

REPORT ON OIL ENGINE MACHINERY.

No. ~~59423~~ 59423

Date of writing Report 18. 6. 1953 When handed in at Local Office 26 JUN 1953 Received at London Office 27 JUN 1953

No. in Survey held at THORNE. Date, First Survey 5. 5. 53 Last Survey 13. 5. 1953
Reg. Book. Number of Visits 3

Single on the Tug Motor Tug "SWIFTSTONE" Tons Gross 9.1 Net 6

Built at Thorne. By whom built Richard Dunston, Ltd. Yard No. 847 When built

Engines made at Manchester. By whom made Crossley Bros. Ltd. Engine No. 140991 When made 1953

Donkey Boilers made at By whom made Boiler No. When made

Brake Horse Power { Maximum 670 Service 134 Owners Wm. Cory & Sons, Ltd. Port belonging to

M.N. as per Rule 134 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes

Trade for which vessel is intended For Towing purposes.

OIL ENGINES, &c. —Type of Engines C R L 4. 2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 950 lbs. Diameter of cylinders 14 1/2" Length of stroke 19" No. of cylinders 4 No. of cranks 4

Mean Indicated Pressure 950 lbs. per square inch. Span of bearings (i.e., distance between inner edges of bearings in

way of a crank) 17 3/8" Is there a bearing between each crank Yes Revolutions per minute { Maximum 280 Service 1,330,000 compression

Flywheel dia. 46" Weight 4109 lbs. Moment of inertia of flywheel (lbs. in² or Kg. cm²) Means of ignition Diesel Kind of fuel used Diesel

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

Crank { Solid forged dia. of journals as per Rule Crank pin dia. Crank webs Mid. length breadth Thickness parallel to axis
Shaft, { Semi built dia. of journals as fitted Crank webs Mid. length thickness shrunk Thickness around eyehole
All built as fitted

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule 9.5/8" Thrust Shaft, diameter at collars as per Rule See Mch. Report.

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule 8 3/4" T.O.C. Is the { tube screw } shaft fitted with a continuous liner { NO.

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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 If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland fitted at the after

end of stern tube If so, state type Length of bearing in Stern Bush next to and supporting propeller

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

lubrication forced Thickness of cylinder liners Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled

or lagged with non-conducting material both If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

back to the engine above waterline. Cooling Water Pumps, No. and how driven One - 14,00 G.P.H. Working F.W.

S.W. Spare F.W. S.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 One - 7 1/4" x 5.5/8" stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and capacity of each One Aux. Engine.

How driven Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements

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

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

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 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 Yes Are they fitted with valves or cocks Valves. 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

What pipes pass through the bunkers None How are they protected

What pipes pass through the deep tanks 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

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 Is it fitted with a watertight door worked from

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. One No. of stages 2 diameters 3 1/2" x 8" stroke 5.5/8" driven by Main Eng.

Auxiliary Air Compressors, No. One No. of stages 2 diameters stroke driven by Aux. Eng.

Small Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

What provision is made for first charging the air receivers One Compressor driven by hand started prime mover.

Scavenging Air Pumps or Blowers, No. One How driven Main Engine.

Auxiliary Engines Have they been made under survey No Engine Nos. 142289

Makers name Crossley Bros type BWL/10 Position of each in engine room Port side.

Report No.

AIR RECEIVERS:—Have they been made under survey. Yes State No. of report or certificate C.15451 & 15454.
State full details of safety devices. Safety valve in time & fusible plugs. C.7297.
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, No. Three Total cubic capacity 4.5 cu. ft. Internal diameter 30" thickness Shell 9/16; Ends 3/4"
2 welded 26/30 tons/Sq. inch
Seamless, welded or riveted longitudinal joint. 1 riveted. Material M.S. Range of tensile strength 28/32 " Working pressure 350 lbs.

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. (If not, state date of approval) Receivers - Separate fuel tanks -
Donkey boilers - General pumping arrangements - Pumping arrangements in machinery space -
Oil fuel burning arrangements -
Have Torsional Vibration characteristics been approved - Date and particulars of approval -

SPARE GEAR.

Has the spare gear required by the Rules been supplied - State if for "short voyages" only -
State the principal additional spare gear supplied -

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building During progress of work in shops - -
During erection on board vessel - -
Total No. of visits -
Dates of examination of principal parts—Cylinders. Covers. Pistons. Rods. Connecting rods.
Crank shaft. 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. Identification mark. Flywheel shaft, material. Identification mark.
Thrust shaft, material. Identification mark. Intermediate shafts, material. Identification marks.
Tube shaft, material. Identification mark. Screw shaft, material. Identification mark.
Identification marks on air receivers.

Welded receivers, state Makers' Name -
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 engine was built under Special Survey in Manchester. See Manchester Rpt. No. 15224.
Pumping arrangements examined under working conditions and found efficient.
Main and auxiliary engines examined under working conditions. River trials witnessed.
The Transverse staying of the main engines as recommended by the Research Department, (see Lon. lett. dated 17/4/53) was not completed before the vessel left. It was stated that the Shipbuilders (Messrs. Richard Dunston, Ltd., Thorne), and the engine builders (Messrs. Crossley Bros.,) had made arrangements to complete this recommendation in London where official towing trials would be held.

L.M.C. 5-53 OG

Oil Engines 2SCSA 4 cyl. 14 1/2" dia. 15" stroke.

The amount of Entry Fee ... £ :
Special ... £ 28 : 0 : When applied for 28 Nov 1953 19
Donkey Boiler Fee... £ : : When received 19
Travelling Expenses (if any) £ : :

Committee's Minute

Assigned

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation