

REPORT ON OIL ENGINE MACHINERY.

No. 9514

2 OCT 1933

Received at London Office

Writing Report 28th Sept. 1933 When handed in at Local Office 29th Sept. 1933 Port of Gothenburg
Survey held at Gothenburg Date, First Survey 16th June Last Survey 24th Sept. 1933
Number of Visits 4

on the Single Twin Triple Quadruple Screw vessel "WASHINGTON EXPRESS" Tons { Gross 3643
Net 2165

at GOTHENBURG By whom built A.B. GÖTAVERKEN Yard No. 476 When built 1933
at GOTHENBURG By whom made A.B. GÖTAVERKEN Engine No. 10478 When made 1933
rs made at ✓ By whom made ✓ Boiler No. ✓ When made ✓
Power 4030 Owners SKIBS A/S SEATTLE Port belonging to 0340
Number as per Rule 724 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes
The vessel is intended General.

Type of Engines Two diesel oil engines 2 or 4 stroke cycle 4 Single or double acting single
in cylinders 49 Diameter of cylinders 21 5/8" [550 mm] Length of stroke 39 3/8" [1000 mm] No. of cylinders 16 No. of cranks 16
adjacent to the Crank, measured from inner edge to inner edge 724 mm Is there a bearing between each crank yes
Flywheel dia. None Weight ✓ Means of ignition Diesel system Kind of fuel used Diesel fuel oil
of journals as per Rule 347 mm Crank pin dia. 350 mm Crank Webs shrink Mid. length breadth ✓ Thickness parallel to axis 197-213 mm
diameter as per Rule 350 mm Intermediate Shafts, diameter as per Rule 237-245 mm Thrust Shaft, diameter at collars as per Rule 260 mm
Screw Shaft, diameter as per Rule 275-275 mm Is the shaft fitted with a continuous liner Yes
thickness in way of bushes as per Rule 16 mm Thickness between bushes as per Rule 12 mm Is the after end of the liner made watertight in the Yes

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes
Is the shaft lapped or protected between the liners ✓ Is an approved Oil Gland or other appliance fitted at the after end of the tube Yes
Length of Bearing in Stern Bush next to and supporting propeller 1350 mm
Pitch 124 mm No. of blades 3 Material Brongze whether Moveable No Total Developed Surface 2 x 3.56 = 7.12 sq. m
Engines with compressed air a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication oil
thickness of cylinder liners 34 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with lagged

Pumps, No. one - 100 tons/hour Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes
Diameter 150 mm Stroke 127 mm Can one be overhauled while the other is at work yes
to the Main Bilge Line { No. and Size one 100 tons ballant, one 20 tons plunger, two 20 tons plunger
How driven Electrically Electrically Main engines
No. and size one - 100 tons/hour Lubricating Oil Pumps, including Spare Pump, No. and size two - 22 tons/hour each
Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps yes

In Machinery Spaces Three - 3", Two - 2 1/2", One 2 1/2" from cofferdam, One 2 1/2" from Pump Room
Hold - 2 x 3", No. 2 hold - 2 x 3", No. 3 hold - 4 x 2 1/2"
Power Pump Direct Suctions to the Engine Room Bilges, No. and size one 5", one 3"
Suction pipes in Holds and Tunnel Well fitted with stream-boxes yes Are the Bilge Suctions in the Machinery Spaces yes
Are they fitted with Valves or Cocks yes
Are the Overboard Discharges above or below the deep water line Above
Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓

rough the bunkers No coal bunkers How are they protected ✓
rough the deep tanks None Have they been tested as per Rule ✓
Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes
Is a drain fitted at the lowest part of each receiver yes
Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from upper engine room platform

Compressors, No. Two No. of stages 2 Diameters 280 & 320 mm Stroke 150 mm Driven by Electric motors
Air Compressors, No. one No. of stages 2 Diameters 34 & 106 mm Stroke 80 mm Driven by Crude oil engine
Pumps, No. as per Rule 160 mm Diameter 160 mm Stroke 4 Driven by ✓
Position at the fore end in the engine room

RECEIVERS:— Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes
Is a drain fitted at the lowest part of each receiver yes
Air Receivers, No. one Cubic capacity of each 250 litres Internal diameter 380 mm thickness 15 mm
by Rules 48.5 kg/cm² Working pressure Actual 40 kg/cm²
lap welded or riveted longitudinal joint Lap welded Material S. 4. Steel Range of tensile strength 40.6-41.2 kg/mm² Working pressure Actual 40 kg/cm²
ing Air Receivers, No. Two Total cubic capacity 2 x 1/4 m³ = 28 m³ Internal diameter 1600-1644 mm thickness 22-22.5 mm
by Rules 25.9 kg/cm² Working pressure Actual 25 kg/cm²
lap welded or riveted longitudinal joint Riveted Material S. 4. Steel Range of tensile strength 45.4-50.0 kg/mm² Working pressure Actual 25 kg/cm²

IS A DONKEY BOILER FITTED? *No*

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 *2 1/2, 2 1/3, 2 1/2 1933* Receivers *2 1/2, 2 1/3 - 1933* Separate Tanks *1 1/6 - 1933*
(If not, state date of approval) Donkey Boilers General Pumping Arrangements *8/3 - 1933* Oil Fuel Burning Arrangements

SPARE GEAR.

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

State the principal additional spare gear supplied *For the main engines: One cylinder liner, 1 cooling jacket, 14 exhaust valves with 4 extra spindles, 6 fuel valves and 3 spindles for same, 10 atomizers, 3 sets of piston rings for one piston, 4 crosshead bearing halves, 6 halves of crank pin brasses, 2 halves of journal brasses, for the fuel pumps: 8 suction valves, 8 plungers with liners, 8 valve chests with valves, 4 delivery pipes between pump & fuel valve, one propeller shaft, 2 cast iron propellers.*

For the auxiliary engines: 1 cylinder with cover complete, 4 sets of piston rings for one piston, 4 fuel valves complete, 8 fuel non return valves, 8 fuel pump slide valves with liners, 15 exhaust valves and 8 extra spindles for same, 1 starting air valve, 2 halves of crosshead brasses, 4 halves of crank pin brasses, 4 halves of journal brasses, 1 set of piston rings for a manoeuvring compressor, 2 vanes for the ball pump, 3 sets of valves and seats for bilge & ballast pump, 8 number of springs & packings of each size used for main & auxiliary engines.

The foregoing is a correct description of

AKTIEBOLAGET GÖTTAVERKEN

Urs S. Veelus

Manufacturer.

Dates of Survey while building: During progress of work in shops-- *June 16, July 7, 8, 11, 12, 12, 14, 14, 17, 18, 20, 26, 27, 28 Aug. 3, 4, 8, 8, 10, 12, 16, 18, 25, 26 Sept. 2*
During erection on board vessel-- *July 7, 20 Aug. 12, 24, 29, 30, 31 Sept. 2, 6, 13, 14, 18, 19, 20, 21, 22, 23, 24*
Total No. of visits *43*

Dates of Examination of principal parts—Cylinders *1/9 1/8 2/9* Covers *1/9 1/8 2/9* Pistons *2/7 4/8* Rods Connecting rods *1/7*
Crank shaft *20/5 7/7* Flywheel shaft Thrust shaft *16/8* Intermediate shafts *2/8* Tube shaft
Screw shaft *5/7 2/8 14/9* Propeller *1/9* Stern tube *20/7* Engine seatings *14/7* Engines holding down bolts *12/8*
Completion of fitting sea connections *13/9* Completion of pumping arrangements *23/9* Engines tried under working conditions *24/9*

Crank shaft, Material *J. H. Steel* Identification Mark *LL0703 1688, 1689 CK 4.5.33* Flywheel shaft, Material Identification Mark *LL0703 1696, 1697 CK 20.5.33*
Thrust shaft, Material *J. H. Steel* Identification Mark *LL0703 991, 1482 CB 16.8.33* Intermediate shafts, Material *J. H. Steel* Identification Mark *LL0703 991, 32, 1488, 4.5, 6, 7, CB 25.8.33*
Tube shaft, Material Identification Mark Screw shaft, Material *J. H. Steel* Identification Mark *LL0703 1495, 7 17.8.1003 2.8.3*

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 *No*

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

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *1/5 "Oregon Express."*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The main & auxiliary engines of this vessel have been built under special survey and all the requirements of the Rules have been complied with. The shafting as per forging reports attached. Material of starting air receivers as per test sheets attached. The workmanship is good and the material fulfills the requirements of the Rules. The dimensions are as specified and in accordance with the Rules & approved plans. The auxiliary machinery consists of four - 4 cylinder, 4 stroke cycle, single acting diesel oil engine having a cyl. diam. of 240 mm and stroke 360 mm, manufactured by R.B. Götterverken. The machinery of this vessel is eligible in our opinion to be classed in the Register Book of this Society with notation of + LMC 9.33.*

A plan of the pumping arrangement as fitted is forwarded herewith

The amount of Entry Fee *£ 109 : 20* When applied for, *29/9 19.33*
Special ... *£ 2023 : 84*
Start air receiver fee *£ 152 : 88*
Donkey Boiler Fee ...
Travelling Expenses (if any) £ : *16 : 10 19.33*

V. Paulow & *S. Berrelius*
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE. 10 OCT 1933*

Assigned *+ L.M.C. 9.33*

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

