

Rpt. 4b

16 JAN 1962

Date of writing report 4.2.1962.

Received London

Port MANCHESTER.

No. 622

16 JUL 1962

Survey held at MANCHESTER.

No. of visits

In shops 7

First date

24.11.61.

Last date

12.12.61.

On vessel

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

THEO H SWANTON

No. in R.B. Name Hopper Barge Gross tons

Owners Melbourne Harbour Trust Managers Henry Scarr Ltd. Port of Registry

Hull built at Hull By Richard Dunston Yard No. 781 Year Month

Main Engines made at Hazel Grove By Mirrlees, Bickerton & Day Ltd. Eng. No. 56722 When 1961 12

Gearing made at By

Donkey boilers made at By Blr. Nos. When

Machinery installed at By When

Particulars of restricted service of ship, if limited for classification

Particulars of vegetable or similar cargo oil notation, if required

Is ship to be classed for navigation in ice? Is ship intended to carry petroleum in bulk?

Is refrigerating machinery fitted? If so, is it for cargo purposes? Type of refrigerant

Is the refrigerating machinery compartment isolated from the propelling machinery space? Is the refrigerated cargo installation intended to be classed?

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 Direct to propeller

MAIN RECIPROCATING ENGINES. Licence Name and Type No. KLSSDM6 Heavy Oil

No. of cylinders per engine 6 Dia. of cylinders 15" stroke(s) 20" 2 or 4 stroke cycle 4 Single or double acting Single

Maximum approved BHP per engine 1098 at 275 RPM of engine and 275 RPM of propeller.

Corresponding MIP 180 PSI (For DA engines give MIP top & bottom) Maximum cylinder pressure 1080 PSI Machinery numeral 220

Are the cylinders arranged in Vee or other special formation? No 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? Yes Are the undersides of the pistons arranged as supercharge pumps? No No. of exhaust gas driven blowers per engine One No. of supercharge air coolers per engine One Supercharge air pressure 4 PSI Can engine operate without supercharger? Yes

TWO & FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel One Inlet Two Exhaust Two Starting One Safety One Material of cylinder covers C.I. Material of piston crowns C.I. Is the engine equipped to operate on heavy fuel oil? No

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

Is the rod fitted with a sleeve? No Is welded construction employed for: Bedplate? No Frames? No Entablature? No Is the crankcase separated from the

underside of pistons? No Is the engine of crosshead or trunk piston type? Trunk Total internal volume of crankcase 198 cu.ft. No. and total area of explosion relief

devices Six - 471 sq.in. Are flame guards or traps fitted to relief devices? Yes Is the crankcase readily accessible? Yes If not, must the engine be removed for

overhaul of bearings, etc? No Is the engine secured directly to the tank top or to a built-up seating? How is the engine started? Compressed Air 300 psi

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

Has the engine been tested working in the shop? Yes How long at full power? 6 hours.

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 24.4.61 State barred speed range(s), if imposed

for working propeller For spare propeller Is a governor fitted? Yes Is a torsional vibration damper or detuner fitted to the shafting? No

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

type? Plain Distance between inner edges of bearings in way of crank(s) 17 1/2" Distance between centre lines of side cranks or eccentrics of opposed piston engines

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

Diameter of journals 11 1/2" Diameter of crankpins Centre 10 1/2" Breadth of webs at mid-throw 18 Axial thickness of webs 5-7/32"

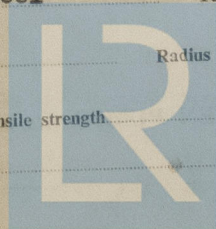
If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals OH Approved EN8

Webs Steel Tensile strength

Diameter of flywheel 4' - 9" Weight 5700 Are balance weights fitted? No 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) Integral with crankshaft.



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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 give 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.

This heavy oil engine has been constructed under special survey of tested materials and in accordance with the Rules, approved plans and Secretary's letters. The material is sound and, as far as can be seen, free from defects. The workmanship is good.

The engine, coupled to a dynamometer, was tested at the Engine Builder's works under the following conditions of loading - 6 hours 100% engine rating, governing, manoeuvring, $\frac{1}{2}$ hour astern.

Attached hereto Crankshaft Cert. Df. F61/1922

" " Thrust Shaft Cert. BHM. F.8502

" " Conn. Rod Certs. C.41196, & C.38651.

James E. Murray
Engineer Surveyor to Lloyd's Register of Shipping.
(J.C. MURRAY),

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

RODS 1156 7.11.61. LVH, 11784 19.10.61. LVH.

CRANKSHAFT OR ROTORSHAFT LR. DSF. HS.36, 180944/144433 18.10.61. ✓

FLYWHEEL SHAFT

THRUSTSHAFT LR.740 15.9.61. JVH. ✓

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case? Yes If so, state name of vessel Hopper Barge - R.Dunston 780

Date of approval of plans for crankshaft 22.2.61. Straight shafting Gearing Clutch

Separate oil fuel tanks Pumping arrangements Oil fuel arrangements

Cargo oil pumping arrangements Air receivers Donkey boilers

Dates of examination of principal parts:—

Fitting of stern tube Fitting of propeller Completion of sea connections Alignment of crankshaft in main bearings 15.11.61.

Engine chocks & bolts Alignment of gearing Alignment of straight shafting Testing of pumping arrangements

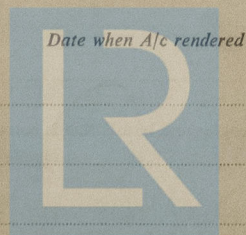
Oil fuel lines Donkey boiler supports Steering machinery Windlass

MONDAY 13 AUG 1962

Date of Committee Special Survey Fee £87. 0. 0d.

Decision *See Hull 67905*

Expenses £ 1. 5. 0d.



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