

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

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

28 MAY 1965
Received London

645

Ship's Name

Port MANCHESTER.

Gross tons

Date of completing rpt. 24.5.1965.

Rpt. No. 1079 - File.733.

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.

Cont.No. 12532.

Yr. Mo.

Engine made by Crossley Brothers Limited.

Engine No. 149163. When 65 4

Fee £34. 1/2 old Fee. 1/2 new Fee.

Expenses £1.5s.0d.

Licence name & type of engine

Crossley - EGL.6/75.

No. of engines

One.

If cyls in vee or other special formation state (a) vee angle and (b) No. of crankshafts each engine (a) NO. (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 engine of opposed piston type?

No.

Is the exhaust discharged through ports in the cylinders or valve(s) in the cylinder covers? Ports.

If so, how are upper pistons connected to crankshaft?

-

No. and type of mechanically driven scavenge pumps or blowers, each engine, and how driven

One gear driven blower.

Where exhaust gas driven blowers only are fitted can engine operate with one out of action?

None.

Are the under sides of pistons used as scavenge pumps? No.

If not, and emergency means are provided, what are they?

-

Are relief valves fitted to scavenge manifold? Yes.

Scavenge air pressure at full power 2.2 p.s.i.g.

TWO & FOUR STROKE ENGINES

Is the engine supercharged?

No.

Is welded construction used for: BEDPLATE? No. FRAMES? No. ENTABLATURE? No.

No. of exhaust gas driven supercharge blowers, each engine

None.

Are tie-bolts fitted? Yes.

No. and type of mechanically driven charging pumps or blowers, each engine

One Air Compressor.

Is crankcase separated from under sides of pistons? No.

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

One

Cooling medium for:

FRESH WATER

PISTONS

FUEL VALVES

Oil Splash

None

Material of

Cylinder covers Cast Iron.

Piston crowns Cast Iron.

How long has the engine been tested at full power in the shop? 6 hrs.

How is engine started? By compressed air.

Type of governor fitted Crossley.

PLEASE RETURN THIS REPORT WITH YOUR FIRST ENTRY.

10m/9/64 (MADE AND PRINTED IN ENGLAND)

0122 46 - 0122 55 - 0256.1

Lloyd's Register Foundation

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.

Where positioned

Between Engine & Gearbox.

Type

Duolastick - 21/842.

Confirmed 9.6.65.

CRANKSHAFT

Total weight of balance wts. **2.095 Kg^m².**

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.

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

-

Built, semi-built or solid
crankshaft

Solid.

Material of:
(State whether
cast or forged)

Pins

Webs

Journals

Forged

OH Steel.

Diameter of:

Journals

4 3/4.

Centre crank pins

4 3/4.

Minimum approved
tensile strength for:

Pins

Webs

Journals

45/55.

T/sq. "

Side crank pins

-

FLYWHEEL SHAFT. Separate,
integral with crank or thrust shaft

Integral.

Material

-

Flywheel

Diameter

Diameter

28".

Minimum approved tensile strength

Weight

**600 lbs. 1/2 includes
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)

and
2 - Lub. Oil Pumps.
1 - Sea Water Circulating
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. Gally.

(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)

Piston &
connecting rods

M. D.H.

24.8.62.

3 off 177.

3 off 178.

Crankshaft

Scav.

Thrust/flywheel shaft

IR Bhm. 8272.

IR. 7481.

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

GLASGOW

110 AUG 1965

Minute

**SEE ACCOMPANYING
MACHINERY REPORT.**

James Murray
Surveyor to Lloyd's Register of Shipping

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**Lloyd's Register
Foundation**

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.