

Rpt. 4c.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 527

Date of writing Report 21st October 1951

When handed in at Local Office

19

Port of

Kobe

Received at London Office

14 JAN 1952

No. in Survey held at

Tamano Japan

Date, First Survey

4th August, 1950

Last Survey

27th September 1951

Reg. Book.

Number of Visits 57

Single
on the ~~Twin~~
Triple
Quadruple

Screw vessel

Motor Ship "AKAGISAN MARU"

Tons

Gross 6637.03

Net 3735.62

Built at Tamano, Japan

By whom built Mitsui Shipbuilding & Engineering Co., Ltd.

Yard No. 563

When built 9, 1951

Owners

Mitsui Senpaku K. K.

Port belonging to

Tokyo

Oil Engines made at

Tamano, Japan

By whom made Mitsui Shipbuilding & Engineering Co., Ltd.

ENG. Contract No. 399,400,401.

When made 9, 1951

Generators made at

Tokyo, Japan

By whom made Tokyo Shibaura Electric Co., Ltd.

Contract No. 5161015
5161016
5161017

When made 6, 1951

No. of Sets 3

Engine Brake Horse Power 350 X 3

M.N. as per Rule 87.5 X 3 = 262.5

Total Capacity of Generators 230 X 3 = 690 Kilowatts.

Is Set intended for essential services

yes

OIL ENGINES, &c.

Type of Engines

B & W 725 MTH 40

2 or 4 stroke cycle

4

Single or double acting

Single

Maximum pressure in cylinders

50 kg/cm²

Diameter of cylinders

245 mm

Length of stroke

400 mm

No. of cylinders

7

No. of cranks

7

Mean indicated pressure

7.5 kg/cm²

Firing order in cylinders

1-2-4-6-7-5-3

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 315 mm

Is there a bearing between each crank

yes

Moment of inertia of flywheel (6 m² Kg.-cm.²)

5642500

Revolutions per minute

425

Flywheel dia

1350 mm

Weight

2140 kgs

Means of ignition

Compression

Kind of fuel used

Diesel oil

Crank Shaft, dia. of journals

as per Rule 152.20 mm

as fitted 170 mm

Crank pin dia

157 mm

Crank Webs

Mid. length breadth

90 mm

shrunk

Thickness parallel to axis 90 mm

Thickness round eyehole 72.5 mm

Flywheel Shaft, diameter

as per Rule

as fitted

Intermediate Shafts, diameter

as per Rule

as fitted

General armature, moment of inertia (6 m² Kg.-cm.²) 1672500

Are means provided to prevent racing of the engine when declutched

-

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

1. Gear pump each, Breadth 75 mm, module 6, No. of teeth 15 x 31

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

M-3275

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 1 mud hole

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.

1

Total cubic capacity

0.10 cubic meter

Internal diameter

420 mm

thickness

11 mm

Seamless, lap welded or riveted longitudinal joint

Riveted

Material

O.H. steel

Range of tensile strength 27.8~29.7 T₄" Working pressure by Rules 33.7 kg/cm²

ELECTRIC GENERATORS:

Type

Self ventilated, drip proof open type

Pressure of supply

225 volts.

Full Load Current

1022

Amperes.

Direct or Alternating Current

Direct current

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

-

and do the results comply with the requirements

-

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

yes

Details of driven machinery other than generator

-

PLANS.—Are approved plans forwarded herewith for Shafting

25-7-51

Receivers

24-5-51

Separate Tanks

9-7-51

Have Torsional Vibration characteristics if applicable been approved

yes, 25-7-51

Armature shaft Drawing No. 3D-3213

SPARE GEAR

7 exhaust valves complete, 6 inlet valves complete, 2 safety valves, 10 fuel oil valves, 2

indicator valves complete, 1 piston, 1 set studs & nuts for cylinder cover, 1 gudgeon pin, 2 sets crank pin bearing bolts

& nuts, 1 set crank pin bearings, 2 sets bolts & nuts for main bearings, 3 fuel oil pumps, 1 connecting rod,

1 cylinder complete, 7 fuel pump housings with plunger.

The foregoing is a correct description,

Manufacturer.

MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS.

S. Tanaka
Senior Managing Director.

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Lloyd's Register
Foundation

011536-011543-0141

1950 - AUG. 4. 17. SEP. 18 NOV. 7 DEC. 1. 2. 3. 5. 7. 13. 16.
During progress of work in shops - } 1951 - JAN. 4. 23. FEB. 3. 7. 12. 20. MAR. 9. 19. 22. 30. APR. 4. 10. 11. 14. 27. 30. MAY. 8. 9. 11. 14. 18. 22. 26. 29. JUN. 1. 4. 9. 12.
13. 15. 16. 22. 26. 27. 28. 30. JUL. 6. 13. 17. 24. 31. AUG. 7. 14. SEP. 20
During erection on board vessel - - } 1951 - JUL. 17. SEP. 23. 27
Total No. of visits 57

Dates of Examination of principal parts—Cylinders 16-6-51. Covers — Pistons 14-8-51 Piston rods —

Connecting rods 28-6-51 Crank and Flywheel shafts 17-7-51 Intermediate shafts —
ENG. NO. 399. 400 401
Crank shaft { Material Journals :- O.H. Steel (F.S.), Arms :- Electric furnace steel (C.S). Tensile strength Journal 29.5~31.7 1/16" 30.3~32.2 1/16" 30.3~32.0 1/16"
Arm 29.7~30.4 1/16" 29.2~33.3 1/16" 28.7~31.1 1/16"
Elongation Journals 31~37% 30~38% 31~37% Identification Marks M-CK304 M-CK305 M-CK306
Arm. 32~35% 28~32% 32~35% MHR 26-6-51 MHR 13-7-51 JNR 17-7-51.
Flywheel shaft, Material — Identification Marks —

Identification marks on Air Receivers NO. AR 184 LLOYD'S TEST W.P. 25 KG/cm² W.T.P. 39.1 KG/cm² MHR 7-8-51.

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 Electric Generators of this vessel have been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letters.

The materials and workmanship are sound and good.

The Generators have been examined under working condition during shop and comprehensive sea trials and found satisfactory.

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

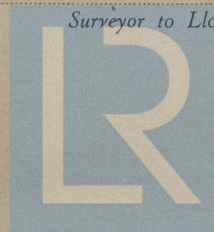
FRI. 18 APR 1952

Committee's Minute

Assigned

See F.E. mch. rpt.

Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation