

Rpt. 4c

Date of writing report

JAN - 6, 1958

Received London

21 JAN 1958

Port KOBE

No. FE-5181

Survey held at Osaka & Aioi

No. of visits 6

First date 25th April, Last date 10th Oct., 1957.

## FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship M.S. "HOEI MARU"  
(Or Contract No. if name unknown)

Owners Nitto Shosen K.K.  
(Or Consignees)

Ship Built at Aioi, Japan

by Harima S.B. & E.Co., Ltd.

1957-

Yard No. 512

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

by Daihatsu Kogyo K.K.

when 1957-7

Eng. Nos. 526014

Total No. of sets and description (including type name) 1 - 4SCSA Diesel Engine

### INTERNAL COMBUSTION RECIPROCATING ENGINES.

No. of cylinders per engine 5

Dia. of cylinders 260mm

Stroke 320mm

2 or 4 stroke cycle 4

Maximum approved BHP 250

at 514

RPM

Corresponding MIP 6.425 kg/cm<sup>2</sup>

Maximum pressure 55 kg/cm<sup>2</sup>

Fuel Diesel 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 -

No. of exhaust gas driven blowers or superchargers per engine -

Is welded construction

used for: Bedplate? No

Entablature? Yes

Total internal volume of crankcase (if 20 cu. ft. or over) 52.8 cubic feet

No. and total area of

crankcase explosion relief devices 3 x 10.03 sq. in.

Are flame guards or traps fitted? Yes

Cooling medium for: Cylinders Fresh Water

Pistons None

No. of attached pumps: F.W. cooling 1

S.W. cooling None

Lubricating oil 1

How is engine started? By compressed

air

### SHAFTING.

Is a damper or detuner fitted? No

No. of main bearings 6

Are bearings of ball or roller type? No

Distance between

inner edges of bearings in way of cranks 318mm

Crankshaft: ~~XXXXXX~~ solid

Material of crankshaft Forged Steel

Approved

minimum tensile strength 55 kg/mm<sup>2</sup>

Dia. of pins 172mm

Journals 200mm

Breadth of webs at mid throw 250mm

Axial

thickness 82mm

If shrunk, radial thickness around eyeholes -

Dia. of flywheel 1200mm

Weight 1453 kgs

Are balance

weights fitted? Yes

Total weight 446 kgs

Rad. of gyration 184mm

Dia. of flywheel shaft -

Has each engine been tested in shop? Yes

How long at full power? 4 hours

Was it tested with driven machinery attached? Yes

380W

governing tested and found satisfactory? Yes

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

5-7-57

1961/57

Date of approval of shafting 9-1-57

Identification marks on shafting

LLOYD'S KOB No. KT-CK 328 MS LR 20-5-57

Particulars of driven machinery

L.O. pump:- Gear type, 2.3 ton per hour. Electric generator 200 kVA 445V 60 cycles

F.W. Cooling pump:- Centrifugal type.

Port and No. of Certificate for Starting Air Receivers AR-43755 Kobe

### 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

"

"

"

"

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

Kobe M-39608

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)

*Yunosuke Murai*  
Chief of Osaka plant  
Daihatsu Kogyo K. K. Manufacturer

Is this machinery duplicate of a previous case? No If so, which? -

### 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.

This engine has been constructed under Special Survey in accordance with the Rules,

approved plans and Secretary's letters. The materials and workmanship are sound and good.

This engine has been examined under full working condition in the shop and found satisfactory.

Survey Fee ¥118,000.-

Expenses 1,590.-

Date when a/c rendered 19th Sept., 1957.

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

M.V. "HOEI MARU"

at Aioi, Japan.

in a proper manner and found satisfactory when tested on the (date)

13-9-57

under full working conditions.

*16. [Signature]*  
Engineer Surveyor to Lloyd's Register

012585-012590-0155