

18 SEP 1924

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 4469

Date of writing Report 1-8-1924 When handed in at Local Office 10 Port of Kobe
 Received at London Office
 No. in Survey held at Tama, Uno Date, First Survey 18th JANY 1924 Last Survey 27th July 1924
 Reg. Book. Number of Visits 23
 38045. on the Single Motor AKAGISAN MARU Tons { Gross 4630.58
 Triple } Screw Vessel No. 2810.52
 Master Built at Uno, Japan By whom built Mitsui Bussan Kaisha Yard No. 63 When built 1924
 Engines made at Copenhagen By whom made Akts. Burmeister & Wain Engine No. 996 When made 1923
 Maskin og Skibsbyggeri
 Donkey Boilers made at Uno, Japan. By whom made Mitsui Bussan K. Ltd. Boiler No. 63 When made 1924
 Brake Horse Power 1950 Owners Mitsui Bussan Kaisha Ltd. Port belonging to Tokio, Japan.
 Indicated " 2600
 Nom. Horse Power as per Rule 489 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

OIL ENGINES, &c.—Type of Engines Vertical Diesel Oil Engine 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 35 Kg/cm² No. of cylinders 6 No. of cranks 6 Diameter of cylinders 740 m/m = 29 1/8"
 Length of stroke 1500 m/m = 59 1/16" Revolutions per minute 95 Means of ignition air compression Kind of fuel used Crude Oil (Flash point above 150°F.)
 Is there a bearing between each crank yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 1004 m/m
 Distance between centres of main bearings 1450 m/m Is a flywheel fitted yes Diameter of crank shaft journals as per Rule 470.16 m/m
 as fitted 472 m/m Diameter of crank pins 472 m/m Breadth of crank webs as approved 870 m/m as fitted 870 m/m Thickness of ditto as approved 310 m/m
 as fitted 310 m/m Diameter of flywheel shaft as per Rule 470.16 m/m Diameter of tunnel shaft as per Rule 12.876" as fitted 13"
 Diameter of screw shaft as per Rule 13.77" as fitted 14" Diameter of thrust shaft as per Rule 13.51" as fitted 13 5/8"
 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 joints burned -
 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 yes
 If two liners are fitted, is the shaft lapped or protected between the liners - If without liners, is the shaft arranged to run in oil -
 Type of outer gland fitted to stern tube - Length of stern bush 510" Diameter of propeller 15"-9"
 Pitch of propeller 12'-0" No. of blades 4 state whether moveable no Total surface 76 square feet
 Method of reversing direct reversible Governor or other arrangement fitted to prevent racing of the engine when declutched yes Thickness of cylinder liners 53.5 m/m
 Are the cylinders fitted with safety valves yes Means of lubrication Forced lubrication Are the exhaust pipes and silencers water cooled or lagged with
 non-conducting material Pipes water cooled or lagged of the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine
 Silencers lagged. No. of cooling water pumps one Is the sea suction provided with an efficient strainer which can be cleared
 within the vessel No. of bilge pumps fitted to the main engines 2 off Diameter of ditto 160 m/m Stroke 220 m/m
 Can one be overhauled while the other is at work Yes No. of auxiliary pumps connected to the main bilge lines one How driven Electro motor
 Sizes of pumps Diam=6 1/2" Stroke=9" No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room six 4 1/2"
 and in holds, etc. Nos. 1, 2, 3, & 4, Holds—Each two 3" No. of ballast pumps one How driven Motor with reduction gear Sizes of pumps 150 tons/hour
 Is the ballast pump fitted with a direct suction from the engine room bilges yes State size 4 1/2" Is a separate auxiliary pump suction fitted in
 Engine Room and size yes - 4 1/2" Are all the bilge suction pipes fitted with roses yes Are the roses in Engine Room always accessible yes
 Are the sluices on Engine Room bulkheads always accessible none Are all connections with the sea direct on the skin of the ship yes
 Are they valves or cocks valves Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates yes
 Are the discharge pipes above or below the deep water line above Are they each fitted with a discharge valve always accessible on the plating of the vessel yes
 Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times yes Are the bilge suction pipes, cocks and valves arranged so as to prevent any
 communication between the sea and the bilges yes Is the screw shaft tunnel watertight yes Is it fitted with a watertight door yes
 worked from of Engine Room Upper platform If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork -
 No. of main air compressors 1 off No. of stages 3 Diameter 150 m/m Stroke 480 m/m Driven by the main oil engine.
 No. of auxiliary air compressors 3 off No. of stages 3 Diameter 170 m/m Stroke 170 m/m Driven by Auxiliary oil engine.
 No. of small auxiliary air compressors 1 off No. of stages 2 Diameter 140 m/m Stroke 140 m/m Driven by hand
 No. of scavenging air pumps - Diameter - Stroke - Driven by -
 Diameter of auxiliary Diesel Engine crank shafts as approved 154 m/m as fitted 154 m/m Are the air compressors and their coolers made so as to be easy of access yes

IR RECEIVERS:—No. of high pressure air receivers I-2 off I=17 3/4" I-500 litres
 II-1 off Internal diameter II=15 3/4" II-250 "
 III-3 off III=7 1/2" III-25 "
 material Siemens Martin St. Seamless, lap welded or riveted longitudinal joint Seamless Range of tensile strength 26-30 tons per sq"
 thickness I - 5/8" working pressure 65 ATM No. of starting air receivers 2 off Internal diameter 5'-11" & 6'-1"
 II - 3/8" Total cubic capacity 2x 550 cubic feet Material Siemens Martin St. Seamless, lap welded or riveted longitudinal joint Riveted
 III - 3/8" Range of tensile strength Shell=28.8-30.6 tons Shell=1" 15/16 + 1/32" Working pressure by rules 25 Atm 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 yes What means are provided for cleaning their
 inner surfaces The starting air receivers are fitted with Manholes Is there a drain arrangement fitted at the lowest part of each receiver yes

Main Air Compressor



Auxiliary Air Compressor

IS A DONKEY BOILER FITTED?

yes

If so, is a report now forwarded?

yes

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	See Copenhagen Report No. 6688.				
COVERS					
JACKETS					
PISTON WATER PASSAGES					
MAIN COMPRESSORS—1st STAGE					
2nd					
3rd					
AIR RECEIVERS—STARTING					
INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER					
WATER JACKET of Pipes					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting (If not, state date of approval) **See Copenhagen Report No. 6688** Receivers **CPN. Report 6688** Separate Tanks **CPN Report 6688**

SPARE GEAR As per accompanying list.

The foregoing is a correct description,

PER PRO-MITSUI BUSSAN KAISHA, LTD.
Suka
SUB-MANAGER.

Dates of Survey while building	During progress of work in shops -	See Copenhagen Report No. 6688 also 1st. April 1924
	During erection on board vessel -	1924, Jan. 18, 26, 27, 31; Feb. 12, 23; Mar. 1, 12, 15, 19, 20, 23; 1924 Apr. 2, 22; May 17, 23, 31; June 6, 13, 19, 23, 24; July 3, 14, 17, 18, 27.
Total No. of visits		28
Dates of Examination of principal parts—Cylinders	<input checked="" type="checkbox"/>	Covers <input checked="" type="checkbox"/>
Pistons	<input checked="" type="checkbox"/>	Rods <input checked="" type="checkbox"/>
Connecting rods	<input checked="" type="checkbox"/>	Engines tried under working conditions
15/3/24		14-7-24
Crank shaft	<input checked="" type="checkbox"/>	Thrust shaft <input checked="" type="checkbox"/>
Tunnel shafts	<input checked="" type="checkbox"/>	Screw shaft <input checked="" type="checkbox"/>
Propeller	<input checked="" type="checkbox"/>	Stern tube <input checked="" type="checkbox"/>
Engine sealings		12/3/24
Engines holding down bolts	23/5/24	Completion of pumping arrangements
14-7-24		12/3/24
Completion of fitting sea connections		Screw shaft and propeller
19/3/24		Lloyd's No. 6707
Material of crank shaft	S.M. Ing. Steel	Identification Mark on Do. & 17.9.23
Material of thrust shaft	S.M. Ing. Steel	Identification Mark on Do. & 17.9.23
Material of tunnel shafts	S.M. -do-	Identification Marks on Do. & 27.9.23
Material of screw shafts	S.M. -do-	Identification Marks on Do. & 27.9.23
Is the flash point of the oil to be used over 150° F.	Yes	
Is this machinery duplicate of a previous case	no	If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been fitted on board in accordance with the requirements of the rules, and approved plans. and all the requirements of Sect. 35 have been complied with.

The materials and workmanship are good.

The machinery has been tried under full power working conditions and worked satisfactorily.

The machinery is eligible in our opinion for the record of * LMC 7.24 (and "Fitted for oil fuel")

7.24., FP above 150° Fah

It is submitted that this vessel is eligible for THE RECORD. + LMC 7.24. CL. Oil Engines 4 SC. SA. 489 NHP. 6 Cy 29 1/8" - 59 1/8" DB 80 lb.

Certificate (if required) to be sent to... (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee ...	YEN 50 ⁰⁰	When applied for,
1/2 Special SURVEY FEE ...	¥ 295 ⁰⁰	1 st Aug. 1924
Donkey Boiler Fee ...	¥ SEE REPORT	When received,
Travelling Expenses (if any)	¥ SEE HULL FPI	14 th Aug. 1924

CERTIFICATE WRITTEN *Adlath + H.B. Buchanan*
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI 26 SEP 1924**

Assigned *L.M.C. 7.24. C.L. oil engines H.B. 80 lb.*

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