

Rpt. 4b

REPORT ON OIL ENGINE MACHINERY.

No. 86497

Received at London Office

-2 DEC 1930

Date of writing Report

When handed in at Local Office

28th Nov 1930. Port of NEWCASTLE-ON-TYNE.No. in Survey held at
Reg. Book.

Newcastle.

Date, First Survey 28 March Last Survey 26th Nov 1930.

Number of Visits 93.

89448 on the ^{Single} ~~Triple~~ ~~Quadruple~~ Screw vessel

M.V. "ATTILA"

Tons { Gross 7913
Net 4729

Built at Walker

By whom built Messrs. W. G. Armstrong Whitworth & Co. Ltd. Yard No. 1066 When built 1930.

Engines made at Scotswood

By whom made Messrs. W. G. Armstrong Whitworth & Co. Ltd. Engine No. 94 When made 1930.

Donkey Boilers made at Scotswood

By whom made Messrs. W. G. Armstrong Whitworth & Co. Ltd. Boiler No. 94. When made 1930.

Brake Horse Power 3300.

Owners JAKHELLN. Port belonging to OSLO.

Nom. Horse Power as per Rule 776.

Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which vessel is intended

Ocean Going. 23⁵/₈ 41³/₄

II. ENGINES, &c. Type of Engines

Armstrong Sulzer

2 or 4 stroke cycle 2. Single or double acting Single

Maximum pressure in cylinders 300 lb/sq. in.

Diameter of cylinders 600 in.

Length of stroke 1060 in.

No. of cylinders 8. No. of cranks 8.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge

860 in.

Is there a bearing between each crank Yes.

Revolutions per minute 128

Flywheel dia. 3075 in.

Weight 4.6 tons

Means of ignition Compression Kind of fuel used Crude Oil.

Crank Shaft, dia. of journals

as per Rule 403 in.

as fitted 420 in.

Crank pin dia. 420 in.

Crank Webs

Mid. length breadth 500 in.

Mid. length thickness 230 in.

shrink

Thickness parallel to axis

Solid.

IMPRESSION

as per Rule 403 in.

as fitted 420 in.

Intermediate Shafts, diameter

as per Rule 13.28 in.

as fitted 13.75 in.

Thrust Shaft, diameter at collars

as per Rule 403 in.

as fitted 420 in.

Tube Shaft, diameter

as per Rule 13.28 in.

as fitted 13.75 in.

Screw Shaft, diameter

as per Rule 13.28 in.

as fitted 13.75 in.

Is the

shaft fitted with a continuous liner

Yes.

Bronze Liners, thickness in way of bushes

as per Rule 13.75 in.

as fitted 13.75 in.

Thickness between bushes

as per Rule 13.75 in.

as fitted 13.75 in.

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

Continuous

Yes.

Is an approved Oil Gland or other appliance fitted at the after

end of the tube shaft

No.

Length of Bearing in Stern Bush next to and supporting propeller

4'-9"

Propeller, dia. 15'-0"

Pitch 11'-3"

No. of blades 4.

Material Bronze

whether Moveable Solid

Total Developed Surface

80

sq. feet

Method of reversing Engines

Semi Motor

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

Yes.

Means of lubrication

Forced

Thickness of cylinder liners

20 in.

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

Yes.

Cooling Water Pumps, No.

Three

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

Yes.

Bilge Pumps worked from the Main Engines, No.

2.

Diameter 6"

Stroke 15 3/4"

Can one be overhauled while the other is at work

Yes.

Pumps connected to the Main Bilge Line

No. and Size

Two. one @ 8" x 9' x 12" & one @ 10 1/2" x 14' x 24"

How driven

Steam

Ballast Pumps, No. and size

one @ 10 1/2" x 14' x 24"

Lubricating Oil Pumps, including Spare Pump, No. and size

Two. one @ 6 1/2" x 9' x 12" & one @ 7 1/2" x 15"

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

None fitted.

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces

Two @ 3 1/2" dia.

Two @ 2 1/2" dia.

Two @ 5" dia.

Holds, &c.

Five Peck 3" dia aft Peck 4" dia Ford Cofferdam 4" dia aft Cofferdam 4" dia Hold 2 @ 2" dia!

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

One @ 5" dia

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

Yes.

Are the Bilge Suctions in the Machinery Spaces

Yes.

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

Yes.

Are they fitted with Valves or Cocks

Both.

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

Yes.

Are the Overboard Discharges 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 the Blow Off Cocks fitted with a spigot and brass covering plate

Yes.

Do all pipes pass through the bunks

None

How are they protected

Yes.

Do all pipes pass through the deep tanks

Yes.

Have they been tested as per Rule

Yes.

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes.

Is the Shaft Tunnel watertight

Yes.

Is it fitted with a watertight door

worked from

Yes.

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

Yes.

Main Air Compressors, No.

One.

No. of stages

3.

Diameters 5 1/2" x 4 1/2" x 1 1/2"

Stroke 600 in.

Driven by Main Engine

Auxiliary Air Compressors, No.

One (2000 ft)

No. of stages

3.

Diameters 13 1/2" x 10 1/2" x 3 1/2"

Stroke 8"

Driven by Steam

Small Auxiliary Air Compressors, No.

One (800 ft)

No. of stages

3.

Diameters 10 1/2" x 8 1/2" x 2 1/2"

Stroke 6"

Driven by Steam

Savenging Air Pumps, No.

One (Tandem)

Diameter

14 00 in.

Stroke

680 in.

Driven by Main Engine

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted

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

Yes.

What means are provided for cleaning their inner surfaces

Steam

Are the internal surfaces of the receivers be examined

Yes.

Is there a drain arrangement fitted at the lowest part of each receiver

Yes.

High Pressure Air Receivers, No.

4 @ 1000 lb.

Cubic capacity of each

8.4 cu ft.

Internal diameter

470 in.

Thickness

25 in.

Low Pressure Air Receivers, No.

2 @ 425 lb.

Total cubic capacity

540 cu ft.

Internal diameter

35 in.

Thickness

1 1/2 in.

Working Air Receivers, No.

2 @ 425 lb.

Total cubic capacity

540 cu ft.

Internal diameter

35 in.

Thickness

1 1/2 in.

Are all receivers, lap welded or riveted longitudinal joint

Seamless

Material

Steel

Range of tensile strength

28-32 tons

Working pressure by Rules

430 lb/sq. in.

Are all receivers, lap welded or riveted longitudinal joint

Seamless

Material

Steel

Range of tensile strength

28-32 tons

Working pressure by Rules

430 lb/sq. in.

No. of Visits 88

004206-004212-0190

~~IS~~ DONKEY BOILERS FITTED?

Yes

If so, is a report now forwarded?

8.5.30

PLANS. Are approved plans forwarded herewith for Shafting

23.12.29 & 27.1.30

Receivers

7.8.30

Separate Tanks

30.8.30

Donkey Boilers

8.5.30

General Pumping Arrangements

30.5.30

Oil Fuel Burning Arrangements

16.9.30

SPARE GEAR

1 cyl cover complete with all valves etc & one complete set of valves for one cylinder springs etc, fuel needle valves for half the number of cylinders, 1 piston complete with all piston rings, studs & nuts, 1 set of piston rings for 1 piston, 2 telescopic cooling pipes for one piston, 1 set of oken wheels for the Cam Shaft Drive, 1 set of studs & nuts for one cyl cover, 2 crosshead bearing bolts & nuts, 2 crank pin bearing bolts, 1 set of bolts for crank shaft coupling, 1 set of bolts for the intermediate shaft coupling, 2 cyl liners, 1 piston skirt, 1 pr of main bearing brasses. Main & Aux Compressors & Pumps. 1 set of piston rings for each compressor piston, 1 half set of suet & del valves for each stage, 2 bottom end bolts for the main compressor, 10% of the suet & del valves, 2 bottom end & 2 top end bolts for the Storage air pump, 1 set of piston rings, valves & seats etc for each stage of aux compressor, all working parts for one fuel pump. Auxiliary Pumps. 1 suet & one del valve for Oil fuel Transfer Pump, 1 suet & del valve for bilge pump, a quantity of assorted bolts & nuts, a length of pipe of each size used for the fuel del & injection air pipes & the air del from main & aux compressors to receivers with unions & flanges suitable for each. 1 screw shaft & propeller & other spare gear.

The foregoing is a correct description,

FOR

SIR W. G. ARMSTRONG WHITWORTH & COMPANY (ENGINEERS) LIMITED.

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1930
Jan. 28. Apr. 28.30. May 21. June 5. 10. 13. 16. 18. 19. July 1. 2. 4. 7. 9. 15. 16. 17. 18. 23. 25. 28. 29. 30. 31. Aug. 1. 6. 8. 15. 20.
During erection on board vessel -- 21. 22. 23. 25. 26. 27. 28. 29. Sep. 1. 2. 3. 4. 5. 8. 9. 10. 12. 15. 16. 17. 18. 19. 22. 23. 24. 25. 26. 27. 29. 30. Oct. 1. 3. 4. 6. 7. 8. 10. 14. 16. 20. 22. 23. 24. 27. 28. 29. 30. 31. Nov. 2. 4. 5. 6. 10. 11. 12. 13. 14. 15. 17. 18. 21. 25. 26.
Total No. of visits 93.

Dates of Examination of principal parts -- Cylinders 9.9.30. Covers 28.5.30. Pistons 24.9.30. Rods 26.8.30. Connecting rods 18.9.30.

Crank shaft 21.9.30. COMPRESSOR 9 FLYWHEEL shaft 21.8.30. Thrust shaft 24.7.30. Intermediate shafts 25.9.30. Tube shaft ✓

Screw shaft 17/11/30. 25.9.30. Propeller 25.9.30. Stern tube 27.9.30. Engine seatings 7.10.30. Engines holding down bolts 27.10.30.

Completion of fitting sea connections 7.10.30. Completion of pumping arrangements 18.11.30. Engines tried under working conditions 26.11.30.

Crank shaft, Material Steel Identification Mark 8247 & 3550. COMPRESSOR shaft, Material Steel Identification Mark 7898.

FLYWHEEL Thrust shaft, Material Steel Identification Mark 1815. Intermediate shafts, Material Steel Identification Marks 1985.

Tube shaft, Material ✓ Identification Mark ✓. Screw shaft, Material Steel Identification Mark 1926. 1925.

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 Oil Tanker If so, have the requirements of the Rules been complied with ✓

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 has been built under Special Survey and in accordance with the Societys Rules & approved terms. The materials & workmanship are sound and good. The machinery was efficiently installed on board, tested & manoeuvred on completion under working conditions and found satisfactory. The machinery of this vessel is eligible in my opinion to be classed and to have the notation of "oil Engine" and records of + LMC 11, 30 and TS Ch.

The amount of Entry Fee ... £ 6 : - : When applied for, -1 DEC 1930
Special ... £ 113 : 16 :
Donkey Boiler Fee ... £ 22 : 16 : When received, 13.12.30
AIR RECEIVERS
Traveling Expenses (if any) £ 6 : 6 :
Committee's Minute TUE. 9 DEC 1930

Assigned + LMC. 11.30 oil Eng. CL. 2 SB-150

L. J. Skett.
Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation

Newcastle-on-Tyne

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

Rpt. 5a.

Date of writing

No. in Reg. Book.

89443.

Master

Engines ma

Boilers ma

Nominal H

MULTI

Manufact

Total Hea

No. and D

Tested by

Area of F

Area of e

In case of

Smallest o

Smallest o

Largest in

Thickness

long. seam

Percentag

Percentag

Thickness

Material

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Working

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