

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 10608A

Received at London Office APR 19 1938

Date of writing Report 19 When handed in at Local Office 19 Port of Kobe

No. in Survey held at Reg. Book. 37151 on the ^{Single} ~~Triple~~ ~~Quadruple~~ Screw vessel "AZUMA MARU" Date, First Survey 1-5-1937 Last Survey 19 Number of Visits

Built at Nagasaki By whom built Mitsubishi Jukogyo K.K. Yard No. 700 When built 1938 Owners Nippon Yusen K.K. Port belonging to Tokyo Tons { Gross 6646 Net 5651

Oil Engines made at Kobe By whom made Mitsubishi Jukogyo K.K. Kobe Contract No. When made 1937 Generators made at Nagasaki By whom made Mitsubishi Denki K.K. Contract No. When made 1937

No. of Sets 3 Engine Brake Horse Power 330 Nom. Horse Power as per Rule 68 Total Capacity of Generators 660 Kilowatts.

OIL ENGINES, &c.—Type of Engines 6 $\frac{275}{42}$ Vertical Trunk Piston 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders $46 \frac{19}{100}$ kg/cm^2 Diameter of cylinders 275 mm Length of stroke 420 mm No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 324 mm Is there a bearing between each crank Yes

Revolutions per minute 360 Flywheel dia. 1600 mm Weight 3180 kg Means of ignition Compression Kind of fuel used Heavy oil

Crank Shaft, dia. of journals as per Rule 162.5 mm as fitted 170 mm Crank pin dia. 170 mm Crank Webs Mid. length breadth 240 mm Thickness parallel to axis as fitted 170 mm Mid. length thickness 93 mm Thickness around eye-hole

Flywheel Shaft, diameter as per Rule 162.5 mm as fitted 170 mm Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 26 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 or lagged with non-conducting material Water cooled and lagged

Cooling Water Pumps, No. one Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Lubricating Oil Pumps, No. and size one, single acting 80 mm X 45 mm driven by engine

Air Compressors, No. Two No. of stages 3 Diameters 80 mm $\frac{360}{310}$ $\frac{360}{80}$ Stroke 180 mm Driven by Two of these engines

Scavenging Air Pumps, No. Diameter Stroke Driven by

AIR RECEIVERS:—Have they been made under Survey Yes State No. of Report or Certificate No. 6321

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 Manhole

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. one Total cubic capacity 400 litres Internal diameter 522 mm thickness $\frac{1}{2}$ ins

Seamless, lap welded or riveted longitudinal joint R.R.B. Material Steel Range of tensile strength 44-50 $\frac{19}{100}$ kg/cm^2 Working pressure by Rules 30 $\frac{19}{100}$ kg/cm^2

ELECTRIC GENERATORS:—Type

Pressure of supply volts. Full Load Current Amperes. Direct or Alternating Current

If alternating current system, state the periodicity Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on and off

Generators, are they compounded as per rule is an adjustable regulating resistance fitted in series with each

shunt field Are all terminals accessible, clearly marked, and furnished with sockets

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

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

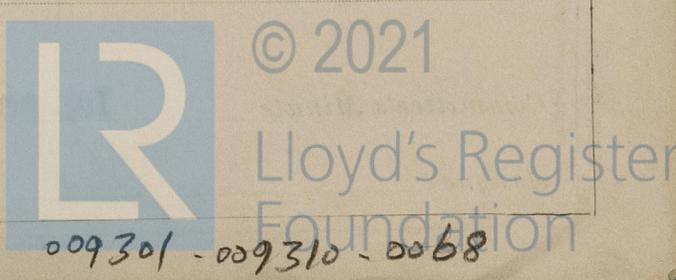
If the generators are 100 kw. or over have they been built and tested under survey

PLANS. Are approved plans forwarded herewith for Shafting 18-2-37 Receivers 18-2-37 Separate Tanks

SPARE GEAR

sufficient see handbook list forwarded under separate cover.

The foregoing is a correct description,
KOBE WORKS, MITSUBISHI JUKOGYO KABUSHIKI KAISHA
M. Seki Manufacturer.
Superintendent Engineer.



1937

Dates of Survey while building { During progress of work in shops - May 13, 17, 22, 25, June 1, 4, 6, 9, 12, 14, 16, 21, 22, 23, 24, 25, 26, 27, July 1, 2, 4, 5, Sep 2, 6, 7, 9, 11, 13, 14, 18, 22, 24, 28, 29, 30, Oct. 6, 9, 11, 19, 21, 25, 29, 30, Nov. 1, 2, 4, 5, 6, 9, 10, 15, 16, 19, 20, 25, 27 }
During erection on board vessel - - -
Total No. of visits

Dates of Examination of principal parts—Cylinders 24-9-37 Covers 18-9-37 Pistons 18-9-37 Piston rods ✓

Connecting rods 30-10-37 Crank and Flywheel shafts 14-9-37, 11-9-37 Intermediate shafts ✓

Crank and Flywheel shafts, Material Forged mild steel Identification Marks 796E 10/12 LLOYD'S No 6800 F.I.R.

Intermediate shafts, Material ✓ Identification Marks ✓

Identification marks on Air Receivers LLOYD'S No 632L1 R FIZ 14-6-37

Is this machinery duplicate of a previous case Yes If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

These engines have been constructed under Special Survey in accordance with the Rules and approved plans.

The materials and workmanship are good.

Stamped as follows :-

E.No. 796
LLOYD'S
No. 145
Y.H.R.
29-11-37

E.No. 797
LLOYD'S
No. 146
Y.H.R.
29-11-37

E.No. 798
LLOYD'S
No. 147
Y.H.R.
29-11-37

The spear gear is in accordance with the requirement of the Rules.

This machinery has been efficiently installed on board and tried under full working & overload conditions with satisfactory results.

After trials one engine with air compressor opened up, all parts examined and found good.

1 m. 5. 37. - Transfer.
(The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... £ 825^{Feb.} :
When applied for, 7697
Travelling Expenses (if any) £ 100^{Feb.} :
When received, 31. 3. 38

Y. Yamada + F. Ishika
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 26 APR 1938

Assigned

See Sag J.C. 2336



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