

Rpt. 4c

Date of writing report 18th August 1960

Received London

Port Yokohama

No. 3311-B

Survey held at Tokyo & Yokohama

No. of visits 27

First date 17-6-60

Last date 28-6-60

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship M.V. "SUMIDA MARU"

Owners Nippon Yusen Kaisha

(Or Contract No. if name unknown)

(Or Consignees)

Ship Built at Yokohama, Japan

Yokohama Shipyard & Engine Works,

by Mitsubishi Nippon Heavy Ind Ltd.

when 1960-6

Yard No. S836

Auxiliary Engines ~~or Gas Turbines~~ made at Tokyo, Japan

by Tokyo Motors Vehicle Works.

when 1960-1

Eng. Nos. D133220/1/2

Total No. of sets and description (including type name) 3 set, Yokohama M.A.N. trunk piston, direct injection diesel engine

INTERNAL COMBUSTION RECIPROCATING ENGINES.

No. of cylinders per engine 5

Dia. of cylinders 235mm

Stroke 330mm

2 or 4 stroke cycle 4

Maximum approved BHP 340

at 514

RPM

Corresponding MIP

10.03 kg/cm²

Maximum pressure 65 kg/cm²

Fuel Diesel oil

Are cylinders arranged in Vee or other special formation?

No

If so, No. of

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 one

Is welded construction

used for: Bedplate?

No

Entablature?

No

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

38.5 cu.ft

No. and total area of

crankcase explosion relief devices

2 x 13.4 in²

Are flame guards or traps fitted?

No

Cooling medium for: Cylinders

Fresh water

Pistons

No. of attached pumps: F.W. cooling one set S.W. cooling

one set

Lubricating oil one set How is engine started? 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

284mm

Crankshaft: Built, semi-built, solid.

Material of crankshaft Electric furnace steel

minimum tensile strength

55 kg/mm²

Dia. of pins

155mm

Journals 155mm

Breadth of webs at mid throw 273mm

Approved

thickness 80mm

If shrunk, radial thickness around eyeholes

-

Dia. of flywheel 1375mm

Weight 2386 kg

Are balance

weights fitted?

No

Total weight

-

Rad. of gyration

-

Dia. of flywheel shaft

-

Has each engine been tested in shop?

Yes

How long at full power? 4 hrs

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) 2-6-60

25/5/60

Date of approval of shafting 26-4-60

Identification marks on shafting

(D 133220 NAG No. S-CK 2781 K.T. LR 7-6-58
D 133221 NAG No. S-CK 2741 K.T. LR 24-5-58
D 133222 NAG No. S-CK 2783 K.T. LR 7-6-58
3 phase AC 60 cycles 450V, 385A, 300K.V.A.
(Fuji Denki Seizo K.K., Japan)

Particulars of driven machinery

Air compressor:

265 m³/hr

72H.P.

(Suction Gas Engine Mfg. Co., Ltd., Tokyo)

Port and No. of Certificate for Starting Air Receivers

Main: Yka. YAR-146, YAR-147

Aux: Yka. YAR-148

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

"

"

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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

Yka. Rpt 7b No. M-6074A, B & C

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

Yes

Are Certificates attached?

Yes

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

H. Suzuki
Yokohama Shipyard & Engine Works Manufacturer

Is this machinery duplicate of a previous case? Yes If so, which? "SAITAMA MARU"

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 machinery has been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letter.

The quality of materials and workmanship has been found satisfactory.

The machinery has been examined under full working conditions during shop trials and found satisfactory.

It is submitted that on satisfactory installation on board, the machinery is eligible to be classed with this Society and to have notation + LMC 6/60.

Survey Fee ¥140,700

Expenses

Date when a/c rendered

Declaration to be signed by Surveyor at fitting-out Port:— The above described machinery has been fitted on board the M.V. "SUMIDA MARU"

Yokohama in a proper manner and found satisfactory when tested on the (date) 14 & 17-6-1960 under full working conditions.

Engine Surveyor to Lloyd's Register

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Port.....

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FIRST ENTRY REPORT ON AUXILIARY STEAM TURBINE OR STEAM RECIPROCATING ENGINES

Name of Ship.....
(Or Contract No. if name unknown)

Owners.....
(Or Consignees)

Ship Built at.....

by.....

when.....

Yard No.....

Auxiliary turbines or engines made at.....

by.....

when.....

Eng. Nos.....

Total No. of sets and description.....

STEAM TURBINES. No. of turbines per set.....

BHP per set.....

Steam pressure.....

Steam temperature.....

Type of turbines.....

Particulars of gearing.....

RPM of turbine shaft(s).....

PCD of pinion(s).....

PCD of wheel(s).....

Material of

pinion(s).....

Material of wheel rim(s).....

Has rotor been dynamically balanced?.....

Diameter of rotor

shaft at bearings.....

Does the set include a steam condenser?.....

Is an emergency governor fitted?.....

No. and purpose of

attached pumps.....

Has the set been tested in the shop?.....

If so, for how long at full

power?.....

Was the governing tested and found satisfactory?.....

Was the set tested with driven machinery attached?.....

Identification marks.....

Particulars of driven machinery.....

STEAM RECIPROCATING ENGINES.

BHP of each.....

at.....

RPM.....

Steam pressure.....

Dia. of cylinders.....

Stroke.....

Dia. of crankshaft journals.....

Pins.....

Material of

crankshaft.....

Is crankcase enclosed?.....

If so, is the internal volume 20 cu. ft. or over?.....

No. and total area of crankcase

explosion relief devices fitted?.....

Are the bearings forced lubricated?.....

No. and purpose of attached pumps.....

Is a Governor Fitted?.....

Identification Marks.....

Particulars of Driven Machinery.....

ELECTRIC GENERATORS.

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

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

Are Certificates attached?.....

The foregoing description is correct.

Manufacturer.....

Is this machinery duplicate of a previous case?.....

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.

Survey Fee.....

Expenses.....

Date when a/c rendered.....

Engineer Surveyor to Lloyd's Register

Declaration to be signed by Surveyor at fitting-out Port:— The above described machinery has been fitted on board the
at..... in a proper manner and found satisfactory when tested on the (date).....
conditions.