40

Report on Oil Engine Machinery.

No. 2189

Report 12th Nov. 1943. When handed in at Local Office 16th Nov. 1943. Port of Malmö. Received at London Office

Survey held at Malmö. Date, First Survey 7th Aug. 1941. Last Survey 11th Nov. 1943. Number of Visits 131.

Single Screw vessel "JULIAN". Tons Gross ... Net ...

Built at Malmö. By whom built Kockums Mek. V. A. B. Yard No. 224. When built 1943.

Engines made at Malmö. By whom made Kockums Mek. V. A. B. Engine No. 251. When made 1943.

Boilers made at Malmö. By whom made Kockums Mek. V. A. B. Boiler No. 982/83. When made 1943.

Horse Power 4500. Owners Hilmar Reksten. Port belonging to Bergen.

Horse Power as per Rule 1361. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which vessel is intended ✓

ENGINES, &c.—Type of Engines MAN. D7Z 60/110 (23 5/8" / 43 5/16"). 2 or 4 stroke cycle 2. Single or double acting Double.

Maximum pressure in cylinders 50 kg. cm². Diameter of cylinders 600 mm. Length of stroke 1100 mm. No. of cylinders 7. No. of cranks 7.

Mean indicated Pressure 5.5 "

Bearings, adjacent to the Crank, measured from inner edge to inner edge 860 mm.

Revolutions per minute (120). Flywheel dia 2093 mm. Weight 5770 kgs. Means of ignition Diesel. Is there a bearing between each crank Yes. Kind of fuel used Heavy Oil.

Semi built. Dia. of journals as per Rule appr. 420 mm; as fitted 420 mm. Crank pin dia. 420 mm. Crank Webs: Mid. length breadth 700 mm; Mid. length thickness 265 mm. Thickness parallel to axis 265 mm. Shrunk Journal. Thickness around eyehole 200 mm.

Shaft, diameter as per Rule appr. 420-372 mm; as fitted 420-372 mm. Intermediate Shafts, diameter as per Rule appr. 354 mm; as fitted 354 mm. Thrust Shaft, diameter at collars as per Rule appr. 375 mm; as fitted 375 mm.

Tube Shaft, diameter as per Rule ...; as fitted ✓. Screw Shaft, diameter as per Rule appr. 395 mm; as fitted 395 mm. Is the screw shaft fitted with a continuous liner Yes.

Liners, thickness in way of bushes as per Rule appr. 20 mm; as fitted 20 mm. Thickness between bushes as per Rule appr. 15 mm; as fitted 15 mm. Is the after end of the liner made watertight in the propeller boss Yes.

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓

If two liners are fitted, is the shaft lapped or protected between the liners ✓

If so, state type ✓. Is an approved Oil Gland or other appliance fitted at the after end of the tube ✓

Propeller dia. 5000 mm. Pitch 4050 mm. No. of blades 4. Material Cast iron. Whether Moveable No. Total Developed Surface 87 sq. feet. Length of Bearing in Stern Bush next to and supporting propeller 1520 mm.

Means of reversing Engines Direct. Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes. Means of lubrication ...

Thickness of cylinder liners 41.5 mm. Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Led to the funnel.

Circulating Water Pumps, No. 2. Each of 220 m³/H. 1 of 35 m³/H. for aux. oil eng. Is the sea provided with an efficient strainer which can be cleared within the vessel Yes.

Bilge Pumps worked from the Main Engines, No. None. Diameter ✓. Stroke ✓. Can one be overhauled while the other is at work ✓

Pumps connected to the Main Bilge Line: No. and Size 3. 1 of 100 m³/H. 1 of 40 m³/H. 1 of 36 m³/H. In main pump room: 1 of 50 m³/H. In pump room fwd.: 1 of 30 m³/H. How driven 1 steam driven. 2 elec. driven. Steam driven. Steam driven.

Where is water led to the ... Led overboard.

✓ ... state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

Ballast Pumps, No. and size 1-100 m³/H.

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2. Each of 135 m³/H.

Are independent means arranged for circulating water through the Oil Cooler Yes.

No. and size. In Machinery Spaces 3-3½". 1-2". 2-3½" in after cofferdam. 2-3½" in main pump room. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps: 2-3½" in dry cargo hold. 2-3½" in fore cofferdam. In Pump Room fwd. 1-3½".

Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-5". 1-4". 1-3½" bilge hose.

Bilge Suction pipes in Holds ... fitted with strum-boxes Yes.

... accessible mud-boxes placed above the level of the working floor, with straight tail pipes to the bilges Yes. Are the Bilge Suctions in the Machinery Spaces ...

Connections fitted direct on the skin of the ship Yes. Are they fitted with Valves or Cocks Both.

... sufficiently high on the ship's side to ... without lifting the platform plates Yes, or by lifting special covers. Are the Overboard Discharges above or below the deep water line Above.

... fitted with a Discharge Valve always accessible on the plating of the vessel Yes. Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes.

... through the bunkers ... How are they protected ✓

... through the deep tanks Suction pipes from cofferdams.

Cocks, Valves, and Pumps in connection with the machinery ... Have they been tested as per Rule Yes.

... valves and their connections ... and all boiler mountings accessible at all times Yes.

... whether Yes ... to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one ... Is the shaft tunnel watertight No tunnel. Is it fitted with a watertight door ✓. Worked from ✓

... what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓

Compressors, No. None. No. of stages ✓. Diameters ✓. Stroke ✓. Driven by ✓

Air Compressors, No. 2. No. of stages 2. Diameters 380 & 110 mm. Stroke 220 mm. Driven by Aux. oil (Dynamo) eng.

Auxiliary Air Compressors, No. 1. No. of stages 2. Size 1.5 m³ atm. air/H. Driven by Aux. generator steam engine.

... for first Charging ✓

2 Tandem ✓

152 mm. 170 mm. 1380 mm. 970 mm. Main engine.

LLOYD'S. 10510. 10512. PK. 12.12.1940

2. Engine Room.

Yes.

L. G. 10/12/43

008533-008540-0216 1/2

AIR RECEIVERS.—Have they been made under survey ... Yes. — ... ✓

Is each receiver, which can be isolated, fitted with a safety valve as per Rule ... Yes. —

Can the internal surfaces of the receivers be examined and cleaned ... Yes ... Is a drain fitted at the lowest part of each receiver ... Yes. —

~~Injection~~ Small Start. Air Receivers, No. 1 ✓ ... Cubic capacity of each 200 litres ... Internal diameter 444 mm. ... thickness 13 mm

Seamless, lap welded or riveted longitudinal joint Seamless — Material Steel. ... Range of tensile strength 51.5 kg. mm.$^{-2}$ ... Working pressure by Rules 64 ...

Starting Air Receivers, No. 2. — ... Total cubic capacity 12 m^3. — ... Internal diameter 1450 mm. ... thickness 25 mm

Seamless, lap welded or riveted longitudinal joint Rivetd. — Material Steel. — Range of tensile strength Shell: 45.0 - 49.4 kg. mm.$^{-2}$ Ends: 46.2 - 46.5 " ... Working pressure by Rules 31 ... ~~Actual~~ 30

IS A DONKEY BOILER FITTED Yes. — ... If so, is a report now forwarded Yes. —

Is the donkey boiler intended to be used for domestic purposes only No —

PLANS. Are the approved plans forwarded herewith for Shafting 19-10-1939 ... Receivers 25-9-1939 & 5-9-1940. ... Separate Fuel Tanks See pl...
(If not, state date of approval)

Donkey Boilers 24-1-1940. ... General Pumping Arrangements 6-6-1941 ... Pumping Arrangements in Machinery Space 5-2-19...

Oil Fuel Burning Arrangements 11-3-1940.

SPARE GEAR

Has the spare gear required by the Rules been supplied Yes.

State the principal additional spare gear supplied Main engine:- 1 top and 1 bottom cylinder cover. 1 complete fuel pump. 1 propeller shaft. 1 castiron propeller.
Auxiliary oil engine:-
1 cylinder cover. 1 cylinder liner. 1 piston.

(Cont. on ...)

The foregoing is a correct description,

Kockums Mek. V. A.-B.
sgd/ G. Lundqvist / E. H. T. ... Manufacturer.

Dates of Survey while building	During progress of work in shops	7/8. 8/8. 13/8. 8/9. 19/9. 18/10. 20/10. 22/10. 29/10. 31/10. 12/11. 13/11. 17/11. 24/11. 25/11. 26/11. 27/11. 28/11. 2/12. 5/12. 9/12. 11/12. 12/12. 12/12. 13/12. 15/12. 16/12. 17/12. 20... 5/1. 9/1. 10/1. 14/1. 15/1. 16/1. 17/1. 19/1. 20/1. 21/1. 22/1. 23/1. 24/1. 26/1. 28/1. 29/1. 30/1. 2/2. 3/2. 4/2. 6/2. 12/2. 13/2. 14/2. 16/2. 18/2. 20/2. 23/2. 27/2... 11/3. 23/3. 1/4. 2/4. 4/4. 7/4. 10/4. 13/4. 14/4. 15/4. 20/4. 22/4. 4/5. 13/5. 3/6. 22/7. 23/7. 30/7. 17/8. 27/8. 28/8. 31/8. 2/9. 14/9. 15/9. 9/10. 10/11. 17/11...
	During erection on board vessel	4/12. 21/12. 31/12. 1942. 4/1. 12/1. 15/1. 16/1. 21/1. 28/1. 29/1. 9/2. 13/4. 30/4. 3/5. 6/5. 10/5. 11/5. 13/5. 14/5. 20/5. 25/5. 26/5. 27/5. 28/5. 31/5. 2/6. ... 4/8
	Total No. of visits	131.

Dates of Examination of principal parts—Cylinders 7/8.1941 - 6/2.1942. (12 visits.) ... Covers 17/11.1941 - 30/1.1942. (6 visits.) ... Pistons 26/11.1941 - 28/8.1942. (4 visits.) ... Rods 22/10.1941 ... Connecting rods 13/...

After trial in shop: Crank shaft 16.2.1942 Flywheel shaft 12.11.1941 ... Thrust shaft 13.5.1942 ... Intermediate shafts 13.5.1942 ... Tube shaft ...

Screw shaft 25.10.1940 Propeller 4.12.1942 ... Stern tube 23.3.1942 ... Engine seatings 31.12.1942 ... Engines holding down bolts 16...

Completion of fitting sea connections 17.11.1942 ... Completion of pumping arrangements 9.7.1943 ... Engines tried under working conditions ...

Crank shaft, Material Steel. ... Identification Mark LLOYD'S 10864.PK 28.3.41 Flywheel shaft, Material Steel ... Identification Mark LLOYD'S 3122...

Thrust shaft, Material Steel. ... Identification Mark LLOYD'S 805.AS 13.5.42 Intermediate shafts, Material Steel ... Identification Marks LLOYD'S 804...

Spare screw ~~Tube~~ shaft, Material Steel. ... Identification Mark LLOYD'S 5164 GA 25.10.40 Screw shaft, Material Steel ... Identification Mark LLOYD'S 516...

Identification Marks on Air Receivers Nos. 99-100. Lloyd's Test 44 kg. cm^2. W.P. 30 kg. cm^2. RB 2-2-1942.

Is the flash point of the oil to be used over 150° F. Yes. —

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with Yes. —

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo Tanker — If so, have the requirements of the Rules been complied with ...

If the notation for Ice Strengthening is desired state whether the requirements in this respect have been complied with — No.

Is this machinery duplicate of a previous case Yes. — If so, state name of vessel M/T "BEAUREGARD", Mmo. F.E. Rpt. No. 215...

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The aux. power machinery of this vessel com... 3 cyl. 4 stroke, single acting, compressorless, heavy oil engines, built by Messrs. Kockums M... Malmö. The cylinders are 275 mm. in diam., stroke 420 mm. & R.P.M. = 350. Each eng. is driving an... generator of 180 K.W., 230 V. & 435 A. A steam eng. driven generator of 25 K.W. is also installed.

The main and aux. engines of this vessel have been built under special survey in... with the Rules and the approved plans. The materials fulfil the Rule requirements a... workmanship is good. The shaftings as per forging reports enclosed.

The machinery of this vessel is eligible, in our opinion, to be classed in the Reg. ... Society with record of ✠LMC with date, when the survey has been completed.

Working pressure of donkey boilers 171 lbs./□".

Surveyors' Office, Malmö, when survey completed.

(90% of total fee has been applied for)

The amount of Entry Fee	£ Kr. 102:60	When applied for, 16th Nov. 1943.
Special S.S. of 2 start. air receivers	£ Kr. 2291:83	
Test. & insp. of forgings.	£ Kr. 107:73	When received, 19
	£ Kr. 36:03	

Adlundin, A. Bö... Engineer Surveyors to Lloyd's Register of ...

COMMITTEE'S MINUTE FRI. 14 JAN 1944 No action // TUES. 23 OCT 1945 +LMC 7,45 Oil Eng.
CL. 2 DB 17.16.

II
Mchy.

Malmö 2189 16th Nov., 1943

M/T "JULIAN", Messrs. Kockums Yard No. 224.

Additional pumps installed:-

In motor space:-

1 sanitary pump of 20 m^3/H.	Electric driven.
2 " " " 3 "	" "
1 oil transfer " " 23 "	" "
1 cooling water pump for nozzles of 3 m^3/H.	" "
2 units of oil fuel pumps for Donkey boilers.	Steam driven.
2 feed pumps, Duplex 6" × 4" × 6" for Donkey boilers.	" "

In main pump room:-

2 cargo pumps, Duplex 16" × 14" × 18".

To complete survey:-

The main and auxiliary engines and pumps to be tried under working conditions.

It cannot be stated when the survey will be completed.

0216 2/2