

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 264

Received at London Office 7 Min 1951

Writing Report 25th January, 1951 When handed in at Local Office 19 Port of KobeSurvey held at Tamano Japan Date, First Survey 16th January, 1950 Last Survey 11th December 1950on the ^{Single} ~~Twin~~ ^{Triple} ~~Quadruple~~ Screw vessel Motor vessel "AZUMASAN MARU" Number of Visits 29 Tons Gross 6993.45 Net 5047.67

at Tamano By whom built Mitsui Shipbuilding & Engineering Co., Ltd. Yard No. 556 When built Dec. 1950 Mitsui Senpaku K.K. Port belonging to Tokyo

Engines made at Tamano By whom made Mitsui Shipbuilding & Engineering Co., Ltd. Contract No. 368, 369, 370 When made Sep. 1950

Generators made at Nagasaki By whom made Mitsubishi Electric Mfg. Co., Ltd. Contract No. 317221, 317222, 317223 When made Jul. 1950

Sets 3 Engine Brake Horse Power 300 x 3 M.N. as per Rule 75 x 3 = 225 Total Capacity of Generators 200 x 3 = 600 Kilowatts.

intended for essential services Yes

ENGINES, &c.—Type of Engines Diesel 2 or 4 stroke cycle 4 Single or double acting Single

Cylinder pressure in cylinders 50 kg/cm² Diameter of cylinders 245 mm Length of stroke 400 mm No. of cylinders 6 No. of cranks 6Indicated pressure 7.5 kg/cm² Firing order in cylinders 1-3-5-6-4-2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 315 mmAre there a bearing between each crank Yes Moment of inertia of flywheel (16 m² or Kg.-cm.²) 5,112,500 Revolutions per minute 420

Crank pin dia. 1,350 mm Weight 1,973 Kgs Means of ignition Compression Kind of fuel used Diesel oil

Shaft, dia. of journals as per Rule 149.23 mm as fitted 170 mm Crank pin dia. 155 mm Crank Webs Mid. length breadth 380 mm dia. Thickness parallel to axis —

Main Shaft, diameter as per Rule — Intermediate Shafts, diameter as per Rule — General armature, moment of inertia (16 m² or Kg.-cm.²) 1,135,000

Means provided to prevent racing of the engine when declutched — Means of lubrication Forced Kind of damper if fitted —

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

Water Pumps, No. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Lubricating Oil Pumps, No. and size 1 each Gear Type Module 6 No. of teeth 15 breadth of teeth 75 mm r.p.m. 420

Compressors, No. 2 No. of stages 2 Diameters 115 x 130 mm Stroke 120 mm Driven by D.C. motor

Suctioning Air Pumps, No. — Diameter — Stroke — Driven by —

RECEIVERS:—Have they been made under Survey Yes State No. of Report or Certificate M-1281, M-1280

Are receivers, which can be isolated, fitted with a safety valve as per Rule Yes

Are the internal surfaces of the receivers be examined No What means are provided for cleaning their inner surfaces —

Are there a drain arrangement fitted at the lowest part of each receiver Yes

Pressure Air Receivers, No. — Cubic capacity of each — Internal diameter — thickness —

Is the lap welded or riveted longitudinal joint — Material — Range of tensile strength — Working pressure by Rules —

Suctioning Air Receivers, No. 2 Total cubic capacity 0.1 M³ x 2 Internal diameter 420 mm thickness 11 mmIs the lap welded or riveted longitudinal joint Riveted Material O.H. Steel Range of tensile strength 262 kg/cm² Working pressure by Rules 28.2 kg/cm²

ELECTRIC GENERATORS:—Type Open Type Dripproof Self Ventilated

Voltage of supply 225 volts Full Load Current 890 Amperes Direct or Alternating Current Direct

Is the alternating current system, state the periodicity — Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown off Yes

Generators, are they compounded as per Rule Yes is an adjustable regulating resistance fitted in series with each shunt field Yes

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

Is it deduced 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

Are there any other driven machinery other than generator —

S. Are approved plans forwarded herewith for Shafting 17th Aug. 1950 Receivers 15th Nov. 1950 Separate Tanks 2nd Oct. 1950Are torsional Vibration characteristics if applicable been approved Yes 16th Aug. 1950 Armature shaft Drawing No. 3D-2828

GEAR 2 cylinders complete, 1 set of studs with nuts for 1 cylinder cover, 2 main bearing bolts and nuts, 1 pair of main bearing, 1 pair of guide bearing

complete with gudgeon pins, 6 sets of piston rings for 1 piston, 1 connecting rod complete with both ends bearings, 1 crank pin bearing, 2 crank pin bearing

and nuts, 9 exhaust valve complete, 9 exhaust valve spindles, 3 inlet valves complete, 2 inlet valves spindles, 11 springs for exhaust

valves, 2 safety valves complete for cylinders, 2 starting valves complete, 2 starting valves spindles, 9 fuel valves complete, 9 atomizers

for fuel valve, 3 indicator valves complete, 3 fuel pump complete, 15 fuel pump housings ground with plungers, 3 fuel cans, 1 set of camshaft

The foregoing is a correct description,
MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS.M. Sakamaki
Director.

Dates of Survey while building
During progress of work in shops - - 1950 - { Jan. - 16, 30 Feb. 14, 21 Mar. - 27 Apr. 10, 21 MAY - 11, 12, 17, 23, 24 Jun. - 20 JUL. - 11, 15, 21, 26
Aug. - 1, 4, 8, 11, 17, 21, 24, 30 Sep 8, Oct. 4.
During erection on board vessel - - 1950 - Dec. - 10, 11
Total No. of visits 29

Dates of Examination of principal parts - Cylinders 8th Aug 1950 Covers 8th Aug 1950 Pistons 11th Aug 1950 Piston rods - -

Connecting rods 4th Oct. 1950 Crank and Flywheel shafts 1st Aug 1950 Intermediate shafts - -

Crank shaft	Material	D.H. Steel			Tensile strength	Eng. No. 368 369 370		
	Eng. No.	368	369	370	Identification Marks	Eng. No. 368 369 370		
	Elongation	32%	33%	33%	Identification Marks	M-F 341A M-F 341C M-F 341D		

Flywheel shaft, Material - - Identification Marks - -

Identification marks on Air Receivers. LLOYD'S NO. AR 140 W.T. 30 Kg/cm² W.T.P. 44.1 Kg/cm² mtd R 23-10
LLOYD'S NO. AR 141 W.T. 30 Kg/cm² W.T.P. 44.1 Kg/cm² mtd R 23-10

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 Generators of this vessel have been constructed under Special Survey in accordance with the Rules, Approved plans and Secretary's letter. The workmanship and materials are sound and good. The generators have been examined under full working condition during deck and comprehensive sea trials and found satisfactory.

The amount of Fee ... £ : : When applied for 19
Travelling Expenses (if any) £ : : When received 19

Committee's Minute TUES 22 MAY 1951

Assigned See F.E. Mchey. rpt.

Surveyor to Lloyd's Register of Shipping
Lloyd's Register Foundation