

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 1770

9. DEC. 1953

Received at London Office

18 DEC 1953

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

No. in Survey held at Osaka and Kobe Date, First Survey 15th May, 1953. Last Survey 16th Oct., 1953.

Reg. Book. Number of Visits 10

on the Single Twin Triple Quadruple Screw vessel M.V. "HIYEHARU MARU" Tons { Gross 7937.58 Net 4378.74

uilt at Kobe By whom built Kobe Shipyard & Engine Works, Yard No. 855 When built July, 1953.
Mitsubishi Heavy Ind., Reorganized Ltd.

Port belonging to

il Engines made at Osaka By whom made Daihatsu Kogyo K.K. Engine No. 618073 When made July, 1953.
(LR No. AE186)

enerators made at Himeji By whom made Nishishiba Denki K.K. Generator No. 5354010 When made June, 1953
(LR No. 678)

o. of Sets 1 B.H.P. of each Set 150 ✓ M.N. of each Set as per Rule 30 Capacity of each Generator 125 K.V.A. Kilowatts

Set intended for essential services No, harbour use.

OIL ENGINES, &c.—Type of Engines Solid injection, Daihatsu 6PS-18B 2 or 4 stroke cycle 4 ✓ Single or double acting Single ✓

Maximum pressure in cylinders 55kgs/cm² ✓ Diameter of cylinders 180mm ✓ Length of stroke 240mm ✓ No. of cylinders 6 ✓ No. of cranks 6

Mean indicated pressure 6.4kgs/cm² ✓ Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 239.5 mm ✓

Is there a bearing between each crank Yes Moment of inertia of flywheel ~~1.6~~ ^{2.31} x 10⁶ Kg.-cm.² ✓ Revolutions per minute 720 ✓

Flywheel dia. 900mm Weight 510kgs Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, Semi-forged Forged Cast dia. of journals as per Rule 105mm as fitted 130mm ✓ Crank pin dia. 115mm ✓ Crank Webs Mid. length breadth 60mm Thickness parallel to axis — Mid. length thickness 170mm shrunk Thickness round eyelets —

Flywheel Shaft, diameter as per Rule — Generator armature, moment of inertia ~~1.86~~ ^{1.86} x 10⁶ Kg.-cm.²

Are means provided to prevent racing of the engine Yes ✓ Means of lubrication Forced Kind of damper if fitted Not fitted

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

Boiling Water Pumps, No. and how driven 1 engine geared Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Lubricating Oil Pumps, No. and size 1 x 2 T/H, gear pump, engine geared

Air Compressors, No. — No. of stages — Diameters — Stroke — Driven by —

Saving Air Pumps or Blowers, No. — How driven —

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

(other than main engines)

State full details of safety devices —

Are the internal surfaces of the receivers be examined and cleaned —

Is there a drain arrangement fitted at the lowest part of each receiver —

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 —

Starting Air Receivers, No. — Total cubic capacity — Internal diameter — thickness —

Unless, lap welded or riveted longitudinal joint — Material — Range of tensile strength — Working pressure —

ELECTRIC GENERATORS:—Type Drip-proof, semi-enclosed

Pressure of supply 230 volts. Full Load Current 314 Amperes. Direct or Alternating Current 3 phase Alternating Current

alternating current system, state the periodicity 60 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 — is an adjustable regulating resistance fitted in series with each shunt field —

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

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

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

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

Shafts of driven machinery other than generator Generator only

ANS.—Are approved plans forwarded herewith for Shafting 18.6.53 (Kobe) Receivers — Separate Tanks —

(If not, state date of approval)

Are Torsional Vibration characteristics if applicable been approved 13.8.53 ✓ Armature shaft Drawing No. 2-91385

(State date of approval and name of previous duplicate case, if any)

Are the spare gear required by the Rules been supplied. Yes

The foregoing is a correct description,

Keiji Wada
for Daihatsu Kogyo K.K.

Manufacturer.



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Lloyd's Register
Foundation

Dates of Survey while building { During progress of work in shops - -) 1953:- May 15, 16, 27 June, 1, 8, 13 July 1, 17 8 visits
 { During erection on board vessel - -) 1953:- Oct. 14, 16
 Total No. of visits 10

Dates of Examination of principal parts - Cylinders 8-6-52 Covers 1-6-52 Pistons 17-7-53 Piston rods -
 Liners 1-6-52
 Connecting rods 8-6-53 Crank and Flywheel shafts 8-6-53 Intermediate shafts -

Crank shaft { Material Forged Steel Tensile strength 54.5 kgs/mm²
 Elongation 32% in 50mm Identification Marks OI-CK194 SM LR
 Flywheel shaft, Material - Identification Marks -

Identification marks on Air Receivers -

The Auxiliary Oil Engine has been constructed under Special Survey in accordance with the Rules, Approved Plans and Secretary's letters.

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 Auxiliary Oil Engine has been constructed under Special Survey in accordance with the Rules, Approved Plans and Secretary's letters.
 The materials and workmanship are sound, good and free from defect.
 The Auxiliary Oil Engine has been examined under working condition during shop and comprehensive sea trials and found satisfactory.

4m.582.-T. (MADE AND PRINTED IN ENGLAND) (The Surveyors are requested not to write below the space for Committee's Minutes.)

The amount of Fee ... £ 726.000.00 When applied for DEC. 10. 1953 19
 Travelling Expenses (if any) £ 700.00 When received 19

Committee's Minute TUESDAY 12 JAN 1954
 Assigned See Rpt. 4th

