

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

7 FEB 1933

Date of writing Report

10

When handed in at Local Office

6th Feb 1933 Port of NEWCASTLE-ON-TYNEDate in Survey held at
eg. Book.

Newcastle

Date, First Survey

8 June 1932 Last Survey 6th Feb 1933

(Number of Visits 55)

Built at

on the Steel Twin Screw "CHANGKIANG"

By whom built

Swan, Hunter & Wigham, Ltd.

Yard No. 1422

Tons

When built 1933

Engines made at

do

By whom made

ditto

Engine No. 1422

When made

"

Boilers made at

do

By whom made

ditto

Boiler No. 1422

When made

"

Registered Horse Power

Owners Ministry of Railways of the Republic of China

Port belonging to

Shanghai

Horse Power as per Rule

246

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

Trade for which Vessel is intended

Steam Tug

Engines, &c.—Description of Engines

Triple Expansion, Steam Reciprocating

Revs. per minute 225

No. of Cylinders

13" + 21" + 34"

Length of Stroke

21"

No. of Cylinders 2 x 3

No. of Cranks 3 each Engine

Crank shaft, dia. of journals

as per Rule 6.44"

as fitted 7.25"

Crank pin dia.

7.375"

Crank webs

Mid. length breadth

Mid. length thickness

shrink

Thickness parallel to axis 7.5625"

Thickness around eye-hole 3.3125"

Intermediate Shafts, diameter

as per Rule

as fitted 6.13"

6.4375"

Thrust shaft, diameter at collars

as per Rule

as fitted 6.44"

8"

Main Shafts, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule

as fitted 7.06"

7.375"

Is the tube

shaft fitted with a continuous liner

No

Yes

Bronze Liners, thickness in way of bushes

as per Rule

as fitted None

Thickness between bushes

as per Rule

as fitted

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

Yes

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

Yes

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

aft

Yes

If so, state type

"Newark"

Length of Bearing in Stern Bush next to and supporting propeller

35"

Propeller, dia.

93"

Pitch

Varying

No. of Blades

4

Material

Manganese Bronze

whether Movable

No

Total Developed Surface

26.2

sq. feet

Feed Pumps worked from the Main Engines, No.

None

Diameter

Stroke

Can one be overhauled while the other is at work

Yes

Bilge Pumps worked from the Main Engines, No.

None

Diameter

Stroke

Can one be overhauled while the other is at work

Yes

Feed Pumps

No. and size

Two - 6" x 8 1/2" x 18"

How driven

Steam

Pumps connected to the

Main Bilge Line

No. and size

One - 8" x 9" x 8"

Two 6" x 6" x 6"

One 8" (Centrifugal)

How driven

Steam

Ballast Pumps, No. and size

One - 8" x 9" x 8"

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

None

Suctions, connected to both Main Bilge Pumps and Auxiliary

Oil Cooler

None

In Holds, &c.

No 1 - One - 2 1/2"

No 2 - Three - 2"

No 3 - Three - 2 1/2"

No 4 - One - 2 1/2"

No 5 - One - 2 1/2"

No 6 - One - 2 1/2"

No 7 - One - 2 1/2"

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

Yes

Suctions, connected to both Main Bilge Pumps and Auxiliary

Oil Cooler

None

In Holds, &c.

No 1 - One - 2 1/2"

No 2 - Three - 2"

No 3 - Three - 2 1/2"

Bilge Pumps;—In Engine and Boiler Room

Two 3" & Two 2 1/2"

Pump Room

Yes

In Holds, &c.

No 1 - One - 2 1/2"

No 2 - Three - 2"

No 3 - Three - 2 1/2"

No 4 - One - 2 1/2"

For'd Shaft Space - One - 3"

Aft Shaft Space - One - 2 1/2"

Yes

Main Water Circulating Pump Direct Bilge Suctions, No. and size

Two - 5"

Independent Power Pump Direct Suctions to the Engine Room Bilges,

No. and size

One - 4"

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes

Yes

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Yes

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

Yes

Are they fitted with Valves or Cocks

Yes

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

Yes

Are the Overboard Discharges above or below the deep water line

Yes

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

Yes

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Yes

How are they protected

Yes

That Pipes pass through the bunkers

No

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 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

Yes

Is the Shaft Tunnel watertight

No

Is it fitted with a watertight door

Yes

worked from

Yes

MAIN BOILERS, &c.—(Letter for record

S)

Total Heating Surface of Boilers

4480

Forced Draft fitted

Yes

No. and Description of Boilers

Two - Single Ended (2SB)

Working Pressure

180 lbs/sq. in.

Is a Report on Main Boilers now forwarded?

Yes

Is a Donkey Boiler fitted?

No

If so, is a report now forwarded?

Yes

Is the donkey boiler intended to be used for domestic purposes only

Yes

Are approved plans forwarded herewith for Shafting

21 - 5 - 32

Main Boilers

4 - 4 - 32

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

5 - 4 - 32 & 14 - 6 - 32

Oil fuel Burning Piping Arrangements

Yes

SPARE GEAR.

Has the spare gear required by the Rules been supplied

Yes

State the principal additional spare gear supplied

See also attached list in packet

The foregoing is a correct description,

SWAN, HUNTER & WIGHAM, LTD.

Manufacturers.

Lloyd's Register

Foundation

W1315-0334

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Length.	Water Ca
Feet.	Ton
14	26
20	76
28	73
40	131
50	171
60	211
70	251
80	291
90	331
100	371
110	411
120	451
130	491
140	531
150	571
160	611
170	651
180	691
190	731
200	771
210	811
220	851
230	891
240	931
250	971
260	1011
270	1051
280	1091
290	1131
300	1171
310	1211
320	1251
330	1291
340	1331
350	1371
360	1411
370	1451
380	1491
390	1531
400	1571
410	1611
420	1651
430	1691
440	1731
450	1771
460	1811
470	1851
480	1891
490	1931
500	1971
510	2011
520	2051
530	2091
540	2131
550	2171
560	2211
570	2251
580	2291
590	2331
600	2371
610	2411
620	2451
630	2491
640	2531
650	2571
660	2611
670	2651
680	2691
690	2731
700	2771
710	2811
720	2851
730	2891
740	2931
750	2971
760	3011
770	3051
780	3091
790	3131
800	3171
810	3211
820	3251
830	3291
840	3331
850	3371
860	3411
870	3451
880	3491
890	3531
900	3571
910	3611
920	3651
930	3691
940	3731
950	3771
960	3811
970	3851
980	3891
990	3931
1000	3971

Length.	2. 3. 4. 5. 8.
3. 4. 5. 7. 8. 12. 1	
No. of Visits	72

1932
 June 8. 14. 15. July 4. 5. 8. 12. 13. 14. 18. 19. 21. 27. Aug. 2. 4. 8. 9. 11. 12. 16. 17. 19. 22. 24. 25. 30.
 Sep. 1. 5. 8. 9. 12. 14. 15. 20. 21. 26. 27. Oct. 4. 6. 10. 13. 18. 25. 27. 28. Nov. 1. 2. 3. 8. 9. 11. 18. Jan. 5. 1933

Dates of Survey while building
 During progress of work in shops - - -
 During erection on board vessel - - -
 Total No. of visits 55.

Dates of Examination of principal parts—Cylinders 1. 9. 32 Slides 27. 9. 32 Covers 1. 9. 32
 Pistons 31. 8. 32 Piston Rods 27. 9. 32 Connecting rods 27. 9. 32
 Crank shaft 25. 8. 32 Thrust shaft 27. 7. 32 Intermediate shafts 31. 8. 32 - 20. 9. 32
 Tube shaft - Screw shaft 4. 10. 32 Propeller 4. 10. 32
 Stern tube 6. 10. 32 Engine and boiler seatings 22. 8. 32 Engines holding down bolts 27. 10. 32
 Completion of fitting sea connections 10. 10. 32
 Completion of pumping arrangements 8. 11. 32 Boilers fixed 18. 10. 32 Engines tried under steam 2. 11. 32
 Main boiler safety valves adjusted 2. 11. 32 Thickness of adjusting washers $F = \frac{3}{32}$ $S = \frac{1}{16}$ Sea trials 18. 11. 32
 Crank shaft material Steel Identification Mark 38 D D W Thrust shaft material Steel Identification Mark 724-752
 Intermediate shafts, material Steel Identification Marks 750 764 768 Screw Shaft, material Steel Identification Mark 716-718
 Spare Screw shaft, material Steel 3. 1. 33 Identification Mark 6709. 1. 2. Steam Pipes, material Steel Test pressure 540 lb Date of Test 8. 9. 32
 Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150° F. -
 Have the requirements of the Rules for the use of oil as fuel been complied with -
 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 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 constructed under special survey in accordance with the approved plans: the materials and workmanship are good.

On completion the engines were tried at sea with satisfactory results.

The Machinery of this Vessel is eligible, in my opinion, to be classed with the records of L.M.C. 233. OG- 246. N.H.P. 180 lb. F.D. 2. S.B. 6cf. G.S. 118, H.S. 4480.

The amount of Entry Fee ... £ 4 : - : When applied for, 11. 1. 33
 Special ... £ 61 : 10 : : When received, 22. 1. 33
 Donkey Boiler Fee ... £ ✓ : :
 Travelling Expenses (if any) £ ✓ : :

Committee's Minute FRI. 10 FEB 1933

Assigned

CERTIFICATE WRITTEN.

Engineer Surveyor to Lloyd's Register of Shipping.



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