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Date of writing report..... MAY - 7. 1958

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Port..... Kobe

No. FE-5706

Survey held at Kobe, Japan

No. of visits 59

First date 22nd March, 1957 Last date 13th May, 1958 1958.

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship "FENIX" Owners Phoenix Compania De Navegacion S.A.
(Or Contract No. if name unknown). (Or Consignees)
Ship Built at Kobe, Japan Mitsubishi Heavy Ind., Reorganized, Ltd.
Kobe Shipyard & Engine Works when 1958-5 Yard No. 883
Auxiliary Engines 2 sets of 1500 KW made at Kobe, Japan by - do. - when 1958-2 Eng. Nos. 1572, 1573, 1574
Total No. of sets and description (including type name) 3 sets. Solid Injection Single Acting Type JB5

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 5 Dia. of cylinders 275 m/m Stroke 400 m/m
2 or 4 stroke cycle 4 Maximum approved BHP 355 at 450 RPM Corresponding MIP 6.69 kg/cm² Maximum pressure 55 kg/cm²
Fuel Heavy 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. 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? No Total internal volume of crankcase (if 20 cu. ft. or over) 88.2 Cu.ft. No. and total area of
crankcase explosion relief devices 3 x 116.4 cm² Are flame guards or traps fitted? Yes Cooling medium for: Cylinders Water
Pistons - No. of attached pumps: F.W. cooling 1-each S.W. cooling - Lubricating oil 1-each How is engine started?
Compressed air. Eng. Eng.

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..... 350 m/m Crankshaft: ~~Cast iron~~ solid. Material of crankshaft..... Steel Forging Approved minimum tensile strength..... 52.5 52.2 kg/mm² Dia. of pins..... 180 m/m Journals..... 200 m/m Breadth of webs at mid throw..... 300 m/m Axial thickness..... 90 m/m If shrunk, radial thickness around eyeholes..... - Dia. of flywheel..... 1450 m/m Weight..... 2,500 kgs. Are balance weights fitted? ☒ No Total weight..... - Rad. of gyration..... 653 m/m 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 Was the governing tested and found satisfactory? ☒ Yes Date of approval of torsional vibration characteristics (for engines of 150 BHP and over)..... 21-8-57 Date of approval of shafting..... 5-8-57 Identification marks on shafting..... MK-CK351, MK-CK352, MK-CK357. Particulars of driven machinery..... 220 K.W. D.C. Electric Generator and 35 H.P. Air Compressor

Port and No. of Certificate for Starting Air Receivers KOB NO. AR-46469

AUXILIARY GAS TURBINES.		<i>BHP per set</i>		<i>At</i>		<i>RPM of output shaft.</i>		<i>Open or closed cycle?</i>			
<i>Arrangement of turbines.</i>		<i>HP drives</i>		<i>at</i>		<i>RPM</i>		<i>HP gas inlet temp.</i>		<i>pressure</i>	
<i>(A small diagram should be attached showing gas cycle)</i>		<i>IP</i> <i>"</i>		<i>at</i>		<i>"</i> <i>"</i> <i>"</i> <i>"</i>		<i>IP</i> <i>"</i> <i>"</i> <i>"</i>		<i>"</i> <i>"</i> <i>"</i> <i>"</i>	
		<i>LP</i> <i>"</i>		<i>at</i>		<i>"</i> <i>"</i> <i>"</i> <i>"</i>		<i>LP</i> <i>"</i> <i>"</i> <i>"</i>		<i>"</i> <i>"</i> <i>"</i> <i>"</i>	

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 Nos. 47339, 47397
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~~)

KOBE SHIPYARD & ENGINE WORKS
MITSUBISHI HEAVY-INDUSTRIES, REORGANIZED, LIMITED *Manufacturer*

Is this machinery duplicate of a previous case? Yes If so, which? M.V. "EDDA"

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.*

These oil engines have been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letter.

The materials and workmanship are sound and good.

These oil engines have been tested under full working condition in the shop and found satisfactory.

Survey Fee...¥159,000.-

Expenses See Rpt.1

Date when a/c rendered.

P. Manson & S. Matsumoto.

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 Kobe in a proper manner and found satisfactory when tested on the (date) 10-4-58 under full working conditions.

Pete Hanson

~~SECRET~~