

See also Manchester F.E. Report 4b No. 18507 ( Attached hereto )

Rpt. 4b

August, 1959

Date of writing report

Received London

Port of Gdansk

No. F.E.M.007

Survey held at G d a n s k

No. of visits In shops 2  
On vessel 16

First date 6th March, 59 Last date 31st July, 1959

# FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. 40524 Name M.V. " K R U T Y N I A " Gross tons 472.95  
Owners Polish Government Managers Polish Steamship Company Port of Registry Szczecin  
Hull built at Gdansk By Stocznia Gdanska Yard No. B51/010 Year Month When 1959- 3  
Main Engines made at Openshaw By Crossley Bros. Ltd. Eng. No. 148440 When 1958  
Gearing made at --- By ---  
Donkey boilers made at --- By --- Blr. Nos. --- When ---  
Machinery installed at Gdansk By Stocznia Gdanska When 1959  
Particulars of restricted service of ship, if limited for classification No Restriction  
Particulars of vegetable or similar cargo oil notation, if required None required  
Is ship to be classed for navigation in ice? Yes. Is ship intended to carry petroleum in bulk? No.  
Is refrigerating machinery fitted? Yes. If so, is it for cargo purposes? No. Type of refrigerant Dichloro-Difluoro-Methane  
Is the refrigerating machinery compartment isolated from the propelling machinery space? Yes. Is the refrigerated cargo installation intended to be classed? No.

The following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the wording is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that report need not be repeated below, but the port and report number should be stated.

No. of main engines One. No. of propellers One. Brief description of propulsion system 2 SC SA, 8 cy., Heavy Oil Engine, direct drive / to propeller.  
Licence Name and Type No. HR N8/34

## MAIN RECIPROCATING ENGINES.

No. of cylinders per engine Dia. of cylinders stroke(s) 2 or 4 stroke cycle Single or double acting

Maximum approved BHP per engine 680 at RPM of engine and RPM of propeller.

Corresponding MIP (For DA engines give MIP top & bottom) Maximum cylinder pressure Machinery numeral 136

Are the cylinders arranged in Vee or other special formation? If so, number of crankshafts per engine

TWO STROKE ENGINES. Is the engine of opposed piston type? If so, how are upper pistons connected to crankshaft?

Is the exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? No. and type of mechanically driven scavenge pumps or blowers per engine and how driven

No. of exhaust gas driven scavenge blowers per engine Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action?

If a stand-by or emergency pump or blower is fitted, state how driven. No. of scavenge air coolers Scavenge air pressure at full power

Are scavenge manifold explosion relief valves fitted?

FOUR STROKE ENGINES. Is the engine supercharged? Are the undersides of the pistons arranged as supercharge pumps? No. of exhaust gas driven blowers per engine

No. of supercharge air coolers per engine Supercharge air pressure Can engine operate without supercharger?

TWO & FOUR STROKE ENGINES--GENERAL. No. of valves per cylinder: Fuel Inlet Exhaust Starting Safety

Material of cylinder covers Material of piston crowns Is the engine equipped to operate on heavy fuel oil?

Cooling medium for: Cylinders Pistons Fuel valves Overall diameter of piston rod for double acting engines

Is the rod fitted with a sleeve? Is welded construction employed for: Bedplate? Frames? Entablature? Is the crankcase separated from the underside of pistons?

Is the engine of crosshead or trunk piston type? Total internal volume of crankcase No. and total area of explosion relief devices

Are flame guards or traps fitted to relief devices? Is the crankcase readily accessible? If not, must the engine be removed for overhaul of bearings, etc?

Is the engine secured directly to the tank top or to a built-up seating? How is the engine started?

Can the engine be directly reversed? If not, how is reversing obtained?

Has the engine been tested working in the shop? How long at full power?

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 20.10.58 State barred speed range(s), if imposed

for working propeller 120-145 R.P.M. For spare propeller Is a governor fitted? Is a torsional vibration damper or detuner fitted to the shafting?

Where positioned? Type No. of main bearings Are main bearings of ball or roller type?

Distance between inner edges of bearings in way of crank(s) Distance between centre lines of side cranks or eccentrics of opposed piston engines

Crankshaft type: Built, semi-built, solid. (State which)

Diameter of journals Diameter of crankpins Centre Breadth of webs at mid-throw Axial thickness of webs

Side Pins Minimum

If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals Approved

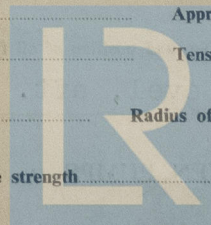
Webs Tensile strength

Diameter of flywheel Weight Are balance weights fitted? Total weight Radius of gyration

Diameter of flywheel shaft Material Minimum approved tensile strength

Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which)

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## 112 OCT

ELECTRIC PROPULSION (Reciprocating engines or gas turbines. Electrical particulars to be reported on Form 4d.)

**REDUCTION GEARING** (Reciprocating engines or gas turbines. A small line sketch should be attached showing arrangement of gearing.)

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) See Manchester F.E. report for Main Motor.

The foregoing description of the main engine and installation is correct and the particulars are as approved for torsional vibration characteristics (~~strike out words not applicable~~).



# GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

The Main and Auxiliary Machinery and Electrical Installation, as fitted aboard this vessel has been, with the exception of a few minor and nonessential auxiliaries, constructed and installed under Special Survey in accordance with the Rules, approved plans and Secretary's letters.

The quality of materials used and workmanship generally are sound and good and in our opinion the installation is such as can be classed with this Society, with the following Survey Records and Notations:-

" L.M.C. (N.E.) 7,59" and "T.S. (O.G.) N. 7,59"

## Re Barred Speed Range:-

In accordance with instructions given in Secretary's letter a notice board has been permanently fixed at the starting platform station that the Main Motor should not be run continuously at speeds ranging between 120 & 145 R.P.M. The engine is marked accordingly.

*B. Langhamer for J. Manson*  
Engine Surveyor to Lloyd's Register of Shipping.  
J. Manson & B. Langhamer

PARTICULARS OF IDENTIFICATION MARKS ((Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS See Manchester Surveyor's F.E. Report No. 18507

CRANKSHAFT ~~OR MOTOR SHAFT~~

FLYWHEEL SHAFT

THRUST SHAFT

GEARING

INTERMEDIATE SHAFTS

SCREW ~~AND OTHER~~ SHAFTS K-0160-84 Elblag J.M. 18.4.59

PROPELLERS Working:- No. 54922 Glasgow 3.3.59 (Bronze); Spare (S. Steel) :- No. 1086 P.R.S.

OTHER IMPORTANT ITEMS copies of outport Certificates for Auxiliary Motors, Air Receivers, Pumps attached hereto. Identification marks on same verified.

Is the installation a duplicate of a previous case? No. If so, state name of vessel -

Date of approval of plans for crankshaft 16.9.58 Straight shafting Not applicable Gearing Not applicable Clutch Not applicable

Separate oil fuel tanks 19.6.58 Pumping arrangements 19.6.58 Oil fuel arrangements 19.6.58

Cargo oil pumping arrangements Not applicable Air receivers Not applicable Donkey boilers Not applicable

Dates of examination of principal parts:-

Fitting of stern tube 16.3.59 Fitting of propeller 24.4.59 Completion of sea connections 18.5.59 Alignment of crankshaft in main bearings -

Engine chocks & bolts 5.6.59 Alignment of gearing Not applicable Alignment of straight shafting 5.6.59 Testing of pumping arrangements 18.7.59

Oil fuel lines 12.6.59 Donkey boiler supports Not applicable Steering machinery 18.7.59 Windlass 21.7.59

Date of Committee See Rpt. 1 Special Survey Fee £7,600.- & £ 100.-

Decision Late Attendance Fee £ 300.-

Expenses