

## Rpt. 4c

Date of writing report 22.3.57.

Received London

11 APR 1957

Port NOTTINGHAM.

No. FE. 1339.

Survey held at Lincoln.

No. of visits 6.

First date 17.9.56.

Last date 30.1.57.

## FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship (Or Contract No. if name unknown) Owners (Or Consignees)

Ship Built ~~at~~ to the order of:- Firma Eivind K. Son Sylvan, Gothenburg, when Yard No.

Auxiliary Engines ~~on Gas Turbines made at~~ Lincoln by Ruston & Hornsby Ltd., when Eng. Nos. 409279.

Total No. of sets and description (including type name) Three - 6VCBZ - Auxiliary. 409280.

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 6. Dia. of cylinders 8" Stroke 10 3/4"

2 or 4 stroke cycle 4. Maximum approved BHP 204 at 600. RPM Corresponding MIP 104. Maximum pressure 730 ± 3%

Fuel Diesel Oil. Are cylinders arranged in Vee or other special formation? No. If so, No. of

crankshafts per engine Is engine of opposed piston type? No. No. and type of mechanically driven scavenge pumps or blowers

per engine None. No. of exhaust gas driven blowers or superchargers per engine None. Is welded construction

used for: Bedplate? No. Entablature? No. Total internal volume of crankcase (if 20 cu. ft. or over) 47.6. No. and total area of

crankcase explosion relief devices 12 - 285 sq. in. Are flame guards or traps fitted? No. Cooling medium for: Cylinders Water.

Pistons None. No. of attached pumps: F.W. cooling One S.W. cooling One. Lubricating oil Gear. How is engine started? Comp. Air.

SHAFTING. Is a damper or detuner fitted? No. No. of main bearings 7. Are bearings of ball or roller type? No. Distance between

inner edges of bearings in way of cranks 9.3/16" Crankshaft: Built, semi-built, solid. Material of crankshaft Steel. Approved

minimum tensile strength 30 tons. Dia. of pins 4 3/4" Journals 6" Breadth of webs at mid throw 8" Axial

thickness 2 1/2" If shrunk, radial thickness around eyeholes - Dia. of flywheel 3'9" Weight 12.3 cwt. Are balance

weights fitted? No. Total weight 122 lbs. Rad. of gyration 7 1/2" Dia. of flywheel shaft 6"

Has each engine been tested in shop? Yes. How long at full power? Was it tested with driven machinery attached? Yes. Was the

governing tested and found satisfactory? Yes. Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) 13/4/56

Date of approval of shafting 20.12.58 Identification marks on shafting LL. 11161. RG. 6871. LL. 11692. LL. 11129. RG. 6818.

Particulars of driven machinery 130 kW. DC. Thomas B. Trige Generators Nos. 3018461.2.3.

Port and No. of Certificate for Starting Air Receivers

AUXILIARY GAS TURBINES. BHP per set At RPM of output shaft. Open or closed cycle?

Arrangement of turbines. HP drives at RPM HP gas inlet temp. pressure.

(A small diagram should be attached showing gas cycle) IP " " " " IP " " " " " LP " " " " " LP " " " " "

No. of air compressors per set Centrifugal or axial flow type? Material of turbine blades.

Material of compressor blades. No. of air coolers per set. No. of heat exchangers per set. How are

turbines started? Are the turbines operated in conjunction with free piston gas generators?

Total No. of free piston gas generators. Dia. of working pistons. Dia. of compressor pistons. No. of double strokes

per minute at full power. Gas delivery pressure. Gas delivery temperature.

Have the turbines and attached equipment been tested in shop? How long at full power? Were they tested with driven machinery

attached? Particulars of gearing.

Date of approval of plans. Identification marks. Particulars of driven machinery.

ELECTRIC GENERATORS. Port and No. of Certificate for generators of 100 Kw. and over.

For generators under 100 Kw., has Makers' Certificate been obtained? No. Are Certificates attached? No.

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)

Ruston & Hornsby, Limited. Manufacturer

Is this machinery duplicate of a previous case? No. If so, which?

GENERAL REMARKS. State if the machinery has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

These Engines have been built under Special Survey in accordance with the

Approved Plans and the Regulations of the Society, materials and workmanship being good.

On completion, the generating sets were seen under working conditions in the

Shops and the governing tested, all with satisfactory results.

The set has been despatched for installation in the vessel.

Explosion relief device fitted on each crankcase door.

Survey Fee £17.10s.

Expenses Nil.

Date when a/c rendered.

Declaration to be signed by Surveyor at fitting-out Port:— The above described machinery has been fitted on board the

at in a proper manner and found satisfactory when tested on the (date).

Engine Surveyor to Lloyd's Register

Engine Surveyor to Lloyd's Register

Lloyd's Register

Foundation