

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 574

2-DEC 1955

Received at London Office

Port of Augsburg, Moritzplatz 4

Date of writing Report 20th Sept. 55

When handed in at Local Office

19

Port of

No. in Reg. Book.

Survey held at

Mannheim

Date, First Survey 20th July,

Last Survey 13th Sept. 1955

Number of Visits 4

Single
on the Twin
Triple
Quadruple

Screw vessel

Tons

Gross
Net

Built at Bremen

By whom built Messrs. Rolandwerft

T.W. Sec Yard No. 857

When built

Engines made at Mannheim

By whom made Messrs. Motorenwerke Mannheim AG. Engine No. 2904/2

When made 1955

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power

Maximum

Service 1000

Owners

Port belonging to

M.N. as per Rule

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

OIL ENGINES, &c. — Type of Engines TRH 348 AU, supercharged 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 58 kg/cm² Diameter of cylinders 320 mm Length of stroke 480 mm No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure

9.4 kg/cm²

Span of bearings (i.e., distance between inner edges of bearings in

way of a crank) 90 mm

Is there a bearing between each crank yes

Revolutions per minute

Maximum

Service 375

Means of ignition dir. in Kind of fuel used gas oil

Flywheel dia. 1000 mm Weight 310 kgs.

Moment of inertia of flywheel (lbs. in² or Kg. cm²) 100 kgm²

" " " " balance wts. (" " " ")

Crank Shaft, Solid forged
Semi-built
All-built

dia. of journals

as per Rule

as fitted 220 mm

Crank pin dia.

200 mm

Crank webs

Mid. length breadth 320 mm

Mid. length thickness 100 mm

Thickness parallel to axis

Thickness around eyehole

Flywheel Shaft, diameter

as per Rule

as fitted

Intermediate Shafts, diameter

as per Rule

as fitted

Thrust Shaft, diameter at collars

as per Rule

as fitted

Tube Shaft, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule

as fitted

Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes

as per Rule

as fitted

Thickness between bushes

as per Rule

as fitted

Is the after end of the liner made watertight in the

propeller boss

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

end of stern tube

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

Propeller, dia.

Pitch

No. of blades

Material

whether moveable

Total developed surface

sq. feet

Moment of inertia of propeller including entrained water (lbs. in² or Kg. cm²)

Kind of damper, if fitted

Method of reversing Engines

Is a governor or other arrangement fitted to prevent racing of the engine yes Means of

lubrication forced

Thickness of cylinder liners 20 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

Cooling Water Pumps, No. and how driven 1 x 45 m³/h eff. Working F.W.

S.W.

Spare F.W.

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. and capacity

1 x 31 m³/h eff. Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line

No. and capacity of each

How driven

Is the cooling water led to the bilges

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements

Power Driven Lubricating Oil Pumps, including spare pump, No. and size

Ballast Pumps, No. and capacity

Are two independent means arranged for circulating water through the Oil Cooler

No. and size:—In machinery spaces

In pump room

In holds, &c.

Direct Bilge Suctions to the engine room bilges, No. and size

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes

Are the bilge suction pipes in the machinery spaces led from easily

accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Are all Sea Connections fitted direct on the skin of the Ship

Are they fitted with valves or cocks

sufficiently high on the ship's side to be seen without lifting the platform plates

Are the overboard discharges above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel

Are the blow off cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers

How are they protected

What pipes pass through the deep tanks

Have they been tested as per Rule

Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery

spaces, or from one compartment to another

Is the shaft tunnel watertight

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No.

No. of stages

Auxiliary Air Compressors, No.

No. of stages

Small Auxiliary Air Compressors, No.

No. of stages

What provision is made for first charging the air receivers

How driven

Scavenging Air Pumps or Blowers, No.

Engine Nos. 93 532 93 533

Auxiliary Engines

Have they been made under survey yes

Makers' name Messrs. Süddeutsche Bremsen A.G.

Position of each in engine room

Munich

Augsburg Report No. 538 c 542 c

6970-667110-167110

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AIR RECEIVERS:—Have they been made under survey yes State No. of report or certificate DSF 55: 2398, 2401, 2400, 2
State full details of safety devices safety valve on each air receiver
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 Air Receivers, No. - Cubic capacity of each - Internal diameter - thickness -
Seamless, welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure -
Starting Air Receivers, Nos. 5 for 2 engines Total cubic capacity 2,500 Internal diameter 464 mm thickness 10 mm
see F.E. Report No. 573 b
Seamless, welded or riveted longitudinal joint fus. welded Material S.M. Steel Range of tensile strength 49.7 kg/mm² Working pressure 33 Atm.
IS A DONKEY BOILER FITTED - If so, is a report now forwarded -
Is the donkey boiler intended to be used for domestic purposes only -
PLANS. Are approved plans forwarded herewith for shafting no: approved 9.6.55 Receivers - Separate fuel tanks -
(If not, state date of approval)
Donkey boilers - General pumping arrangements - Pumping arrangements in machinery space -
Oil fuel burning arrangements -
Have Torsional Vibration characteristics been approved yes Date and particulars of approval London letter to Hamburg, dd. 14.5.52
SPARE GEAR.
Has the spare gear required by the Rules been supplied yes State if for "short voyages" only -
State the principal additional spare gear supplied -

EINLAGE
593MOTOREN-WERKE MANNHEIM A.G.
VORM. DENZ ABT. STAT. MASCHINENBAU

The foregoing is a correct description

Manufacturer.

Dates of Survey while building
During progress of work in shops - 1955: July, 20th, 23rd, August 3rd, September 13th.
During erection on board vessel - 4
Total No. of visits 4
Dates of examination of principal parts—Cylinders 22.7.55 Covers 22.7.55 Pistons - Rods - Connecting rods 26.5.55
Crank shaft 20.7.55 Flywheel shaft - Thrust shaft - Intermediate shafts - Tube shaft -
Screw shaft - Propeller - Stern tube - Engine seatings - Engine holding down bolts -
Completion of fitting sea connections - Completion of pumping arrangements - Engines tried under working conditions -
Crank shaft, material S.M. Steel Identification mark 18057 Flywheel shaft, material - Identification mark -
Thrust shaft, material - Identification mark W.S.E. 20.7.55 Intermediate shafts, material - Identification marks -
Tube shaft, material - Identification mark - Screw shaft, material - Identification mark -
Identification marks on air receivers 50 - 7640 - 7641 - 7642 - 7644 - 7649 - 7647
Welded receivers, state Makers' Name LLOYDS TEST DSE Messrs. Wilhelm Siebel of Freudenberg/S
Is the flash point of the oil to be used over 150°F -
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with -
Full description of fire extinguishing apparatus fitted in machinery spaces -
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo - If so, have the requirements of the Rules been complied with -
What is the special notation desired -
If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with -
Is this machinery duplicate of a previous case - If so, state name of vessel -

General Remarks (State quality of workmanship, opinions as to class, Speed restrictions, &c.)
This heavy oil main engine has been constructed under special survey in accordance with the requirements of the Rules and Regulations of this Society and otherwise with the approved plans. The material used in the construction is good and the workmanship was found to be satisfactory. The engine has been tested running on makers' test bed under full-, over-, and partial loads with satisfactory results. In my opinion the vessel for which this engine is intended will be eligible for the notation L.M.C. (with date) when the whole machinery has been satisfactorily fitted aboard the vessel and has been tried under full working conditions.

Survey
The amount of Entry Fee 1,000 BHP 1.050.-
Final insp. crankshaft 20.-
Special ...
Test bed trial 80.-
Donkey Boiler Fee xxxxxx
Travelling Expenses (if any) 60.-
Total DM 1210.-

When applied for 19
When received 19

TUESDAY 10 JUL 1956

Committee's Minute

Assigned

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register
Foundation