

Rpt. 4c.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS

No. **3253**

1 JAN 1956

Received at London Office

Date of writing Report 19... When handed in at Local Office **DEC. 29. 1955** Port of **Kobe**

No. in Survey held at **Osaka & Aioi** Date, First Survey **2-5-55** Last Survey **20-10-1955**

Reg. Book. **S.S. "JINGU MARU"** Number of Visits **5**

Single on the Twin Triple Quadruple Screw vessel **S.S. "JINGU MARU"** Tons { Gross **13,249.2** Net **8,818.64**

Built at **AIOI JAPAN** By whom built **Harima S. B. & ENG. CO., LTD.** Yard No. **495** When built **Oct. 1955**

Owners **DAIKYO SEKIYU K.K.** Port belonging to **YOKKAICHI**

Oil Engines made at **OSAKA** By whom made **DAIHATSU KOGYO K.K.** Engine No. **618125** When made **July, 1955**

Generators made at **YOKOHAMA** By whom made **TOKYO SHIBAURA ELECTRIC CO., LTD.** Generator No. **5517033** When made **June, 1955**

No. of Sets **1** B.H.P. of each Set **125** M.N. of each Set as per Rule **31.25** Capacity of each Generator **90** K.V.A. **Kilowatts**

Is Set intended for essential services

**OIL ENGINES, &c.** Type of Engines **Vertical, 4 cycle, single acting, solid direct injection** 2 or 4 stroke cycle **4** Single or double acting **Single**

Maximum pressure in cylinders **55 kg/cm<sup>2</sup>** Diameter of cylinders **180 m/m** Length of stroke **240 m/m** No. of cylinders **6** No. of cranks **6**

Mean indicated pressure **6.4 kg/cm<sup>2</sup>** Span of bearings (i.e., distance between inner edges of bearings in way of a crank) **239 m/m**

Is there a bearing between each crank **Yes** { Moment of inertia of flywheel ( $\frac{1}{6} \frac{W}{N^2} \text{ Kg.-cm.}^2$ ) **231 kg-M<sup>2</sup>** Revolutions per minute **600**

Flywheel dia. **900 m/m** Weight **480 kg** Means of ignition **compression** Kind of fuel used **Diesel oil**

Crank Shaft, { Solid forged **as per Rule** **as approved** dia. of journals **130 m/m** Crank pin dia **115 m/m** Crank Webs Mid. length breadth **170 m/m** Thickness parallel to axis **-**

Mid. length thickness **60 m/m** Thickness round eye hole **-**

Flywheel Shaft, diameter **as per Rule** Generator armature, moment of inertia ( $\frac{1}{6} \frac{W}{N^2} \text{ Kg.-cm.}^2$ ) **135 kg-M<sup>2</sup>** Exciter **4 kg-M<sup>2</sup>**

Are means provided to prevent racing of the engine **-** Means of lubrication **forced** Kind of damper if fitted **-**

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

Cooling Water Pumps, No. and how driven **1, attached gear pump** Is the sea suction provided with an efficient strainer which can be cleared within the vessel **Yes**

Lubricating Oil Pumps, No. and size **1-attached gear pump; Module 4, No. of teeth 10, r.p.m. 705**

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

Scavenging Air Pumps or Blowers, No. **-** How driven **-**

**AIR RECEIVERS:**—Have they been made under Survey **Yes** State No. of Report or Certificate **AR - 23432**

State full details of safety devices **One (1) x 100 Escape valve**

Can the internal surfaces of the receivers be examined and cleaned **Yes**

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 **-**

Starting Air Receivers, No. **AR 621** Total cubic capacity **100 L (0.1M<sup>3</sup>)** Internal diameter **332ø m/m** Shell plate **9mm** thickness **End plate 12mm**

Seamless, lap welded or riveted longitudinal joint **welded** Material **Steel plate** Range of tensile strength **50.4-42.2 kg/mm<sup>2</sup>** Working pressure **30kg/cm<sup>2</sup>**

**ELECTRIC GENERATORS:**—Type **-**

Pressure of supply **450** volts. Full Load Current **115.5** Amperes. Direct or Alternating Current **A.C.**

If alternating current system, state the periodicity **60** Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown on and off **Yes** Generators, are they compounded as per Rule **Yes** is an adjustable regulating resistance fitted in series with each shunt field **Yes**

Are all terminals accessible, clearly marked, and furnished with sockets **Yes** Are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched **Yes** Are the lubricating arrangements of the generators as per Rule **Yes**

If the 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**

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

Details of driven machinery other than generator **-**

**PLANS:**—Are approved plans forwarded herewith for Shafting **6-5-55** Receivers **1-5-55** Separate Tanks **20-6-55** (If not, state date of approval) **21-7-55**

Have Torsional Vibration characteristics if applicable been approved **-** Armature shaft Drawing No. **-** (State date of approval and name of previous duplicate case, if any)

Has the spare gear required by the Rules been supplied **Yes**

The foregoing is a correct description,

*W. A. ...*  
 Director, Vice-Manager  
 of Aioi Works.

*Swaki*  
 Manufacturer.  
 DAIHATSU KOGYO K.K.



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Dates of Survey while building { During progress of work in shops - } 1955-MAY 2, JUNE 6, JULY 12.  
 { During erection on board vessel - } 3-10-55, 20-10-55  
 Total No. of visits

Dates of Examination of principal parts—Cylinders 6-6-55 Covers 6-6-55 Pistons 6-6-55 Piston rods -  
 Connecting rods 6-6-55 Crank and Flywheel shafts 6-6-55 Intermediate shafts -  
 Crank shaft { Material O.H. steel Tensile strength 59.8 kg/mm<sup>2</sup>  
 { Elongation 27 % Identification Marks LLOYD'S No. K-CK 456 YK LR 6-6-55  
 Flywheel shaft, Material - Identification Marks -  
 Identification marks on Air Receivers No. AR 621 KT LR 24-5-55

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

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)

The electric generator set has been constructed under Special Survey in accordance with the Rules, Approved plans, and Secretary's letters.

The Materials were found sound and free from defects and workmanship is good.

The electric generator set has been examined under full working condition during shop trial and comprehensive sea trial and found satisfactory.

C.E.R.D.

6.54 (MADE AND PRINTED IN JAPAN)  
 (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... ¥ 22,000 { When applied for 75/8 19 55-  
 Travelling Expenses (if any) ¥ 1,150 { When received 19

*Shunichi Takashi*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRIDAY 13 APR 1956

Assigned See Rpt. 4a

