

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 605
569
565

Received at London Office 18 MAR 1952

Port of K O B E

Date of writing Report 29-1-1952 When handed in at Local Office 19

Survey held at Osaka, Kobe, Japan Date, First Survey 14th February, 1951 Last Survey 12th Sept. 1951

Book Single Number of Visits 48

on the Triple Screw vessel M. V. "KENRYU MARU" Tons 4978.61
Quadruple Osaka, Japan By whom built Fujinagata Shipbuilding Co., Ltd. Yard No. S-25 When built Sept. 1951

at Osaka, Japan Port belonging to Kobe

By whom made Hanshin Internal Combustion Eng. Mfg. Co., Ltd. Contract No. (5N-2601) When made June 1951

Engines made at Kobe, Japan By whom made Kawasaki Dockyard Co., Ltd. Contract No. (66821) When made June 1951

Generators made at Kobe, Japan By whom made Kawasaki Dockyard Co., Ltd. Contract No. (66822) When made June 1951

of Sets 3 Engine Brake Horse Power 250 x 3 M.N. as per Rule 62.5 x 3 Total Capacity of Generators 150x3=450 Kilowatts.

Set intended for essential services Yes

L ENGINES, &c.—Type of Engines Solid Injection Diesel 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 50 kg/cm² Diameter of cylinders 270 mm Length of stroke 370 mm No. of cylinders 5 No. of cranks 5

Indicated pressure 6.85 kg/cm² Firing order in cylinders 1-2-4-5-3 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 307 mm

There a bearing between each crank Yes Moment of inertia of flywheel (11.2 or Kg.-cm.²) 894 x 10⁴ kg/cm² Revolutions per minute 380

Wheel dia. 1550 mm Weight 2100 Kgs. Means of ignition Compression Kind of fuel used Diesel Oil

as per Rule 152.8 mm Crank pin dia. 172 mm Crank Webs Mid. length breadth 280 mm Thickness parallel to axis ---

as fitted 190 mm Mid. length thickness 80 mm Thickness round eyehole ---

Wheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule General armature, moment of inertia (16 m² or Kg.-cm.²) 14.6 x 10⁴ kg/cm²

Means provided to prevent racing of the engine When detached Yes Means of lubrication Forced Kind of damper if fitted ---

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

Working Water Pumps, No. 2 (not direct) Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Lubricating Oil Pumps, No. and size 1 Gear pump each, Module 5, No. of teeth 14. Breadth 75 mm.

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

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

R RECEIVERS:—Have they been made under Survey Yes State No. of Report or Certificate M - 5043

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 Man-hole

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

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

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

Working Air Receivers, No. 1 Total cubic capacity 0.4 M³ Internal diameter 500 mm thickness 12 mm

Unless, lap welded or riveted longitudinal joint Riveted Material O.H Steel Range of tensile strength 278-291 N/mm² Working pressure by Rules 34 kg/cm²

ELECTRIC GENERATORS:—Type Semi-enclosed self Ventilating Horizontal

Voltage of supply 225 volts. Full Load Current 666 Amperes. Direct or Alternating Current Direct

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

and off Yes Generators, are they compounded as per Rule Yes Is an adjustable regulating resistance fitted in series with each shunt field Yes

All terminals accessible, clearly marked, and furnished with sockets Yes Are they so spaced

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

Are generators are under 100 kw. full load rating, have the makers supplied certificates of test --- and do the results comply with the requirements ---

Are generators are 100 kw. or over have they been built and tested under survey Yes

Is of driven machinery other than generator --- (Kobe) (Kobe)

NS.—Are approved plans forwarded herewith for Shafting 17th May, 1951 Receivers 3rd Sept. 1951 Separate Tanks 1st Aug. 1951

(If not, state date of approval) 17th May, 1951 Armature shaft Drawing No. M 31030

Torsional Vibration characteristics if applicable been approved --- (state date of approval)

RE GEAR 1 cylinder cover, 6 studs & nuts of cylinder cover, 1 cylinder liner, 1 piston, 5 piston

metal, 10 piston rings, 5 fuel valves, 10 exhaust valves, 5 inlet valves, 3 cylinder safety

valves, 5 crank pin bearings, 3 main bearings, 8 coupling bolts and nuts, 3 fuel pumps, 3 sets of

governor spring, 1 set of spring of each size used, 1 set of packing rings of each size used.

Fujinagata Shipbuilding Co., Ltd. Osaka, Japan

The foregoing is a correct description,

S. Kobayashi Manufacturer.

J. Sasaka Managing Director

HANSHIN DIESEL WORKS, LTD.

008773-002777-0088

Lloyd's Register Foundation

Dates of Survey while building
During progress of work in shops - - Feb. 14, Mar. 9, 13, 19, 20, 22, 24, 26, Apr. 9, 11, 12, 13, 17, 18, 23, 24, 26, 27, 28, May 2, 4, 7, 8, 9, 12, 19, 21, 23, 25, 26, 28, 29, 30, Jun. 5, 6, 14, 19, 21, 23, 30, Aug. 2, 4, 11, 17,
During erection on board vessel - - Sept. 8, 12
Total No. of visits..... 48

Dates of Examination of principal parts—Cylinders 17th April, 1951 Covers 9th May, 1951 Pistons 2nd May, 1951 Piston rods

Connecting rods 6th June, 1951 Crank and Flywheel shafts 26th April, 1951 Intermediate shafts
Engine No. 5N-2601 5N-2602 5N-2603
30.1 T/in² 29.8 T/in² 29.8 T/in²

Crank shaft Material O. H. Steel Tensile strength
Engine No. 5N-2601 5N-2602 5N-2603
Elongation 36% 36% 37% Identification Marks AM-1B AM-1B AM-1B
13-4-51 13-4-51 26-4-51

Flywheel shaft, Material Identification Marks
Identification marks on Air Receivers LLOYD'S No. AR 262 W.P. 25 kg/cm² W.T.P. 37.5 kg/cm² J.N.B. 17 - 8

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.)

The Generators of this vessel have been constructed under Special Survey according with the Rules, Approved plans and Secretary's letters. The workmanship and materials are sound and good. The Generators have been examined under full working condition during comprehensive deck and sea trials and found satisfactory.

The amount of Fee ... £ 100.000- When applied for 19
Travelling Expenses (if any) See Rpt 4b When received 19

FRI. 30 MAY 1952

Committee's Minute
Assigned See F.E. mch. rpt

Surveyor to Lloyd's Register of Shipping
Lloyd's Register Foundation