

REPORT OF SURVEY FOR REPAIRS, &c., OF ENGINES AND BOILERS

(Received at London Office)

NO FEB 1951

Date of writing Report 25th January 51 When handed in at Local Office 25th January 51 Port of KIEL

No. in Survey held at KIEL Date. First Survey 14th November Last Survey 31st December 1950
(No. of Visits 22)

71624 on the Machinery of the Wood, Iron or Steel M.V. "OTIS"

Tonnage { Gross ?
Net ?
Nominal } 200
Horse Power }
No. of Main Boilers -
No. of Donkey Boilers 1
Steam Pressure in Main Boilers -
in Donkey Boilers 100 lb

Vessel built at Hamburg By whom Deutsche Werft A.G., Betr. Reiherstiegiwerft When 1936 11
Engines made at Trollhättan By whom Nydqvist & Holm A-B. When 1936
Boilers, when made (Main) - (Donkey) 1936
Owners A/B Aug. Jeffler & Son Owners' Address -
Managers Otto Kihlström Port Gothenburg Voyage -
If Surveyed Afloat or in Dry Dock Howaldtswerke Floating Dock No. 1
(State name of Dock.) Howaldtswerke Kiel afloat

Last Report No. _____ Port _____

Particulars of Examination and Repairs (if any) Damage and Installation of New Machinery DBS, TS
(Periodical Surveys, when held, must be reported in detail and serially in the terms of the Rules. State clearly the cause of Repairs, if any, and, in detail, the nature and extent of Examinations and subsequent Repairs. Repairs on account of Damage (the cause of which must be stated) should be separated from Repairs due to other causes; and besides being detailed in the body of the report, should be briefly summarised at the end of the report. State also the dates and initials of any letters respecting this case.....)

CHARACTER. for Special Survey. Date of last Survey and of Periodical Surveys.	Years assigned now expired.	Machinery and Boiler Surveys (including date of N.E., if any)
+ 100 A 1		+ LMC 4, 50
4, 50		+ LMC (N) 5, 48
Seton - 4.50		DBS 4, 50
Carrying Petroleum in Bulk		TS (CL) 3, 50
Strengthened for Navigation in Ice		

In damage cases where the Surveyor has ~~not~~ made a special damage report he is required to state whether he offered his services for this purpose, and why they were declined yes, Report herewith

Was a damage report made by anyone else? If so, by whom? yes, U.W.'s Surveyor

Did the Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? yes
" " Donkey " " " " yes

If not, state for what reasons _____ What parts of the Boilers could not be thus thoroughly examined? _____

What special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler? _____

State latest date of internal examination of each boiler 7/12/51 Present condition of funnel(s) good

Did the Surveyor examine the Safety Valves of the Main Boilers? yes To what pressure were they afterwards adjusted under steam? 100 lbs/□ "

Did the Surveyor examine the Safety Valves of the Donkey Boilers? yes To what pressure were they afterwards adjusted under steam? yes

Did the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? yes and of the Donkey Boilers? yes

Did the Surveyor examine the drain plugs of the Main Boilers? yes and of the Donkey Boilers? yes

Did the Surveyor examine all the mountings of the Main Boilers? yes and of the Donkey Boilers? yes

Has the screw shaft now been drawn and examined? yes Has it a continuous liner? yes Is an approved oil retaining appliance fitted at the after end? no

Has shaft now been changed? yes If so, state reasons Owners' wish Has the shaft now fitted been previously used? no Has it a continuous liner? yes

Is an approved oil retaining appliance fitted at the after end? no State date of examination of Screw Shaft 7/12/50 State the wear down in the stern bush close Is electric light and/or power fitted? yes If so, did the Surveyor examine the generators, motors, switchgear, cables and fuses? yes

Has the insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms? yes
Engine parts, when referred to by numbers, should be counted from forward.

If the Survey is not complete, state what arrangements have been made for its completion and what remains to be done Complete

NOW DONE (for damage stated to have been sustained by main engine)

After the main engine had been removed ashore it was generally examined externally and no defects found, whereupon it was recommended that 2 cylinders be opened out for further examination. No. 1 & 2 cylinders, pistons, covers, connecting rods, bottom end bearings, main bearings and crankshaft pins and journals, top end bearings and gudgeon pins and attached pumps examined. Camshaft and valve gear examined in place. The following defects were noted:-
1. Cylinder liners and piston - worn but not damaged.
2. Bottom ends - white metal cracked and loose.
3. Top end bearings and gudgeon pins worn but not damaged.
4. M.E. pumps - castings wasted and soft.
5. Crankshaft - slight pitting at No. 2 crankpin.

These defects were considered to be due to wear & tear, but the cracked white metal of Nos. 1 & 2 bottom ends and the pitting of No. 2 crankpin could be attributed to maladjustment and contamination of lubricating oil, respectively. P.T.O.

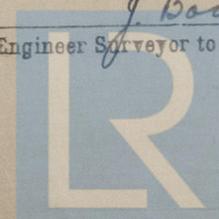
General Observations, Opinion, and Recommendation:-

(State clearly what alteration, if any, is suggested to be made in the existing classification of the vessel's machinery in the Register Book, consequent upon this survey, and also any alteration required to be made in the records of the vessel's machinery, boilers, working pressures, &c.; thus, for example, DS 9,11, D&MS 9,11 *LMC 9,11 or *LMC 140 lb., FD, &c.)

The machinery of this vessel, as far as now seen, is eligible, in my opinion, to remain as classed with fresh records of DBS 12,50 and TS (CL) N 12,50, and to have the notation + NE made 49, fitted 50 in the Register Book, subject to shaft spare coupling bolts being verified and to the torsional vibration characteristics for the main propelling machinery being approved.

Survey Fee (per Section 29) <u>+ N.E.</u>	£ 54 : 0 : 0	Fees applied for
<u>T.S. Cl.</u>	4 : 0 : 0	
Special Damage or Repair Fee (if any) <u>D.B.S.</u>	£ 5 : 5 : 0	Received by me,
<u>W & T. mpts</u>	7 : 0 : 0	
Travelling expenses (if chargeable) <u>Expenses</u>	£ 5 : 10 : 0	
Committee's Minute <u>SUNDAY FEE 31/12/50</u>	8 : 8 : 0	

J. Bowman
Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation
009962-009975-0225 1/2
Feb. 27/2

Insert Character of Ship and Machinery precisely as in the Register Book.

REPAIRS

No repairs have been effected as the Owners had not then decided whether the engine would again be put into service, and the engine is at present being retained in the workshop of Messrs. Howaldtswerke Kiel.

Damage stated to have been caused by grounding at Dieppe on 9th - 11th November 1950.

NOW DONE: (Grounding)

Vessel placed in dry dock, propeller, sea valves (opened out) and outside fastenings examined and found or placed in good order.
Port aux. engine - cylinder jackets, liners, covers and pistons examined and found or placed in good order.

Repairs for Damage

Sea valves ground in, cleaned and repacked.
Aux. engine cooling water spaces cleared of sand and mud.
Nos. 3 & 4 pistons and rings renewed.

INSTALLATION OF NEW PROPELLING MACHINERY

Old main engine, auxiliary engines, pumps, motors, air vessels, O.F. settling tanks and donkey boiler removed ashore.
Vessel placed in dry dock, propeller, stern bush, sea valves and their outside fastenings examined and found or placed in good order.
Tailshaft drawn and examined and placed in good order and stowed on board as spare.
Owners spare tailshaft examined, found in unused condition, and fitted in vessel as working tailshaft on Owners' instructions.
New main engine and thrust shaft made by Messrs. Nydquist & Holm A.B. (see Gothenburg F.E. report No. 16748) installed on new engine seating.
New intermediate shaft, forged from LLOYD'S tested bar, machined and fitted.

The following parts of old auxiliary machinery have been opened out and examined and found or placed in good order:

- 3 auxiliary engines and dynamos (1 - 3 cyl; 1 - 4 cyl., on starboard side, (1 - 4 cyl. on port side.)
- 2 main and 1 aux. starting air vessel.

The following new auxiliaries have been installed:

- 1 lub. oil cooler. (Lloyd's Test 3.2.49)
- 1 cooling water pump
- 1 lub. oil pump (geared) } Makers' certificates herewith.

Pipe arrangements for bilge pumping and cooling water amended as per approved plan.

The following original machinery was overhauled ashore and refitted in the vessel, but no opportunity was afforded for internal examination:

- Both compressors.
- Boiler feed pump.
- Fire & sanitary pump.
- O.F. transfer pump.
- O.F. settling tanks.

The O.F. settling tanks were examined externally and the overflow pipes altered and led to a drain tank in lower part of engine room. The drain tank has been fitted with an automatic alarm bell.

DONKEY BOILER examined in its entirety and the safety valves adjusted under steam to 100 lbs/□ "

REPAIRS

Owners' new propeller fitted (see certificate attached).
Tailshaft (now spare) liner machined.
Funnel renewed.
Generator engines - (starbd. 3 cyl.) all bearings reinstalled and gudgeons renewed.
" " 4 cyl.) all bearings reinstalled and compressor clutch renewed.
1 new sea injection valve fitted.
Minor repairs effected.

Main and auxiliary machinery tried out under working conditions and while running the main engine at the pre-arranged speed of 205 R.P.M. all was found satisfactory.

Towards the end of the trial the main engine R.P.M. was increased to 250 and slight overheating and scouring of No. 5 piston and cylinder liner occurred, but it is considered that the efficiency of the engine is not affected thereby, and it was agreed with the Owners Representatives that a further "running in" period at 205 R.P.M. would be allowed before speed is again increased to 250 R.P.M.

SPARE GEAR: Coupling bolts for intermediate shaft coupling were not on board at the time of vessel's departure, but it is stated that these have since been forwarded to the vessel in Sweden.

T.V.C. It is understood that the torsional vibration calculations are being submitted by the engine builders (see Secretary's letter 21/11/50)

Condition of class in respect of the old main engine should now be deleted.

Note: Subsequent to the preparation of this report, the copy of the Secretary's letter of the 25th January/1951 addressed to the Gothenburg Surveyors has been received.

In this connection, it should be noted that this vessel left Kiel on 31st December 1950 and the fitting of the notice board and marking of tachometer had not then been effected.

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