

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 ~~Double~~ ^{Single} Triple Screw vessel M.V. "HIYEHARU MARU"
 T/s built at Kobe By whom built Kobe Shipyard & Engine Works, Yard No. 855 When built July, 1953.
 Owners Mitsubishi Heavy Ind., Reorganized Ltd.
 Port belonging to
 Oil Engines made at Osaka By whom made Daihatsu Kogyo K.K. Engine No. 618073 When made July, 1953.
 Generators made at Himeji By whom made Nishishiba Denki K.K. Generator No. 5354010 When made June, 1953.
 No. of Sets 1 B.H.P. of each Set 150 ✓ M.N. of each Set as per Rule 30 (LR No. 678) Capacity of each Generator 125 K.V.A. 1378.74
 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 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, Solid forged dia. of journals 105mm as per Rule 130mm as fitted ✓ Crank pin dia. 115mm ✓ Crank Webs Mid. length breadth 60mm Thickness parallel to axis 17mm
 Flywheel Shaft, diameter as per Rule 105mm Generator armature, moment of inertia 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
 Cooling 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
 Sucking 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
 Have 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
 Is the 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
 Are the generators shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes
 Are the generators under 100 kw. full load rating, have the makers supplied certificates of test and do the results comply with the requirements
 Are the generators 100 kw. or over have they been built and tested under survey Yes
 Details 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)
 Is 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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 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.552.-T. (MADE AND PRINTED IN ENGLAND)
(The Surveyors are requested not to write below the space for Committee Minutes.)

The amount of Fee ... £ 726.000.00
Travelling Expenses (if any) £ 700
When applied for DEC 10 1953
When received

Committee's Minute TUESDAY 12 JAN 1954
Assigned See Rpt. 46

