

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

12 MAR 1952

No. 548

(Please see Rpt 4c-2 attached hereto)

Received at London Office 12 MAR 1952

Report 10-9 1951 When handed in at Local Office 10-9 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 (22)

Single on the Twin Triple Quadruple Screw vessel "TONAN MARU" Tons { Gross 19320.38 Net 13211.40

OSAKA JAPAN By whom built OSAKA IRON WORKS, LTD. OSAKA Yard No. When built 1938.10

Nihon suisan K.K. Port belonging to Tokyo 8121 51 6 Mo. 8122 51 6 Mo.

Made at Niigata, Japan By whom made Niigata Engineering Co., Ltd. Contract No. 8123 When made 51 6 Mo.

Made at Nagasaki, Japan By whom made Mitsubishi Electric Mfg. Co. Contract No. 317880 317881 317882 When made 51 4 Mo 51 5 Mo 51 5 Mo

3 sets Engine Brake Horse Power 600 B.H.P. x 3 M.N. as per Rule 150 x 3 = 450 Total Capacity of Generators 400kw x 3 Kilowatts.

Used for essential services yes

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

Pressure in cylinders 50 kg/cm² Diameter of cylinders 310 mm Length of stroke 420 mm No. of cylinders 8 No. of cranks 8

6.5 kg/cm² Firing order in cylinders 1-3-2-5-8-6-7-4 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) 4300 kg-m² Revolutions per minute 400 R.P.H.

1600 mm. Weight 2530 kg. Means of ignition Compression Kind of fuel used Diesel Gas oil

Shaft, dia. of journals as per Rule 177.1 mm. as fitted 210 mm. Crank pin dia 190 mm. Crank Webs Mid. length breadth 290 mm Mid. length thickness 94 mm Thickness parallel to axis - Thickness round eye-hole -

Shaft, diameter as per Rule - as fitted - Intermediate Shafts, diameter as per Rule - as fitted - General armature, moment of inertia (16 m² or Kg.-cm.²) 1340 kg-m²

Provided to prevent racing of the engine when declutched Yes Means of lubrication Forced Lubrication Kind of damper if fitted -

Valves 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 each 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 each engine, and pump capacity is 7000 litres per hour, Del. bore 50 mm.

Compressors, No. 1 No. of stages 2 Diameters H.P. 114 mm LP 125 mm Stroke 80 mm Driven by Electric motor

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

RECEIVERS:—Have they been made under Survey yes State No. of Report or Certificate M2743

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

Internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces 305 mm x 405 mm man hole

Drain arrangement fitted at the lowest part of each receiver yes

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 -

Gas Air Receivers, No. 2 Total cubic capacity 480 Litre x 2 Internal diameter 680 mm thickness 16 mm

Welded or riveted longitudinal joint Riveted Material D.H. Steel Range of tensile strength 33.8-34.8 Working pressure by Rules 462 LB/IN²

TRIC GENERATORS:—Type Open type Drip Proof

Voltage of supply 230 volts Full Load Current 1740 x 3 Amperes Direct or Alternating Current Direct

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 -

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

(If not, state date of approval)

Optional Vibration characteristics if applicable been approved Date of approval = 26-4-51 Armature shaft Drawing No. C 33043B

GEAR 2 complete sets of Cylinder Covers. 8 complete sets of Fuel Valves. 21 sets of Fuel Nozzles and

Valves. 8 sets of Piston Rings and Oil Control Rings for one cylinder. 4 sets of Studs and Nuts for cylinder cover.

on Pins with Key. 4 complete sets of Cylinder Liners. 4 sets of Bolts and Nuts for crank pin bearing.

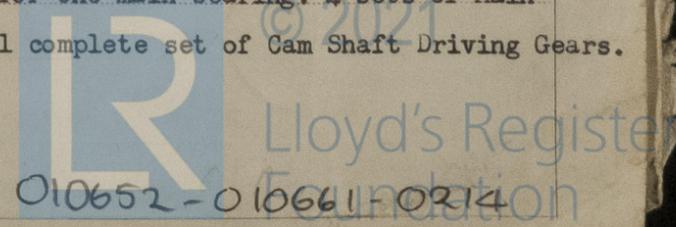
etc sets of Crank Pin Bearings. 4 Piston Pin Metals. 4 sets of Studs and Nuts for one main bearing. 4 sets of Main

Metals. 8 complete sets of Fuel Pumps. 2 complete sets of Connecting Rods. 1 complete set of Cam Shaft Driving Gears.

The foregoing is a correct description,

M. Otsuki Manufacturer.

OSAKA SHIPBUILDING AND ENGINEERING COMPANY, LTD.



010652-010661-0214

1951:-
 During progress of work in shops-- Jan22, Feb21, Mar...8,9,19, Apr.....2,3,13,26,27. June...5,6,15,16,25,26,
 During erection on board vessel-- 1951- Sep 15, 17, 24, 29, Oct. 10, 15, 17, 24, 29 OCT 10
 Total No. of visits 22
 ENo. 8121...3-4-51 3-4-51 6-6-51
 " 8122...2-4-51 2-4-51 26-6-51
 " 8123...26-4-51 26-4-51 26-6-51
 Dates of Examination of principal parts—Cylinders " 8123...26-4-51 26-4-51 16-6-51 26-6-51 Pistons
 Connecting rod 3-4-51 3-4-51 13-4-51 27-4-51 Intermediate shafts
 13-4-51 Crank and Flywheel shafts
 Crank shaft: Material Forged Steel (SF 50According to J.E.S.) Eng. No. 8121 8122
 Eng. No. 8121 8122 8123 Tensile strength 32.7(Top.)33.5(Bot) 31.9(Top)32.3(Bot)
 Elongation 31.0(Top)30.0(Bot) 34.0(Top)33.0(Bot) 31.0(Top) 30.0(Bot) Identification Marks K-CK-188 K-CK-168
 KM R RT E
 Flywheel shaft, Material Identification Marks

Identification marks on Air Receivers
 LLOYD'S NO. AR 204 W.P. 30 Kg/cm² W.T.P. 45 Kg/cm² mhd R 16-6-51
 LLOYD'S NO. AR 205 W.P. 30 Kg/cm² W.T.P. 45 Kg/cm² mhd R 16-6-51
 LLOYD'S NO. AR 205 W.P. 30 Kg/cm² W.T.P. 45 Kg/cm² mhd R 16-6-51

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.)

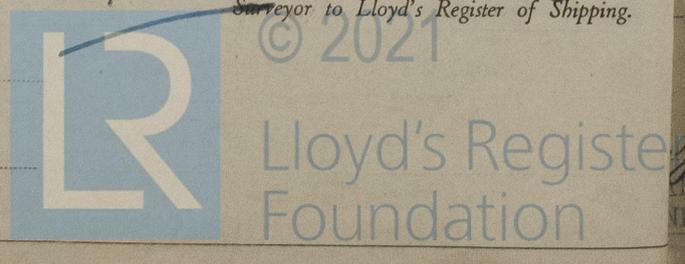
These Engines have been constructed under the supervision of the Society's Surveyors in accordance with the Rules and approved plans.
 Material were found to be sound and free from defects and the workmanship is good.
 These Engines have been examined under full load working condition in the shop and found satisfactory.
 It is submitted that these machineries are eligible to be classed with this Society with notation of **BS*** when satisfactory installed in the vessel.

The machineries have 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 Minute.

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

W. Burnie
 Surveyor to Lloyd's Register of Shipping.



CC 5. 51 KOBF
 Committee's Minute
 Assigned