

Rpt. 4b (Cons) REPORT ON MAIN INTERNAL COMBUSTION RECIPROCATING ENGINE

28 MAY 1965
Received London

FOR CONSIDERATION BY THE COMMITTEE OF LLOYD'S REGISTER OF SHIPPING

645

Ship's Name: **MANCHESTER.**
 Gross tons: **1079 - File. 733.**
 Date of completing rpt. **24.5.1965.**
 Rpt. No. **1079 - File. 733.**

Where the answer is "NO" or "NONE" or "NONE" say so. Ticks and other signs of doubtful meaning are not to be used. Wording not applicable to be cancelled.

Place of survey, if different from above
 No. of visits in shops **12.** First date **3.12.1964.** Last date **30.4.1965.**
 Ship built by **Scott's Shipbuilding & Eng. Co. Ltd.** Yard No. **703.**
 Engine made by **Crossley Brothers Limited.** Cont. No. **12532.** Yr. **65** Mo. **4**
 Engine No. **149163.** When **65** | **4**
 Fee **£34.** ^{old Fee.} _{new Fee.} **One** Expenses **£1.5s.0d.**

Licence name & type of engine	Crossley - EGL.6/75.	If cyls in vee or other special formation state (a) vee angle and (b) No. of crankshafts each engine (a)	NO.
No. of engines	One.	(b)	
2 or 4 stroke cycle	2.	BHP on which fees have been calculated	300.
Single (SA), or opposed piston (OP)	Single.	Corresponding RPM	750.
No. of cylinders, each engine	6.	Corresponding MIP	93 p.s.i.
Diameter of cylinders	7".	Maximum cylinder pressure	1280.
Stroke(s)	9".	Machinery numeral	60.

TWO STROKE ENGINES ONLY		Is the exhaust discharged through ports in the cylinders or valve(s) in the cylinder covers?	Ports.
Is engine of opposed piston type?	No.	Are the under sides of pistons used as scavenge pumps?	No.
If so, how are upper pistons connected to crankshaft?	-	Are relief valves fitted to scavenge manifold?	Yes.
No. and type of mechanically driven scavenge pumps or blowers, each engine, and how driven	One gear driven blower.	Scavenge air pressure at full power	2.2 p.s.i.g.
Where exhaust gas driven blowers only are fitted can engine operate with one out of action?	None.		
If not, and emergency means are provided, what are they?	-		

TWO & FOUR STROKE ENGINES		Is welded construction used for:	BEDPLATE? No.	FRAMES? No.	ENTABLATURE? No.
Is the engine supercharged?	No.	Are tie-bolts fitted?	Yes.		
No. of exhaust gas driven supercharge blowers, each engine	None.	Is crankcase separated from under sides of pistons?	No.		
No. and type of mechanically driven charging pumps or blowers, each engine	One Air Compressor.	Is engine of crosshead or trunk piston type?	Trunk.		
Are the under sides of pistons used as supercharge pumps? How driven?	None.	Is crankcase readily accessible?	Yes.		
No. of supercharge air coolers, each engine	None.	If not, must engine be removed for overhaul of bearings, &c.?	No.		
Supercharge air pressure at full power	None.	Total internal volume of crankcase	19.14 cu. ft.		
Can engine operate without supercharger?	None.	No. and total area of explosion relief devices	2 each 16.18 sq.in.		
If not, and emergency means are provided, what are they?	None.	Are flame guards or traps fitted to:	Crankcase relief devices? Yes.	Starting air pipes at cyl. starting air valves? Yes.	

No. of valves each cylinder:	INLET	EXHAUST
	2	None
FUEL	STARTING	RELIEF
	One	One
Cooling medium for:	CYLINDERS	
	Fresh Water	
PISTONS	FUEL VALVES	
	Oil Splash	
Material of	Cylinder covers	Cast Iron.
	Piston crowns	Cast Iron.

How is engine started? **By compressed air.**
 Type of governor fitted **Crossley.**
 How long has the engine been tested at full power in the shop? **6 hrs.**

PLEASE RETURN THIS REPORT WITH YOUR FIRST ENTRY. 10m,9/64 (MADE AND PRINTED IN ENGLAND)

Is a torsional vibration damper or detuner fitted?

Flexible Couplings

Date of approval of torsional vibration characteristics of engine/flywheel system

23.3.1965.

27.4.1965.

Confirmed 9.6.65.

Where positioned

Between Engine & Gearbox.

Type

Duolastick - 21/842.

CRANKSHAFT

Total weight of balance wts. **2.095 Kgm².**

Breadth of webs at mid-throw

as appd. Dwg. TF531. 7 1/4

Radius of gyration

-

Axial thickness of webs

as appd. Dwg. TF531. 2 1/16

No. of main bearings

7.

If webs shrunk, radial thickness round eye-holes

-

Are main bearings of ball or roller type?

Plain.

Nominal shrinkage allowance if dowel pins are not fitted

-

Distance between inner edges of bearings in way of cranks

8 1/8.

Pins

Distance between centre lines of side rods of opp. piston engines

-

Material of: (State whether cast or forged)

Webs

Forged

Built, semi-built or solid crankshaft

Solid.

Journals

OH Steel.

Journals

4 3/4.

Pins

Diameter of:

Centre crank pins

4 3/4.

Minimum approved tensile strength for:

Webs

45/55.

Side crank pins

-

Journals

T/sq. "

FLYWHEEL SHAFT. Separate, integral with crank or thrust shaft

Integral.

Diameter

Material

-

Flywheel

Diameter

28".

Minimum approved tensile strength

Weight

600 lbs. 1/2 Flexible coupling.

THRUST SHAFT. Separate, integral with crank or flywheel shaft

Material

Diameter adjacent to collar

Minimum approved tensile strength

MAIN ENGINE DRIVEN PUMPS (each engine. State No. and purpose of each pump, and, for bilge pumps, the capacity at normal r.p.m.) also **AIR COMPRESSORS** (No. and whether they can be declutched)

- 2 - Lub. Oil Pumps.
- 1 - Sea Water Circulating
- and
- 1 - Bilge Pump - 2385 G.P.H.
- 1 - Air Compressor. (no clutch)

DECLARATION TO BE SIGNED BY ENGINE BUILDERS

To the best of our knowledge this machinery has been soundly constructed in conformity with the Rules, Regulations and requirements of Lloyd's Register of Shipping, and the foregoing particulars of main engines are correct.

(date)

J. H. Jolley.

(signature)

A previous similar case was for M.S.

Engine No.

Port and Report No.

IDENTIFICATION MARKS of important forgings and castings. (Copies of certificates to be forwarded)

IR Bhm. 8272.

Piston & connecting rods

M. D.H.

3 off 177.

Crankshaft

24.8.62.

3 off 178.

Scav.

IR. 7481.

Thrust/flywheel shaft

AIR RECEIVERS if supplied with engine. (Copies of certificates to be forwarded)

Port & Cert. No. **Nottingham C.29861 and C.30109.**

CRANKSHAFT

THRUST/FLYWHEEL SHAFT

AIR RECEIVERS

Dates of approval of plans

25.11.1964.

Appd. Dwg. 50-B68A.

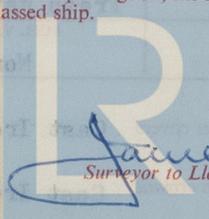
The machinery reported above has been built under Special Survey in accordance with the Rules, approved plans and Secretary's letters, examined running on the test bed and found satisfactory. The materials and workmanship are good, the spare gear required by the Rules has been supplied and the machinery is eligible, in my opinion, to be fitted in a classed ship.

Date of Committee

Minute

GLASGOW

SEE ACCOMPANYING MACHINERY REPORT.



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NOTE—Where existing machinery is submitted for classification, the circumstances are to be explained as fully as possible, and the recommendation should be suitably amended.