishi Electric Mfg. Co. Contract No. 317883 When made 51.4 MO

1 sets. Engine Brake Horse Power 375 B.H.P. M.N. as per Rule 93.75 Total Capacity of Generators 200 Kilowatts.

used for essential services yes

ENGINES, &c.—Type of Engines Vertical trunk piston type 2 or 4 stroke cycle 4 cycle Single or double acting Single

Pressure in cylinders 50 kg/cm² Diameter of cylinders 310 mm. Length of stroke 420 mm. No. of cylinders 5 No. of cranks 5

Weight 6.5 kg/cm² Firing order in cylinders 1-3-5-4-2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 350 mm.

Clearance between each crank Yes Moment of inertia of flywheel (16 m² or Kg-cm.²) 5670 kg-m² Revolutions per minute 400 R.P.M.

Stroke 1600 mm. Weight 3280 kg Means of ignition Compression Kind of fuel used Diesel Gas oil

Shaft, dia. of journals as per Rule 174.0 mm. Crank pin dia 190 mm. Crank Webs Mid. length breadth 290 mm. Thickness parallel to axis -

as fitted 210 mm. General armature, moment of inertia (16 m² or Kg-cm.²) 394 kg-m²

1 Shaft, diameter as per Rule - Intermediate Shafts, diameter as fitted - Forced Lubrication Kind of damper if fitted -

provided to prevent racing of the engine when declutched Yes Means of lubrication -

Receivers fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material cooled by water

Water Pumps, No. 1 centrifugal pump for this eng. Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Oil Pumps, No. and size 1 set of gear pump for this engine, and pump capacity is 7000 litres per hour Del. bore 50 mm.

Compressors, No. - No. of stages - Diameters - Stroke - Driven by -

Air Pumps, No. - Diameter - Stroke - Driven by -

RECEIVERS:—Have they been made under Survey - State No. of Report or Certificate -

Receiver, which can be isolated, fitted with a safety valve as per Rule -

Internal surfaces of the receivers be examined - What means are provided for cleaning their inner surfaces -

Rain arrangement fitted at the lowest part of each receiver -

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

welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure by Rules -

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

welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure by Rules -

TRIC GENERATORS:—Type Drip Proof Open type

Supply 230 volts. Full Load Current 870 Amperes. Direct or Alternating Current Direct current

Regulating current system, state the periodicity - Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown

yes Generators, are they compounded as per Rule yes is an adjustable regulating resistance fitted in series with each shunt field yes

Terminals accessible, clearly marked, and furnished with sockets yes Are they so spaced

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 - and do the results comply with the requirements -

Generators are 100 kw. or over have they been built and tested under survey yes

Driven machinery other than generator -

NS.—Are approved plans forwarded herewith for Shafting Date of approval = 3-5-51 Receivers 8-3-51 Separate Tanks -

Resonance Vibration characteristics if applicable been approved Date of approval = 26-4-51 Armature shaft Drawing No. C 330440

RE GEAR To be included in 600 B.H.P. Engine (Separate RPT). Please see RPT 4C-1 attached hereto

The foregoing is a correct description,

Yoshikawa *M. Otsuki* Manufacturer.
PRIMA SHIPBUILDING AND ENGINEERING COMPANY, LTD.



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010652-010661-0215

1951:-

Dates of Survey while building
 During progress of work in shops: March 8,9,19 April2,3,13,26,27 June 15,16.
 During erection on board vessel: 1251 Sept 13 24 29 Oct. 10
 Total No. of visits 14

Dates of Examination of principal parts—Cylinders 26-4-51 Covers 26-4-51 Pistons 16-6-51 Piston rods -
 Connecting rods Materials Rough Turn Finish 9-3-51 3-4-51 13-4-51 Crank and Flywheel shafts Materials Rough Turn Finish 19-2-51 19-3-51 27-4-51 Intermediate shafts -
 Crank shaft: Material Forged Steel (SF50According to J.E.S.) Tensile strength 33.1 (Top) 32.7 (Bottom)
 Elongation 33.0 (Top) 32.0 (Bottom) Identification Marks K-CK-174 KM B
 Flywheel shaft, Material - Identification Marks -

Identification marks on Air Receivers

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 engine has been constructed under the supervision of the Society's Surveyors in accordance with the Rules and approved plans.

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

This Engine has been examined under full load working condition in the shop and found satisfactory.

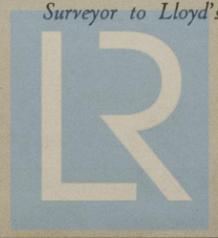
It is submitted that this machinery is eligible to be classed with this Society with notation of B.S.* when satisfactory installed in the vessel.

The machinery has now been satisfactorily installed on board and tested under full power.

The Surveyors are requested not to write on or below the space for Committee Minutes.

The amount of Fee ... £ 237.037.50 : :
 Travelling Expenses (if any) £ : :
 When applied for 19
 When received 19

[Signature]
 Surveyor to Lloyd's Register of Shipping



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Committee's Minute
 Assigned