Rpt. 4c

Date of writing report 18th April, 1960 Received London ..... Port KOBE No. FE-7738

Survey held at Amagasaki No. of visits 3 First date 20th April, 1959 Last date 9th October, 1959.

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship "ORIENTAL GIANT" *Owners* Aquira Tankers S.A.
(Or Contract No. if name unknown). *(Or Consignees)*
Ship Built at Sasebo *by* Sasebo Ship Industry Co.,Ltd. *when* ..... *Yard No.* 200
Auxiliary Engines ~~xxxxxxxxxx~~ *made at* Amagasaki *by* Yanmar Diesel Engine Co., Ltd. *when* 10-1959 *Eng. Nos.* 8000ZEM
Total No. of sets and description (including type name) One (1) set Yanmar 12ML type diesel engine

INTERNAL COMBUSTION RECIPROCATING ENGINES. *No. of cylinders per engine* 12 *Dia. of cylinders* 200 mm *Stroke* 240 mm *2 or 4 stroke cycle* 4 *Maximum approved BHP* 400 *at* 720 *RPM Corresponding MIP* 6.738kg/cm^2 *Maximum pressure* 60 kg/cm^2 *Fuel* Diesel Oil *Are cylinders arranged in Vee or other special formation?* Yes, in Vee *If so, No. of crankshafts per engine* 1 *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?* - *Total internal volume of crankcase (if 20 cu. ft. or over)* 800 lt *No. and total area of crankcase explosion relief devices* 55.4 cm^2 x 4 *Are flame guards or traps fitted?* Yes *Cooling medium for: Cylinders* Fresh water *Pistons* - *No. of attached pumps: F.W. cooling* 1 *S.W. cooling* - *Lubricating oil* 1 *How is engine started?* by compressed air.

SHAFTING. *Is a damper or detuner fitted?* No *No. of main bearings* 7 *Are bearings of ball or roller type?* No *Distance between inner edges of bearings in way of cranks* 303 mm *Crankshaft:* ~~Built or shrunk~~ solid. *Material of crankshaft* Carbon steel *Approved minimum tensile strength* 55 kg/mm2 *Dia. of pins* 138 mm *Journals* 160 mm *Breadth of webs at mid throw* 260 mm *Axial thickness* 61.5 mm *If shrunk, radial thickness around eyeholes* - *Dia. of flywheel* 820 mm *Weight* 425 kg *Are balance weights fitted?* No *Total weight* - *Rad. of gyration* CO^2 =185kg-M^2 *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)* 21/8/59 451/L
Date of approval of shafting ..... *Identification marks on shafting* No. MB-CK517 MH 9-10-59 LR
Particulars of driven machinery Fuji Denki (Made) 310 KVA A.C. Generator

Port and No. of Certificate for Starting Air Receivers Kobe No. AR-59647

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* .....
For generators under 100 Kw., has Makers' Certificate been obtained? ..... *Are Certificates attached?* .....

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

S. Nakai
S. Nakai
Manager of Kanzaki Works.
Yanmar Diesel Engine CO., Ltd.
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.*

This diesel engine was not completely manufactured under survey but was tested in the presence of the undersigned at the plant of Kanzaki Works, Yanmar Diesel Engine Co., Ltd., Amagasaki, Japan, then opened for examination when the details of the crankshaft and the main parts were verified with the approved drawing and found good.

Survey Fee ¥20,000.-
Expenses 500.-
Date when a/c rendered JAN - 7 1960

Engineer Surveyor to Lloyd's Register
M. Hayashibara

Declaration to be signed by Surveyor at fitting-out Port:— The above described machinery has been fitted on board the s.s. "ORIENTAL GIANT"
at Sasebo, Japan *in a proper manner and found satisfactory when tested on the (date)* 7.11.1959 *under full working conditions.*

Engineer Surveyor to Lloyd's Register

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