

Rpt. 4b

19/2/59

Date of writing report 26/1/59. Received London Port L O N D O N . No. 139538.  
Survey held at Stamford, Lincs. In shops Two. 8/1/59. 26/1/59.  
No. of visits On vessel First date Last date

## FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

UND No. in R.B. Name "BLACKBIRD C" Gross tons  
WHE Owners Managers Port of Registry Year Month  
Hull built at Wivenhoe, Essex. By James. W. Cook & Co. Yard No. 1185. When  
Main Engines made at Stamford, Lincs. By Blackstone & Co. Eng. No. M.86069. When 1959. Jan.  
OIL Gearing made at By M.W.D.  
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 1. No. of propellers 1. Brief description of propulsion system  
MAIN RECIPROCATING ENGINES. Licence Name and Type No. Lister Blackstone EVMGR4 vertical diesel.  
No. of cylinders per engine 4. Dia. of cylinders 8 3/4" stroke(s) 11 1/2" 2 or 4 stroke cycle 4. Single or double acting single.  
Maximum approved BHP per engine 180. at 600 RPM of engine and RPM of propeller.  
Corresponding MIP 106.1b./sq" For DA engines give MIP top & bottom Maximum cylinder pressure 800.1b./sq. Machinery numeral 36.  
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? No. Are the undersides of the pistons arranged as supercharge pumps? No. 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 1. Inlet 1. Exhaust 1. Starting 2 in series. Safety 1.  
Material of cylinder covers cast iron. Material of piston crowns Alum. alloy. Is the engine equipped to operate on heavy fuel oil? No.

Cooling medium for: Cylinders Fresh Water. Pistons 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 30 cu.ft. No. and total area of explosion relief

devices 2 - 22sq.ins. 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? Is the engine secured directly to the tank top or to a built-up seating? How is the engine started? Compressed air.

Can the engine be directly reversed? No. If not, how is reversing obtained? MWD. Type MW. Size 3B. Reverse / Reduction Gearbox No. 12018.

Has the engine been tested working in the shop? Yes. How long at full power? Four hours at full load & one hour on 10% overload.

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 23/12/58. 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 6. Are main bearings of ball or roller

type? No. Distance between inner edges of bearings in way of crank(s) 10 1/16". 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 6 3/4" Diameter of crankpins Centre 6 1/8" Breadth of webs at mid-throw 7 1/4" Axial thickness of webs 2 25/32".

shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals EN8 Minimum 40

Webbs Steel. Tensile strength sq. " Approved tons /

Diameter of flywheel 40". Weight 2180.lb. Are balance weights fitted? Nil. Total weight Radius of gyration

Diameter of flywheel shaft 6 3/4". Material E.N.8 Steel. Minimum approved tensile strength 40.tons/sq. "

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

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1 lub. oil pressure & 1 lub. oil scavenge.

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Does this machinery installation contain any features of a novel or experimental nature? (Give particulars)

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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 engine, BM90378, has been built under Special Survey from materials manufactured under the Supervision of Surveyors to the Society in accordance with Approved Plans & Rules of the Society. Workmanship throughout is good. In my opinion the engine is Eligible for installation in a Classed vessel.

*The above described machinery has been fitted on board the Tank Barge "BLACKBIRD C" at Wivenhoe in a proper manner & found satisfactory when tried at sea on 6<sup>th</sup> August 1959 under full working conditions.*

*L. E. E.*



*W. Waddle*

W. WADDLE.

Engineer Surveyor to Lloyd's Register of Shipping.

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

RODS BCX 109; BCX 96; BCX 104; BCX 88. Covered by batch forging certificates.

BHAM. C.28068; C.27772; C.28067 & C.26069.

CRANKSHAFT OR ROTORSHAFT J.8999. YA. SHF. WW. LON. 8/1/59.

FLYWHEEL SHAFT

THRUSTSHAFT

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS Cylinder block with liners & heads Lloyd's Test. 100.lb. WW. LON. 8/1/59.

Is the installation a duplicate of a previous case?

If so, state name of vessel

Date of approval of plans for crankshaft 23/12/58.

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

Engine chocks & bolts

Alignment of gearing

Alignment of straight shafting

Testing of pumping arrangements

Oil fuel lines

Donkey boiler supports

Steering machinery

Windlass

Date of Committee

TUESDAY - 6 OCT 1959

Special Survey Fee £20..0..0d.

Decision

*See Rpt. 1.*

Expenses

.4..0..0d.

Date when A/c rendered

17 FEB 1959



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