

Rpt. 4c

11 JUL

Date of writing report 2nd March, 1962.

Received London

Port KOBE

No. FE-10175

Survey held at Sakai, Japan

No. of visits

4

First date 16th Oct., 1961

Last date 5th February, 1962.

## FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship m.v. "LENKO RAN"

(Or Contract No. if name unknown).

Ship Built at Aioi, Japan

Vseso juzno je Exportno-Importno je

Owners

Objedinenije "Sudoimport" Moscow, U. S. S. R.

Auxiliary Engines ~~XXXXXX~~ made at Sakai, Japan

Ishikawajima-Harima Heavy Ind.,

by Co. Ltd., Aioi Works

when Yard No. 592

Total No. of sets and description (including type name) 1 set, Kubota ED5JZ type Diesel Oil Tank Piston Solid Injection Engine

when 2-1962 Eng. Nos. 5049

## INTERNAL COMBUSTION RECIPROCATING ENGINES.

No. of cylinders per engine 5

Dia. of cylinders 170mm

Stroke 220mm

2 or 4 stroke cycle 4

Maximum approved BHP 125

at 1,000

RPM

Corresponding MIP

5.64 kg/cm<sup>2</sup>Maximum pressure 60 kg/cm<sup>2</sup>

Fuel Heavy Oil

Are cylinders arranged in Vee or other special formation?

No

crankshafts per engine

Is engine of opposed piston type? No

No. and type of mechanically driven scavenge pumps or blowers

per engine

None

No. of exhaust gas driven blowers or superchargers per engine

None

Is welded construction

used for: Bedplate? No

Entablature? No

Total internal volume of crankcase (if 20 cu. ft. or over)

0.38 m<sup>3</sup>

No. and total area of

crankcase explosion relief devices

1 x 78.5 cm<sup>2</sup>

Are flame guards or traps fitted? None

Cooling medium for: Cylinders Fresh Water

Pistons

None

No. of attached pumps: F.W. cooling

1

S.W. cooling No

Lubricating oil 1

How is engine started? Starting Motor

## SHAFTING.

Is a damper or detuner fitted? None

No. of main bearings

6

Are bearings of ball or roller type? Plane

Distance between

inner edges of bearings in way of cranks

218mm

Crankshaft: Built, ~~XXXXXX~~ solid.

Material of crankshaft

Forged Steel

Approved

minimum tensile strength

53 Kgs/mm<sup>2</sup>

Dia. of pins

110 mm.

Journals

125mm

Breadth of webs at mid throw

155 mm

Axial

thickness

60mm

If shrunk, radial thickness around eyeholes

-

Dia. of flywheel

700mm

Weight

342 Kgs.

Are balance

weights fitted? 5

Total weight

450 kgs.

Rad. of gyration

126 mm.

Dia. of flywheel shaft

125 mm.

Has each engine been tested in shop? Yes

How long at full power?

2 Hr.

Was it tested with driven machinery attached? Yes

Was the

governing tested and found satisfactory? Yes

Date of approval of torsional vibration characteristics (for engines of 150 BHP and over)

Date of approval of shafting

Identification marks on shafting

LLOYD'S TEST KOB NOKF3092EI LR

Particulars of driven machinery One (1) 100 kVA Generator (3 phase, 400 V. 50 c/s cont.)

16-10-61

Port and No. of Certificate for Starting Air Receivers

None

## AUXILIARY GAS TURBINES.

BHP per set

At

RPM of output shaft.

Open or closed cycle?

Arrangement of turbines.

HP drives

at

RPM

HP gas inlet temp.

pressure

(A small diagram should be attached showing gas cycle)

IP

"

at

IP

"

"

"

"

"

"

"

"

"

"

LP

"

at

LP

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No. of air compressors per set

Centrifugal or axial flow type?

Material of turbine blades

Material of compressor blades

No. of air coolers per set

No. of heat exchangers per set

How are

turbines started?

Are the turbines operated in conjunction with free piston gas generators?

Total No. of free piston gas generators

Dia. of working pistons

Dia. of compressor pistons

No. of double strokes

per minute at full power

Gas delivery pressure

Gas delivery temperature

Have the turbines and attached equipment been tested in shop?

How long at full power?

Were they tested with driven machinery

attached?

Particulars of gearing

Date of approval of plans

Identification marks

Particulars of driven machinery

## ELECTRIC GENERATORS.

Port and No. of Certificate for generators of 100 Kw. and over

Yokohama M-7713

For generators under 100 Kw., has Makers' Certificate been obtained? -

Are Certificates attached? Yes

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)

Kubota Iron &amp; Machinery Works, Ltd.

Diesel Plant.

K. Aoki

Is this machinery duplicate of a previous case? Yes

If so, which?

S.No. 591, Ishikawajima-Harima Heavy Ind., Co., Ltd., Aioi Works,

Aioi.

GENERAL REMARKS. State if the machinery has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

The Oil Engine has been examined under Special Survey in accordance with the Rules, approved plans and the Secretary's letter.

The materials and workmanship are sound and good.

The Oil Engine has been examined under full working condition in the shop and found satisfactory.

Register Survey Fee ¥23,000.-

Expenses 3,500.-

Date when a/c rendered FEB 16 1962

Declaration to be signed by Surveyor at fitting-out Port:— The above described machinery has been fitted on board the "LENKO RAN"

at Aioi, Japan

in a proper manner and found satisfactory when tested on the (date) 11-4-1962 under full working conditions.

K. Yamazaki

Engineer Surveyor to Lloyd's Register

K. Yamazaki

Engineer Surveyor to Lloyd's Register

A. Jacobs &amp; S. Matsumoto.

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