

FIRST ENTRY REPORT ON MAIN ENGINE REDUCTION GEARING

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The following particulars are to be given as fully and clearly as possible. Wording not applicable should be cancelled by a black line.

DIAGRAMMATIC SKETCH SHOWING ARRANGEMENTS OF GEARING

Type of involute tooth form corrected pressure ang

PINIONS

QUILL SHAFTS

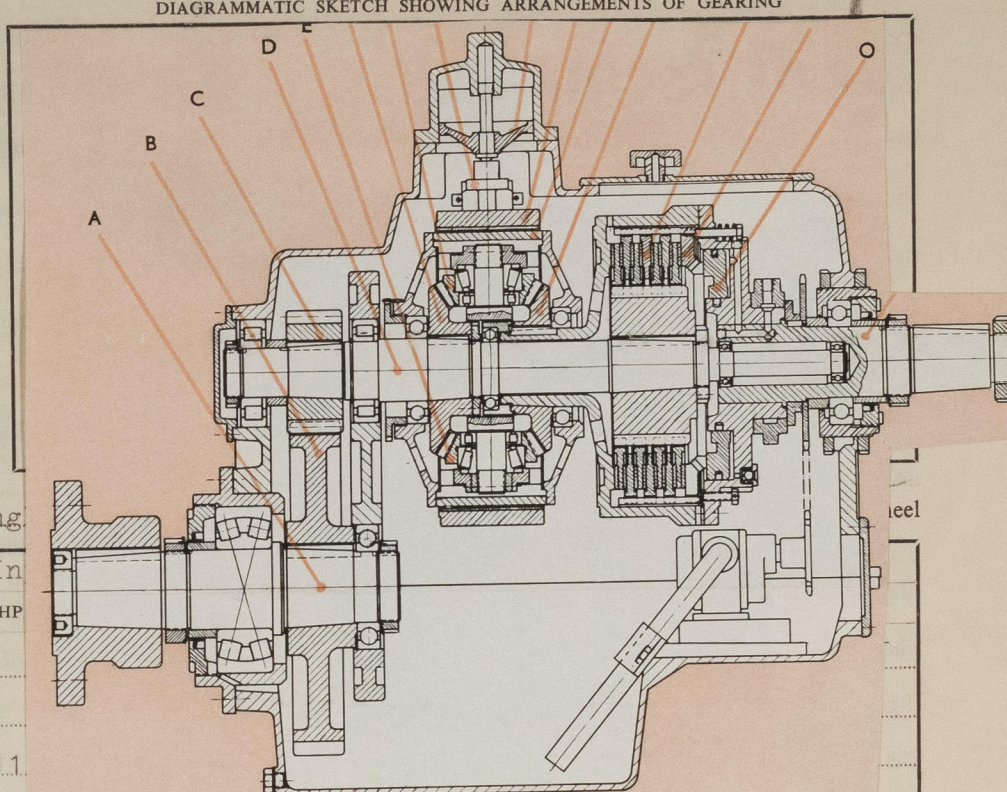
FLEXIBLE COUPLINGS

balanced?

WHEELS

[illegible]

10m 8.58 T. (MADE AND PRINTED IN ENGLAND)



84	80
82, at top of cone for separate coupling	65 85

C 45

C 45

C 45

EC 80

multiple disc clutch

C...35


50 - 60

GG 22 (cast iron)

minimum 22

Have primary pinions been dynamically

balanced? Have secondary pinions been dynamically or statically balanced?

PRIMARY			MAIN
HP	MP	LP	
_____	_____	_____	 © 2021

GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

This engine has been constructed under special survey of tested materials and is in accordance with the Secretary's letters, approved plans and Rules Requirements. The materials and workmanship are good and the engine, when tested in the shops under full and overload conditions was found to function satisfactorily. The governor tests were also found satisfactory. This engine, in my opinion, is suitable for main propelling purposes and when satisfactorily installed and reported will be eligible to receive the notation * LMC (with date).

K. Böttcher
K. Böttcher
Engineer Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF IDENTIFICATION MARKS (Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

Conn. RODS LLOYD'S KLN. 181/17-24 H.D. 1.2.63

CRANKSHAFT OR ROTARY SHAFT LLOYD'S DSF HS 361 6.12.62 ✓

FLYWHEEL SHAFT

THRUST SHAFT

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS turbo blowers: G.Fi. 28.9.60 LR T.P. 2,5 kg/cm²

Is the installation a duplicate of a previous case? no If so, state name of vessel

Date of approval of plans for crankshaft 15.9.62 Straight shafting ☐ Gearing ☐ Clutch ☐

Separate oil fuel tanks ☐ Pumping arrangements ☐ Oil fuel arrangements ☐

Cargo oil pumping arrangements ☐ Air receivers ☐ Donkey boilers ☐

Dates of examination of principal parts:—

Fitting of stern tube ☐ Fitting of propeller ☐ Completion of sea connections ☐ Alignment of crankshaft in main bearings ☐

Engine chocks & bolts ☐ Alignment of gearing ☐ Alignment of straight shafting ☐ Testing of pumping arrangements ☐

Oil fuel lines ☐ Donkey boiler supports ☐ Steering machinery ☐ Windlass ☐

Date of Committee FRIDAY - 1 NOV 1963 Special Survey Fee DM. 308.-

Decision See Ham 12986 Runn. Test DM. 100.-

Expenses DM. 40.-

Date when A/c rendered KLN. 6367 dd. 29.3.63

Rpt. 4e

Date of writing report 29/3/63 Received London - Port Hannover No. 134

Survey held at Hameln No. of visits

FIRST ENTRY REPORT ON

Name of Ship

Hull built at Elmshorn

Main engines made at Köln-Deutz

Reduction gearing made at Hameln

Type of engine with which gearing is to be used SBA 8 M

The following particulars are to be given as fully and clearly as possible

Description of gearing, including reversing arrangements and

clutches, if any, and No. of sets (state if ball or roller bearings)

Single reduction:- Spur wheel geared

multiple disc clutch operated by oil

pressure.

Reverse side:- Planet bevel geared and

band brake operated by oil pressure.

Oil pump:- Driven by gearing.

Bearings:- Roller and ball.

Type and

If single reduction, what is the position of the gear thrust bearing?

Self aligning roller bearings on

output shafts.

Helix angle, primary 20° secondary

Type of involute tooth form corrected pressure angle Approved maximum total S.H.P. 230 at 1350 R.P.M. of main wheel

PINIONS

Maximum S.H.P. to be delivered to primary pinions ...

Revolutions per minute ...

Diameter of pitch circle, inches/mm. ...

No. of teeth ...

Total width of face, parallel to axis, inches/mm. ...

Width of gap, inches/mm. ...

Diameter of shaft at bearings, inches/mm. ...

No. of bearings ...

Span of bearing centres, inches/mm. ...

Material, state nominal composition and heat treatment

shafts forged

gear wheels case hardened

Tensile strength, tons per sq. in./kg. per sq. mm. ...

QUILL SHAFTS

Diameter, inches/mm. ...

Material, state nominal composition ...

Tensile strength, tons per sq. in./kg. per sq. mm. ...

FLEXIBLE COUPLINGS

Type of coupling ...

Material, driving member ...

Tensile strength, tons per sq. in./kg. per sq. mm. ...

Material, driven member ...

Tensile strength, tons per sq. in./kg. per sq. mm. ...

Do couplings permit axial float of pinions?

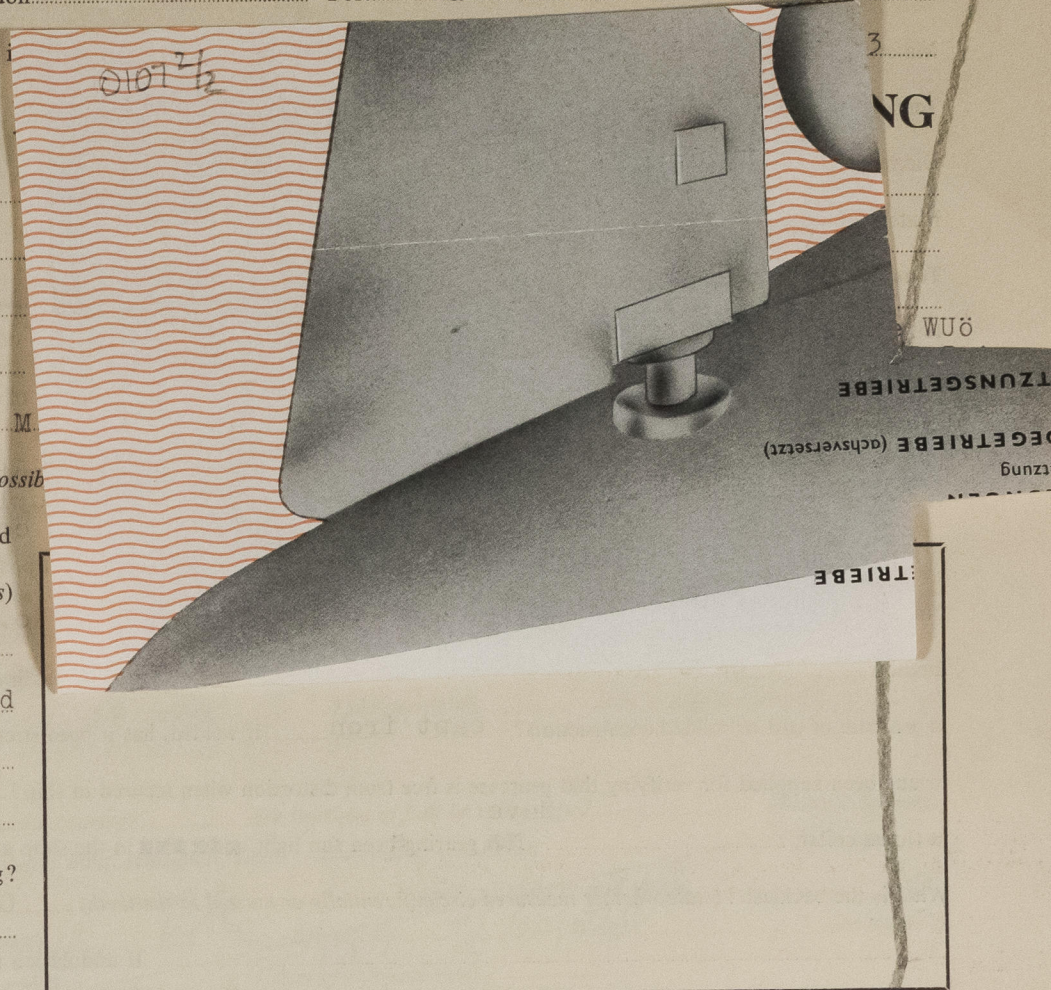
balanced?

WHEELS

Revolutions per minute ...

Diameter of pitch circle, inches/mm. ...

No. of teeth ...



Input	PRIMARY	Intermediate	SECONDARY	Output
HP	MP	LP	HP	LP
230				
1350				386
117.755				401.245
20				70
84				80
82, at top of cone for separate coupling		65		85

Have primary pinions been dynamically

balanced? Have secondary pinions been dynamically or statically balanced?

HP	PRIMARY	MP	LP	MAIN

WHEELS (continued)

	PRIMARY			MAIN
	HP	MP	LP	
Material of rims, state nominal composition				
Tensile strength, tons per sq. in./kg. per sq. mm.				
Diameter of shaft at bearings, inches/mm.				
Material of shaft				
Tensile strength, tons per sq. in./kg. per sq. mm.				

Have wheels been statically balanced? yes Are wheel bodies of cast or welded construction? no

Are wheel bodies connected to the shafts by bolts? no Material of wheel bodies ---

Are rims shrunk on, or bolted to bodies, or attached by welding? no Are radial or axial dowels fitted? on coupling cover

If shrunk, has the shrinkage allowance been checked and found as approved? yes, input shaft and coupling cover How were the teeth cut? by planing and hobbing

If hobbled, name and serial no. of hobbing machine Wälzautomat RS 1 What post-hobbing process was applied? grinding

Name and serial no. of machine used for finishing process Type UR 1000 No. 10189 If teeth are surface hardened, state method case hardened Were teeth cut under conditions of temperature control? yes

Is gearcase of cast or welded construction? cast iron If welded, has it been stress relieved? --- Have trammels or other means been supplied for verifying that gearcase is free from distortion when secured in ship? Have Diameter of shaft at thrust collar Has gearing been run light/under load in the shop and the tooth contact found satisfactory? yes

What is the backlash? (state whether measured circumferentially or normal to the teeth) 0.17 - 0.18 mm

If undulation records were taken, state maximum height from crest to trough and wave length, pinions --- wheels ---

Maximum adjacent pitch error normal to teeth, if measured, pinions --- wheels --- Date of approval of plans 5/11/62 and 11/1/63

If gearing is a duplicate of a previous case, state name of ship Messrs. Kremer & Sohn, Schiffswerft, Elmshorn, Yard No. 110

The foregoing description of reduction gearing is correct.

EISENWERKE REINTJES GMBH
[Signature]
 Manufacturer

GENERAL REMARKS

State if the gearing has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship. This report should be forwarded to the Head Office with the First Entry report on the machinery. When gearing is made at a Port other than the Port of installation, the Surveyors at the former should send this report to the Surveyors at the Port of installation as soon as possible after completion of the gearing. The latter should complete the Declaration below and send the report to the Head Office with their First Entry report on the machinery.

Survey fee ---

Expenses ---

Date when a/c rendered ---

IDENTIFICATION MARKS Gearing No. 30542 Gearing No. 30543 Engineer Surveyor to Lloyd's Register of Shipping
 LLOYD'S HNO HB 7.2.63 HB LLOYD'S HNO FK 30.1.63 FK

PRIMARY PINIONS

Input shafts 657 LLOYD'S KLN 1927 HL 6.11.62

PRIMARY COUPLING COVERS

659 LLOYD'S KLN 1927 HL 22.11.62

SECONDARY PINIONS

Intermediate shafts 655 LLOYD'S KLN 1927 HL 6.11.62

SECONDARY COUPLING COVERS

Output shafts 653 LLOYD'S KLN 1927 HL 6.11.62

COUPLING FLANGES PROP. SIDE

957 LLOYD'S HNO E 50 FK 13.12.62

BEVEL GEAR WHEELS

226 43156 T 14169 146513 HS LLOYD'S DSF 29.11.62 HS

SPUR GEAR WHEELS

225 43181 T 14168 40847 HS LLOYD-S DSF 29.11.62 HS

MAIN WHEEL RIM

228 43187 T MAIN WHEEL 66810 K

DECLARATION TO BE COMPLETED AND SIGNED BY THE SURVEYOR AT THE PORT OF INSTALLATION

The above reduction gearing has been fitted on board the --- at ---

in a proper manner and found satisfactory when tested on the (date) --- under full-power working conditions for ---

hours and when examined subsequently.

FRIDAY - 1 NOV 1963

DATE OF COMMITTEE ---

DECISION See Annex 12986

Engineer Surveyor to Lloyd's Register of Shipping
 Lloyd's Register Foundation