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REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 14166.

117 JUN 1950

Date of writing Report 23rd March 50. When handed in at Local Office 15th June 1950. Port of MANCHESTER.
 Received at London Office
 No. in Survey held at HAZELGROVE, STOCKPORT. Date, First Survey 20.1.50. Last Survey 18.3. 1950.
 Reg. Book. Single on the Twin Triple Quadruple Screw vessel. Classed Vessel. Number of Visits 13.
 Built at Pallion, Sunderland. By whom built Messrs. Wm. Doxford & Sons Ltd. Yard No. 779. When built
 Owners The British Tanker Co. Ltd. Port belonging to London.
 Oil Engines made at Hazel Grove. By whom made Mirrlees, Bickerton & Day Ltd Engine 32311-2 Contract No. 3231. When made 1950.
 Generators made at Sunderland. By whom made Sunderland Forge & Eng. Co. Generator 41489/90 Contract No. 41489/90 When made 1950.
 No. of Sets Two. Engine Brake Horse Power 135 x 2. M.N. as per Rule 34 x 2. Total Capacity of Generators 75 x 2 Kilowatts.
 Total = 270. Total = 68. Total = 150.
 Is Set intended for essential services.

OIL ENGINES, &c.—Type of Engines Mirrlees Type TLA.3 Heavy Oil. 2 or 4 stroke cycle 4. Single or double acting Single.
 Maximum pressure in cylinders 800 lbs/sq.inch. Diameter of cylinders 8 1/2". Length of stroke 13 3/4". No. of cylinders 3. No. of cranks 3.
 Mean indicated pressure 115 lbs/sq.inch. Firing order in cylinders 1,3,2. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 8 3/8".
 Is there a bearing between each crank Yes. Moment of inertia of flywheel (16 m² or Kg.-cm.²) 3,500 lbs ins sec² Revolutions per minute 500.
 Flywheel dia 4' -6". Weight 2800 lbs. Means of ignition Compression. Kind of fuel used Diesel.
 Crank Shaft, dia. of journals As approved. Crank pin dia. 5.9/16". Crank Webs Mid. length breadth 9 1/2". Thickness parallel to axis -
 as fitted 5 3/4". Mid. length thickness 2.15/32" shrunk Thickness round eyehole -
 Fitted to the end of as per Rule. 249 lbs ins²
 Flywheel Shaft, dia. Intermediate Shafts, diameter General armature, moment of inertia (16 m² or Kg.-cm.²) sec.
 as fitted -
 Are means provided to prevent racing of the engine when declutched Yes. 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 Yes.

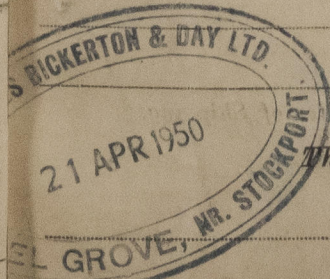
Cooling Water Pumps, No. - Is the sea suction provided with an efficient strainer which can be cleared within the vessel -
 Lubricating Oil Pumps, No. and size One per Engine. Gear Type Engine Driven; Capacity 666 G.P.H.
 Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -
 Scavenging Air Pumps, No. - Diameter - Stroke - Driven by -

AIR RECEIVERS:—Have they been made under Survey Yes. State No. of Report or Certificate C.11714.
 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 Cleaning Doors.
 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 per vessel Total cubic capacity 5 cu. ft. Internal diameter 1' -6". thickness 5/16".
 Circumferentially welded. M.S. Range of tensile strength 26/30. Working pressure by Rules 395 lbs/sq.inch.
 Seamless, lap welded or riveted longitudinal joint - Material - Range of tensile strength 26/30. Working pressure by Rules 395 lbs/sq.inch.

ELECTRIC GENERATORS:—Type Open Type; Ventilated, Drip-proof, Compound Wound.
 Pressure of supply 110 volts. Full Load Current 682. Amperes. Direct or Alternating Current Direct.
 If alternating current system, state the periodicity - 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 Built and tested under Survey.
 If the generators are 100 kw. or over have they been built and tested under survey and do the results comply with the requirements.

Generator Identification Marks: Lloyd's Test Lloyd's Test
S.D.B. S.D.B.
24.2.50. 24.2.50. Approved Standard Type -
PLANS.—Are approved plans forwarded herewith for Shafting Crankshaft 29.6.48. Receivers Drg.No. DL. Separate Tanks -
 (If not, state date of approval) 31258/1.
 Have Torsional Vibration characteristics if applicable been approved For 500 RPM. 29.6.48. Armature shaft Drawing No. 43938
 (state date of approval) 31258/1. Date noted 29.6.48.
SPARE GEAR AS PER RULE REQUIREMENTS.



The foregoing is a correct description, and the particulars of the installation as fitted are as approved for Torsional vibration characteristics.

CHIEF DRAUGHTSMAN Manufacturer.



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Dates of Survey while building { During progress of work in shops - - 1950. Jan. 20, 27. Feb. 14, 16, 17, 22, 23, 24, 27. March 1, 3, 15, 18.
During erection on board vessel - - -
Total No. of visits 20.1.50.
14, 16/2/50. 14, 22/2/50.
Dates of Examination of principal parts - Cylinders 15.3.50. Covers 18.3.50. Piston rods -
Liners
Connecting rods 23.2.50. 18.3.50. Crank and Flywheel shafts 10.2.50. 14.2.50. Intermediate shafts -
Crank shaft { Material Siemens Steel. Tensile strength 30.2 Kgs/m.m²
Elongation % on 50/60 m.m. 30.0/28.6 & 27.2/26.1. Identification Marks L.R.88705 LLOYD'S HKS.3012/38.
HKS 10/2/50.
Flywheel shaft, Material Crankshaft Identification Marks L.R.88704; Lloyd's H.K.S.3012/
H.K.S. 10/2/
Identification marks on Air Receiver J. & H. McLaren. No. 8257. Lloyd's Test; T.P. 700 lbs. W.P. 350 lbs/sq.inch.
24.2.50. R.McL. M.B. & Day 4687. W.P. 350 lbs. 16.3.50. W.J.I.

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Diesel Generator sets have been constructed under Special Survey of tested materials and in accordance with the Secretary's letter approved plans and Rule requirements. The material and workmanship is good.

Each engine, direct coupled to its respective Electric Generator, was tested at the Engine Builders' Works under the following conditions of loading: 6 Hours 100% Load, 1 Hour 110% Load and found satisfactory.

Torsional vibration characteristics of the shafting installation of this auxiliary machinery have been examined and approved for a service speed of 500 R.P.M. ✓

In the opinion of the undersigned these Diesel Generator Sets are suitable for installation in a vessel classed with the Society for the purpose intended.

Attached herewith copy of Forging Report No. 80 and Air Receiver Cert. No. C.11714.

The amount of Fee ... £ 13 : 12 : 0. When applied for 1957 1958

Travelling Expenses (if any) £ 3 : 0 : 0. When received 19

Committee's Minute

FRI, 25 AUG 1950

Assigned

See minute on J.E.Rpt.

Surveyor to Lloyd's Register of Shipping.



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