

Rpt. 4b

JWK.

5 MAY 1958

forwarded and a Li

Date of writing report 16-4-58.

Received London

Port of ROTTERDAM. No.

45245

Survey held at Deest

No. of visits

In shops
On vessel 9

First date

4-10-1957

Last date

14-4-58

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name m.s. "MARGRETHE ROBBERT" Gross tons 1112.02
Owners Mr. R.A. Robbert Managers Port of Registry Copenhagen
Hull built at Deest By Messrs. Scheepsw.Gebr.v.d.Werf Yard No. 275 Year Month
When 1958 4
Main Engines made at Kiel-Friedrichsort By Maschinenbau Kiel Aktienges. Eng. No. 10708 When 1958 1
Gearing made at By
Donkey boilers made at By Blr. Nos. When
Machinery installed at Deest By Messrs.Scheepsw.Gebr. v.d. Werf When 1958 4

Particulars of restricted service of ship, if limited for classification ocean going

Particulars of vegetable or similar cargo oil notation, if required

Is ship to be classed for navigation in ice? yes Is ship intended to carry petroleum in bulk? no

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 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 Heavy oil engine direct coupled to shafting

MAIN RECIPROCATING ENGINES. Licence Name and Type No. M.A.K. type M.S.U. 582 A (see Kiel Rpt. No. 1956)

No. of cylinders per engine 6 Dia. of cylinders 385 mm. stroke(s) 580 mm. 2 or 4 stroke cycle 4 Single or double acting single

Maximum approved BHP per engine 1150 at 300 RPM of engine and 300 RPM of propeller.

Corresponding MIP 10.2 Kg/cm² (or DA engines give MIP top & bottom) Maximum cylinder pressure 55 Kg/cm² Machinery numeral 230

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? no 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 0.34 Kg/cm² Can engine operate without supercharger? yes

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

Material of cylinder covers cast iron Material of piston crowns aluminium alloy Is the engine equipped to operate on heavy fuel oil? no

Cooling medium for: Cylinders F.W. Pistons none Fuel valves none Overall diameter of piston rod for double acting engines

Is the rod fitted with a sleeve? Is welded construction employed for: Bedplate? C.I. Frames? C.I. Entablature? C.I. 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 7200 Liters No. and total area of explosion relief

6 valves total area 564 cm². 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? both (fwd.tanktop (aft-seating) How is the engine started? compressed air

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?

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 5-6-56 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 7 Are main bearings of ball or roller

type? no Distance between inner edges of bearings in way of crank(s) 497 mm. 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 270 mm. Diameter of crankpins Centre 265 mm. Breadth of webs at mid-throw 400 mm. Axial thickness of webs 135 mm.

If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals S.M. steel Minimum Approved Tensile strength

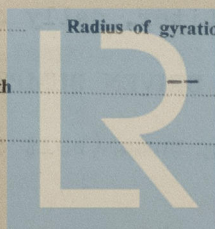
Diameter of flywheel 1500 mm. Weight 2000 Kg. Are balance weights fitted? no Total weight Radius of gyration

Diameter of flywheel shaft Material Minimum approved tensile strength

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

Visits 40

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MAIN GAS TURBINES. Name and Type No.

No. of sets of turbines Open or closed cycle BHP per set at RPM of output shaft
 How is drive transmitted to propeller shaft?
 ARRANGEMENT OF TURBINES. HP drives at RPM HP gas inlet temperature pressure
 (A small diagram should be attached showing gas cycle.) IP drives at RPM IP gas inlet temperature pressure
 LP drives at RPM LP gas inlet temperature pressure
 No. of air compressors per set Centrifugal or axial flow type? Material of turbine blades Material
 compressor blades No. of air coolers per set No. of heat exchangers per set How are turbines started?
 How is reversing effected? Are the turbines operated in conjunction with free piston gas generators?
 Total No. of free piston gas generators Diameter of working pistons Diameter 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 work in the shop? How long at full power?

ELECTRIC PROPULSION (Reciprocating engines or gas turbines. Electrical particulars to be reported on Form 4d.)
 No. of generators KW per generator at RPM AC or DC? Position
 No. of propulsion motors SHP per motor at RPM Position
 How is power obtained for excitation of generators? Motors?

REDUCTION GEARING (Reciprocating engines or gas turbines. A small line sketch should be attached showing arrangement of gearing.)
 Is gearing of single or double helical type? If single, position of gear thrust bearing Is gearing of epicyclic type?
 PCD of pinions: First reduction Second reduction PCD of wheels: First reduction Main
 Material of pinions Tensile strength Material of wheel rims Tensile strength
 Are gear teeth surface hardened? How are teeth finished? Diameter of pinion journals Wheel shaft journals
 Are the wheels of welded construction? Is gearcase of welded construction? Has the wheel/gearcase been heat treated on completion of welding? Where is the propeller thrust bearing located? Are gear bearings of ball or roller type?

CLUTCHES, FLEXIBLE COUPLINGS, ETC. If a clutch or other flexible connection is fitted between engine/turbine and gearing or between engine and line shafting give brief description and, for clutches, state how operated.

On the main engine, the gear for propulsion when de-clutched? If so, what?

STRAIGHT SHAFTING. Diameter of thrustshaft 225 mm. Material S.M. steel Minimum approved tensile strength
 Shaft separate or integral with crank or wheel shaft? separate Diameter of intermediate shaft 220 mm. Material S.M. steel
 Minimum approved tensile strength 52.4 Kg/mm² Diameter of screwshaft cone at large end 225 mm. Is screwshaft fitted with a continuous liner? no
 Diameter of tube shaft. (If these are separate shafts) Is tube shaft fitted with a continuous liner in way of stern tube Thickness of screwshaft liner
 bearings Thickness between bearings Material of screwshaft S.M. steel Minimum approved tensile strength 51.7
 Is an approved oil gland fitted? yes If so, state type Lips van Dam patent Length of bearing next to and supporting propeller 900 mm.
 Material of bearing cast iron In multiple screw vessels is the liner between stern tube and A bracket continuous? If not, is the exposed length of shafting between liners readily visible in dry dock?

PROPELLER. Diameter of propeller 2200 mm. Pitch 1480 mm. Built up or solid solid Total developed surface 56.5%
 No. of blades 4 Blade thickness at top of root fillet 90 mm. Blade material bronze Moment of inertia of dry propeller 965 KGM²
 If propeller is of special design, state type no Is propeller of reversible pitch type? no If so, is it of approved design?
 State method of control Material of spare propeller bronze Moment of inertia 965 KGM²

AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine fitted Can they be de-clutched?
 No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) 2 à 24 M³/h. electric driven, starboardside E.R., Hamburg Cert. No. 56/1497 and 56/1499
 No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) 3 Main à 600 Liters Stbd. side E.R. Hannover Cert. No. 56/330/331.

How are receivers first charged? by electric driven compressor Maximum working pressure of starting air system 30 Kg/cm² Are the safety devices accordance with the Rules? yes Has the starting of the main engines been tested and found satisfactory? yes

COOLERS. No. of main engine fresh water coolers one No. of main engine lubricating oil coolers one

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure One Portside forward in E.R., Cap. = 500 Liter, daily service tank for aux. oil engines (1st platform)

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) 1 bilge pump, 1 S.W. cooling pump, 1 Lub. oil pump, F.W. cooling pump (belt driven from straight shafting)

INDEPENDENT PUMPS Name below essential pumps, state position and how driven. Give capacity of bilge pumps.	Service for which each pump is connected to be marked thus X													
	SUCTION							DELIVERY						
	Bilge Main	Bilge Direct	Ballast Main	Oil Fuel	Fresh Water Cooling	Sea	Feed Tanks	Lub. Oil	Boiler Feed	Salt Water Cooling	Fresh Water Cooling	Oil Fuel Tanks	Fire Main	Lub. Oil
1 bilge à 36 t/h. Stb. aft	x	x				x				x				
1 bilge-ballast à 80 t/h Stb. x			x			x				x				
Stand-by F.W. cooling pump Stb.					x	x					x		x	
Fire pump Stb. platform						x							x	
F.O. Transfer pump Port fwd.				x								x		
Spare Lub. oil pump Portside								x						x

BILGE SUCTIONS. No. and size in each hold, deep tank or pump room 4 à 82,5 mm., 1 à 50 mm. cofferdam midships

No. and size connected to main bilge line in main engine room 1 à 82,5 mm., 1 à 51 mm. In tunnel aft 1 à 125 mm.

In aux. engine room Size and position of direct bilge suction in machinery spaces aft 1 à 125 mm.

Forward 1 à 100 mm. Size and position of emergency bilge suction in machinery spaces
 Is the bilge or ballast system fitted with means for separating oily water on the overboard discharge side? no Do the piping arrangements comply with the Rules including special requirements for ships carrying petroleum in bulk, cargo oil or classed for navigation in ice? (strike out words not applicable). yes

STEAM & OIL ENGINE AUXILIARIES

Position of each	Type	Made by	Port and No. of Rpt. or Cert.	Driven Machinery (For electric generators, state output)
Port fwd. E.R.	6 cyl. oil engine	Klockner-Humboldt-Deutz A.G.	Hamburg Cert. 56/4102	Compound D.C. Generator
Stbd. fwd. E.R.	6 cyl. oil engine	do	" " 57/1233	do
Port aft in E.R.	2 cyl. oil engine	do	" " 56/4049	do

Is electric current used for essential services at sea? yes If so, state the minimum No. and capacity of generators required in order that the ship may operate at sea one shaft generator à 15 K.W. Is an electric generator driven by Main Engine? yes

STEAM INSTALLATION. No. of donkey boilers burning oil fuel W.P. Type
 Position
 Is a superheater fitted? Are these boilers also heated by exhaust gas? No. of donkey boilers heated by exhaust gas only? W.P.
 Type Position Can the exhaust heated boilers deliver steam directly to the steam range or do they operate only as economisers in conjunction with oil fired boilers? Port and No. of report on donkey boilers
 Is steam essential for operation of the ship at sea? Are any steam pipes over 3 ins. bore? If so, what is their material? For oil fired boilers is the arrangement of pipes, valves, controls, etc., in accordance with the Rules? No. of oil burning pressure units No. of steam condensers No. of Evaporators

STEERING GEAR. (State No. and Type of Steam Engines, Electric Motors, Hydraulic Pumps and other particulars) Electric-hydraulic, one pump type Svendborg No. 772

Have the Rule Requirements for fire extinguishing arrangements been complied with? yes Brief description of arrangements In E.R. Foamite app. 2 à 45 L., 3 à 9 Liters, 2 hydrants with hoses, 1 C.O. 2 à 2 Kg., on deck, diesel driven emergency fire pump, 4 à 9 L. Soda acid, 1 à 9 Liters Foamite (galley), Fire hoses and spare fillings supplied as required

Has the spare gear required by the Rules been supplied? yes Has all the machinery been tried under full working conditions and found satisfactory? yes Date and duration of full-power sea trials of main engines 14-4-58 5 hours Does this machinery installation contain any features of a novel or experimental nature? (Give particulars) no

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 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.

The machinery installation of this vessel has been built and fitted on board under Special Survey in accordance with the Society's Rules, approved plans and Secretary's letters.

Crankcase explosion relief devices are fitted and of approved type to the Main oil engine as required.

The materials and workmanship throughout found tested and satisfactory.

With a view to the above this machinery installation is eligible in my opinion to be submitted for notation * L.M.C. 4-58 "Oil Engines", "O.G." in the Society's Register Book.

W. Boone.

Engine 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 (See Kiel Report No. 1956)

CRANKSHAFT OR ROTORSHAFT integral with crankshaft

FLYWHEEL SHAFT

THRUSTSHAFT Lloyd's HNO. C.S. 15-11-57 on housing, Lloyd's Dtm. H.A.K. No. 608A 15-9-58 on after coupling

GEARING

INTERMEDIATE SHAFTS Lloyd's Rot. No. 2059 F.H./W.B. 24-12-57

SCREW AND RUBBER SHAFTS Lloyd's Rot. No. 2052 F.H./W.B. 24-12-57,

PROPELLERS Working:- Lloyd's Rot. No. 7697 A.v.H. 29-10-57, Spare: Lloyd's Rot. No. 7749 A.v.H. 3-12-57.

OTHER IMPORTANT ITEMS Sterntube; Lloyd's Test 3 Kg. G.d.J. 4-10-57 (cast iron)

Is the installation a duplicate of a previous case? yes If so, state name of vessel m.s. "SKERN"

Date of approval of plans for crankshaft -- Straight shafting 5-6-56 Gearing -- Clutch --

Separate oil fuel tanks 26-4-57 Pumping arrangements 13-8-56 & 17-12-56 Oil fuel arrangements 17-12-56

Cargo oil pumping arrangements -- Air receivers 31-8-55 Donkey boilers --

Dates of examination of principal parts:-

Fitting of stern tube 22-1-58 Fitting of propeller 31-1-58 Completion of sea connections 31-1-58 Alignment of crankshaft in main bearings 14-3-58

Engine chocks & bolts 14-3-58 Alignment of gearing -- Alignment of straight shafting 14-3-58 Testing of pumping arrangements 3-4-58

Oil fuel lines 27-3-58 Donkey boiler supports -- Steering machinery 14-4-58 Windlass 14-4-58

Date of Committee FRIDAY 23 MAY 1958 Installation Special Survey Fee Fl. 490.-

Decision See Rpt. 1. Forgings and Castings Fl. 50.-

Expenses

97.-

Date when A/c rendered

when up and



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