

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

Received London

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

6 MAY 1966

Ship's Name m.s. "ALTEFAHR". Port Groningen.

Gross tons 299.43 Date of completing rpt. 30-4-66 Rpt. No. 4017b

Place of survey, if different from above Martenshoek

No. of visits in shops 5 First date 27-10-65 Last date 18-11-65

+ on board. Ship built by Scheepswerf Hoogezand N.V. Yard No. 128

Engine made by VEB Schwermaschinebau Engine No. 83594 When 1965 11

Fee - Expenses -

NOTE: The particulars in this report are to be given as fully and as clearly as possible. Where the answer is "NO" or "NONE" say so. Ticks and other signs of doubtful meaning are not to be used. Wording not applicable to be cancelled.

Licence name & type of engine	6 NVD48U	If cyls in vee or other special formation state (a) vee angle and (b) No. of crankshafts each engine (a)	-	(b)	-
No. of engines	one	BHP on which fees have been calculated	540		
2 or 4 stroke cycle	4 SCSA	Corresponding RPM	375		
Single (SA), or opposed piston (OP)	SA	Corresponding MIP	5.6 kg/cm <sup>2</sup>		
No. of cylinders, each engine	6	Maximum cylinder pressure	55 kg/cm <sup>2</sup>		
Diameter of cylinders	320 mm.	Machinery numeral	108		
Stroke(s)	480 mm.				

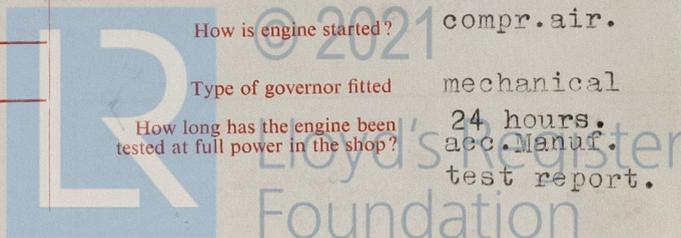
<b>TWO STROKE ENGINES ONLY</b>		Is the exhaust discharged through ports in the cylinders or valve(s) in the cylinder covers?	-
Is engine of opposed piston type?	-	Are the under sides of pistons used as scavenge pumps?	-
If so, how are upper pistons connected to crankshaft?	-	Are relief valves fitted to scavenge manifold?	-
No. and type of mechanically driven scavenge pumps or blowers, each engine, and how driven	-	Scavenge air pressure at full power	-
Where exhaust gas driven blowers only are fitted can engine operate with one out of action?	-		
If not, and emergency means are provided, what are they?	-		

<b>TWO &amp; FOUR STROKE ENGINES</b>		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	-	Is crankcase separated from under sides of pistons?	no.		
No. and type of mechanically driven charging pumps or blowers, each engine	-	Is engine of crosshead or trunk piston type?	Trunk		
Are the under sides of pistons used as supercharge pumps? How driven?	no.	Is crankcase readily accessible?	yes		
No. of supercharge air coolers, each engine	-	If not, must engine be removed for overhaul of bearings, &c.?	no.		
Supercharge air pressure at full power	-	Total internal volume of crankcase	2820 ltrs.		
Can engine operate without supercharger?	-	No. and total area of explosion relief devices	6 x 75 cm <sup>2</sup>		
If not, and emergency means are provided, what are they?	-	Are flame guards or traps fitted to:	yes		
		Crankcase relief devices?	yes		
		Starting air pipes at cyl. starting air valves?	H.G.pipes.		

No. of valves each cylinder:	INLET	EXHAUST
	one	one
Cooling medium for:	FUEL	RELIEF
	one	one
PISTONS	CYLINDERS	
	none	F.W.
Material of	FUEL VALVES	
	none	none

Material of	Cylinder covers	C.i.
	Piston crowns	C.i.
Can engine be reversed?	yes	
If not, how is propeller reversal effected?	-	
How is engine started?	compr.air.	
Type of governor fitted	mechanical	
How long has the engine been tested at full power in the shop?	24 hours. acc.Manuf. test report.	

10m,8/65 (MADE AND PRINTED IN ENGLAND)



012699 - 012704 - 0126

Is a torsional vibration damper or detuner fitted? **yes**

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

Where positioned **Forward end of shaft.**

Type **Viscosity.**

**CRANKSHAFT**

Total weight of balance wts.	none	Breadth of webs at mid-throw	336 mm.
Radius of gyration	-	Axial thickness of webs	91 mm.
No. of main bearings	8	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	385 mm.	Material of: (State whether cast or forged)	Pins 31.0 - 57.5
Distance between centre lines of side rods of opp. piston engines	-		Webs 34.5 - 61.9
Built, semi-built or solid crankshaft	solid		Journals 25.6 - 24.3
Diameter of:	Journals	Minimum approved tensile strength for:	Pins -
	Centre crank pins		Webs -
	Side crank pins		Journals -

<b>FLYWHEEL SHAFT.</b> Separate, integral with crank or thrust shaft	<b>Integral</b>	Flywheel	Diameter 1250 mm.
Material	-		Diameter -
Minimum approved tensile strength	-		Weight $GD^2 = 2200 \text{ kgm.}$

<b>THRUST SHAFT.</b> <del>Separate</del> integral with crank and flywheel shaft	<b>Intregal</b>	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)

6 F.O. pumps.  
1 L.O. pump.  
One compressor (cannot be declutched) 29.6 m<sup>3</sup>/h.

**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) (signature)

A previous similar case was for M.S. **"SELLIN"** Engine No. 83458 Port and Report No. Groningen .3072b

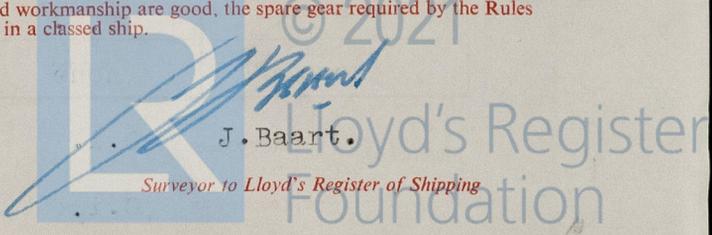
**IDENTIFICATION MARKS** of important forgings and castings. (Copies of certificates to be forwarded)  
Piston & connecting rods **DSRK.**  
Crankshaft 3111/1053/774  
~~Thrust/flywheel shaft~~

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

Port & Cert. No.	CRANKSHAFT	THRUST/FLYWHEEL SHAFT	AIR RECEIVERS
Dates of approval of plans			

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 **FRIDAY 27 MAY 1966**  
Minute **See Rpt. - 1.**



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.