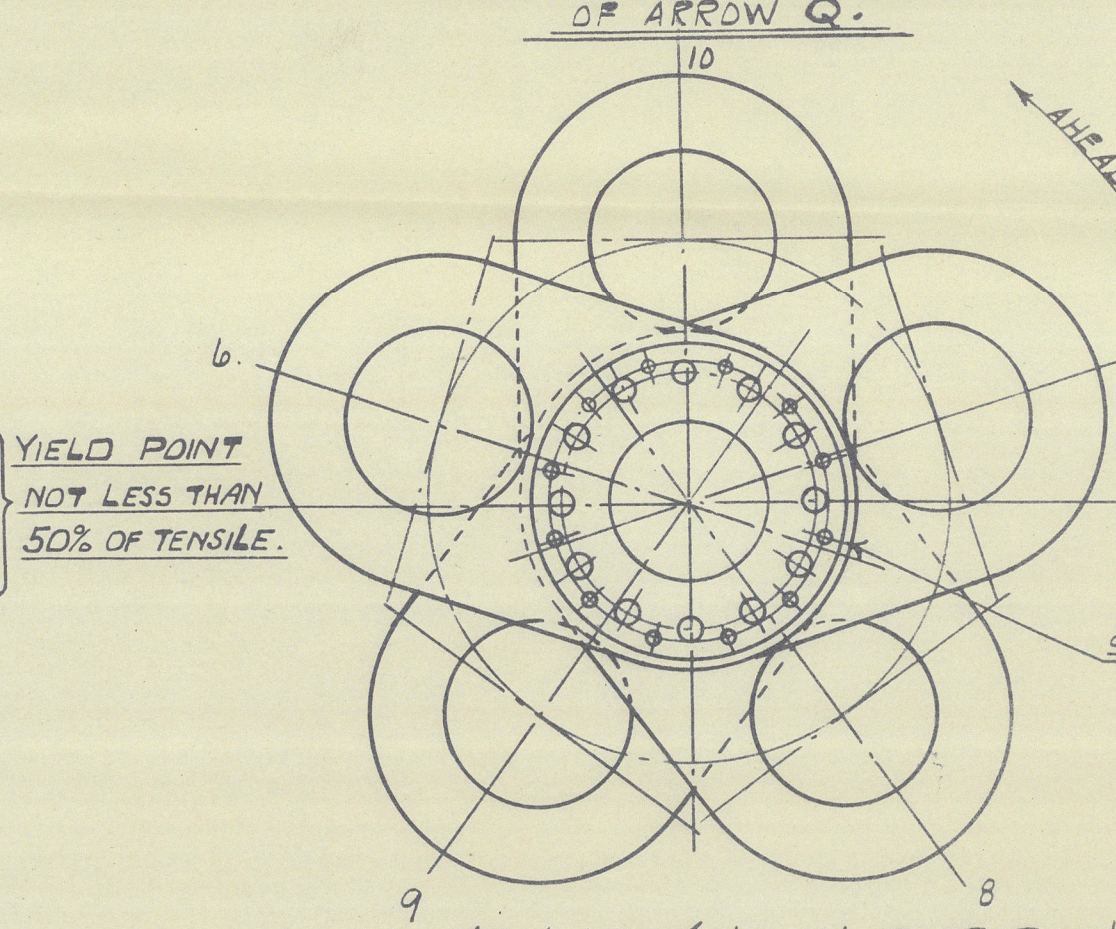


VIEW LOOKING IN DIRECTION
OF ARROW Q.



VIEW LOOKING IN DIRECTION
OF ARROW "B"

CRANKSHAFT TO BE FINISHED MACHINED ALL OVER. TO BE TO LLOYDS SURVEY REQUIREMENTS & INSPECTION & TO R&W. HAWTHORN LESLIE & CO⁵ SATISFACTION LLOYDS CERTIFICATE TO BE FORWARDED TO R&W. H.L. & CO²

DIMENSIONS ARE IN MILLIMETRES EXCEPT WHERE OTHERWISE STATED
ALL PARTS TO BE FORGED FROM THE BEST SIEMENS MARTIN INSGT STEEL
FORGINGS TO BE ANNEALED & TO HAVE THE FOLLOWING QUALITIES:-
ULTIMATE TENSILE STRENGTH 28-32 TONS / 0" WITH AN ELONGATION OF NOT
LESS THAN 24% TO 25% ON STANDARD TEST PIECE. BENDING TEST ANGLE 180
WHEN HEATING THE WEBS FOR SHRINKING THEY SHOULD BE RAISED TO A
UNIFORM TEMPERATURE WHICH SHOULD NOT AT ANY TIME EXCEED 375°C.
EACH WEB TO BE HEATED ONCE ONLY & PINS & JOURNALS TO BE
ENTERED SIMULTANEOUSLY. FINISHED CRANKSHAFT TO BE EXAMINED BY
OWNERS REPRESENTATIVE & MUST PROVE TO BE FREE FROM ALL FLAWS &
OTHER DEFECTS.

TOLERANCE NOTES

MAXIMUM VARIATION OF THE DISTANCE OF CENTRES OF THE CRANKPINS 0.25 mm

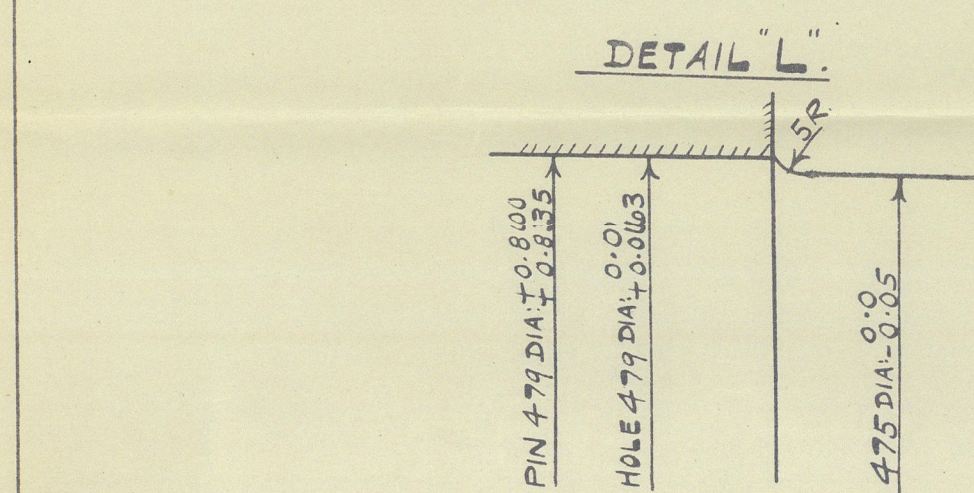
OUT OF LINE TOLERANCE FOR PINS & JOURNALS NOT TO EXCEED 0.15 mm IN 1 METRE

MAXIMUM VARIATION OF THE JOURNALS WHEN TURNED AROUND 0.03 mm

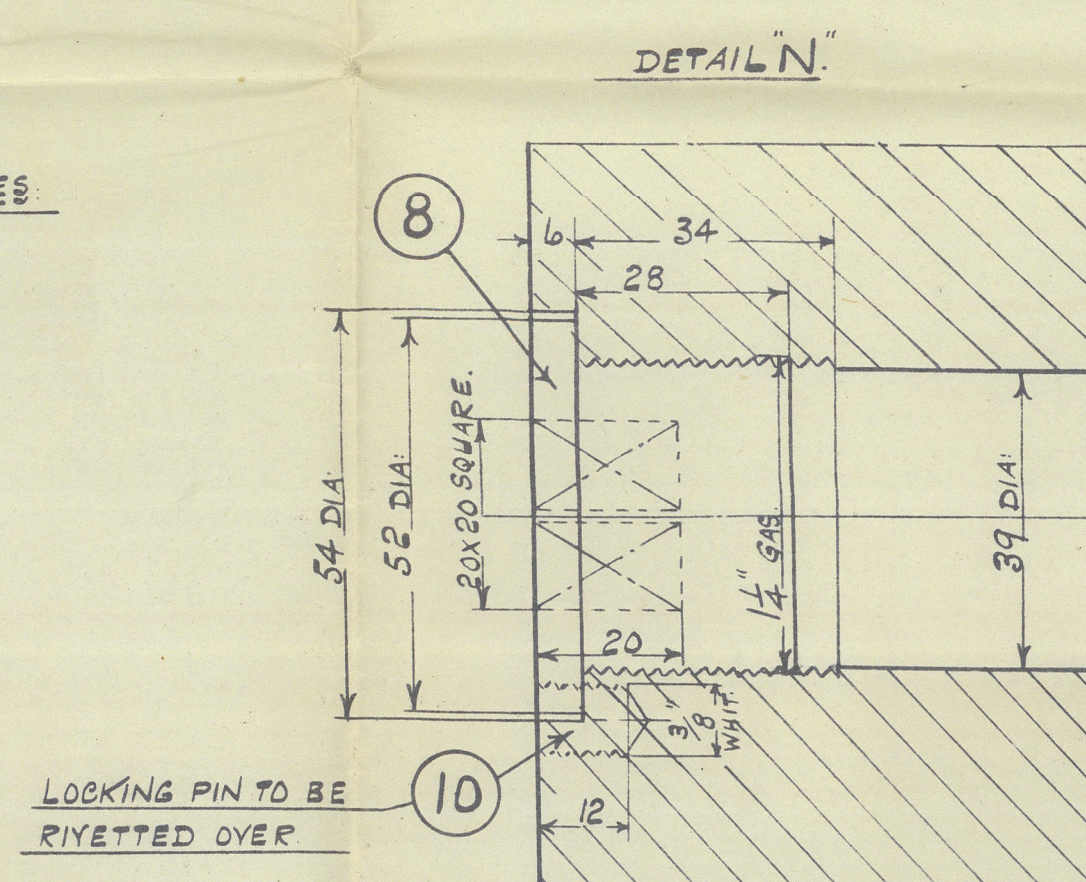
MAXIMUM VARIATION OF THE DISTANCE OF CENTRES OF THE CRANKPINS 0.2 mm

MAXIMUM VARIATION OF THE DISTANCE OF CRANK 1 TO CRANK 5 $\pm 0.1 \text{ mm}$

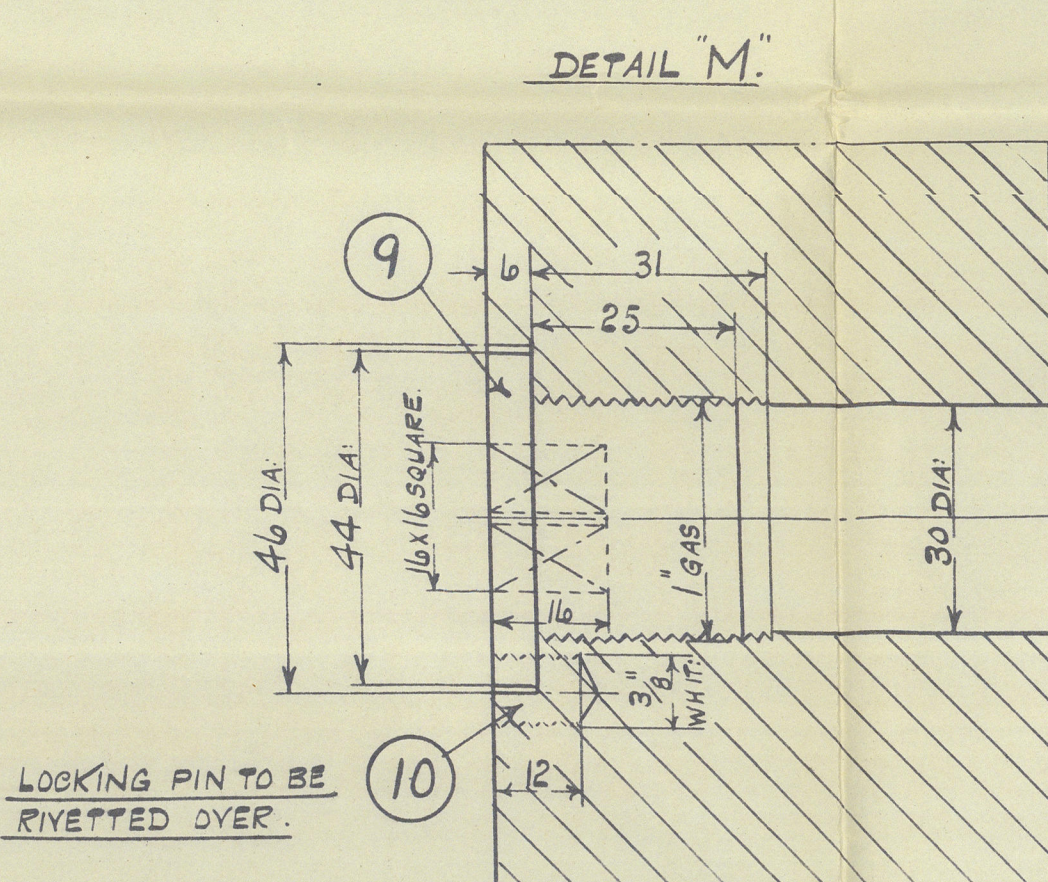
ANGLE OF CRANKS TO BE $70^\circ \pm 5^\circ$



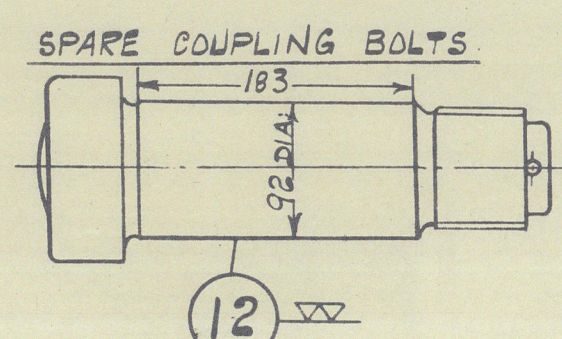
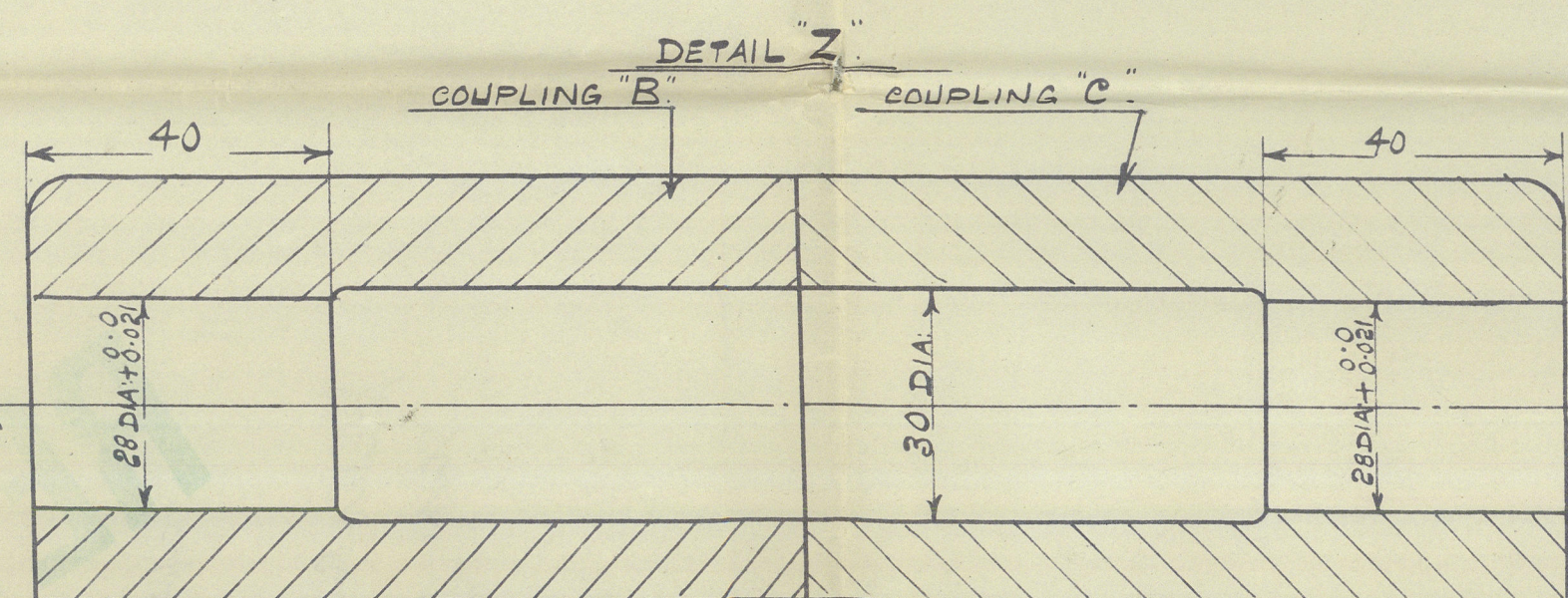
SEE TOLERANCE NOTES.



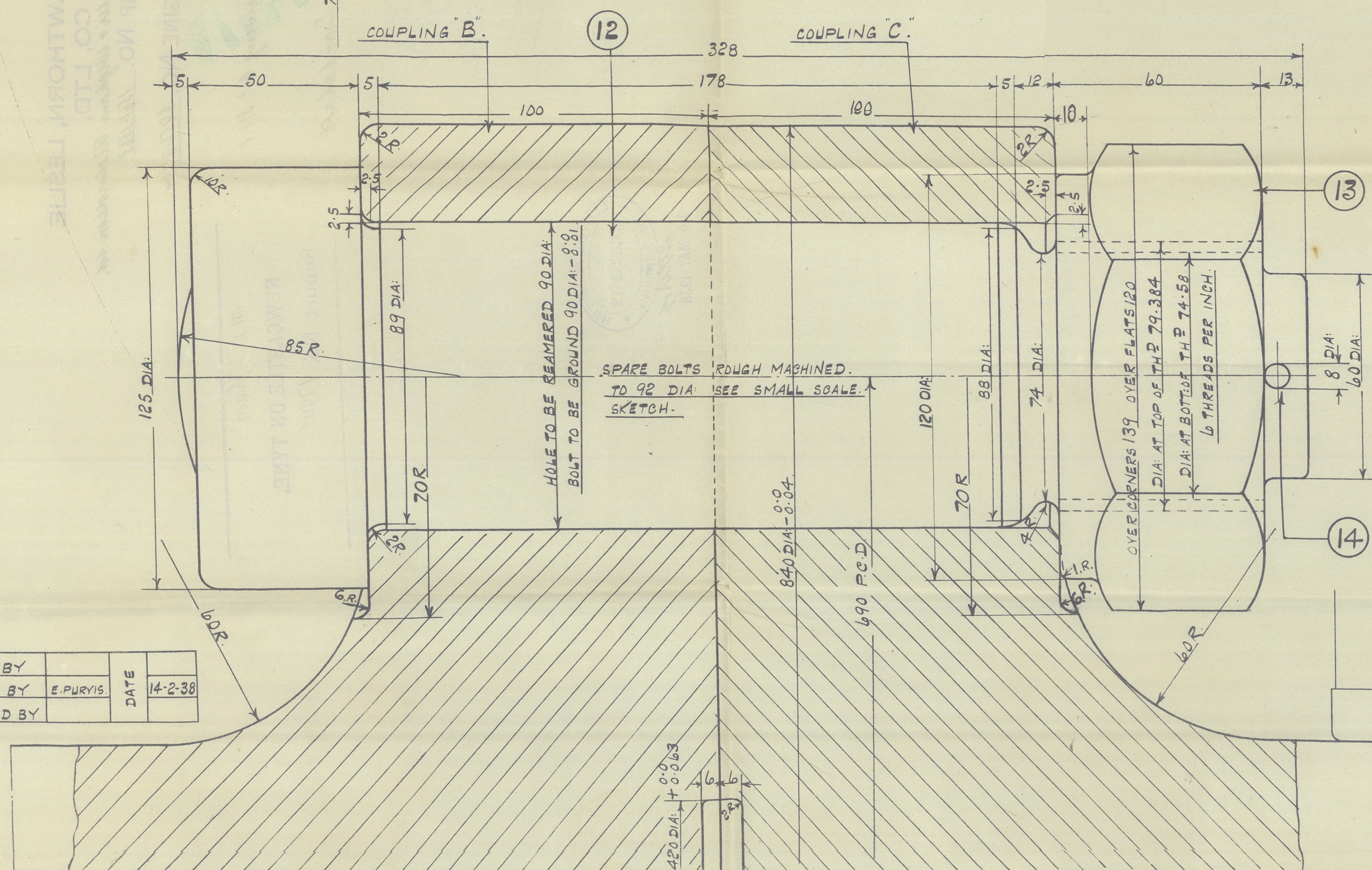
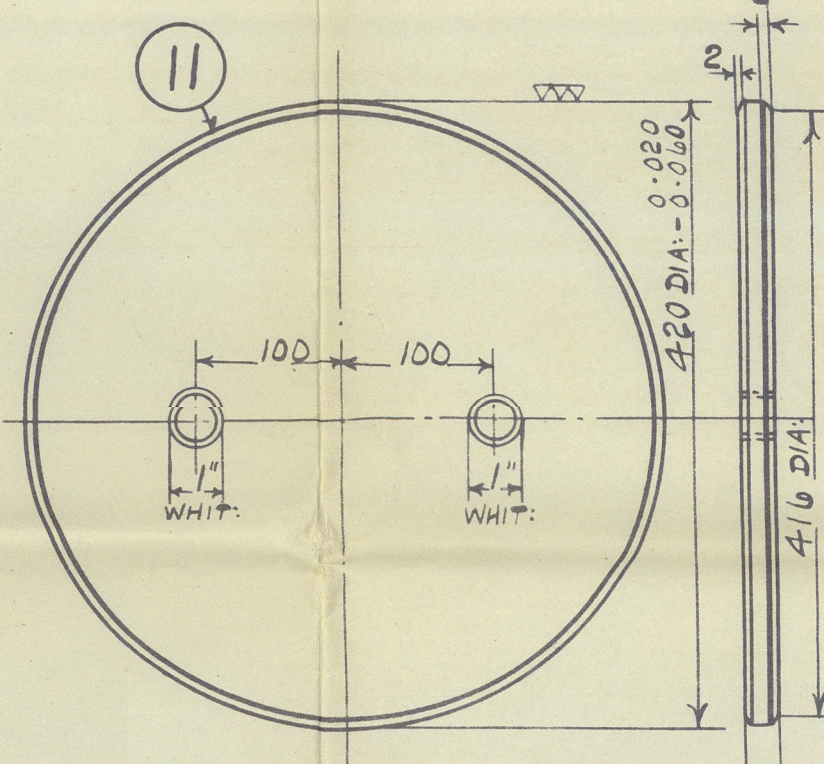
LOCKING PIN TO BE
RIYETTED OVER.



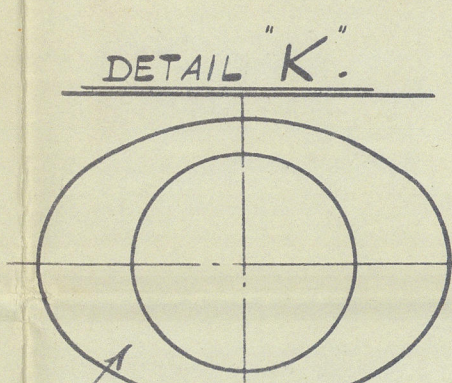
LOCKING PIN TO BE RIVETTED OVER.



DIMENSIONS NOT GIVEN ARE
AS FOR FINISHED BOLTS.



OIL HOLES OPENED
OUT THUS.



Technical drawing of a mechanical part showing a cross-section. The part has a central hole with a diameter of 30 (30 DIA). The hole is flanked by two vertical sections. The top of the part features a fillet with a radius of 12R (12R). The drawing includes hatching to indicate the cross-section.

FOUR STROKE SINGLE ACTING	
10 CYL SUPERCHARGED DIESEL ENGINE	
BORE OF CYL	650
STROKE	1400
NUMBER OF REV PER MIN.	120
MAX PRESSURE PER SQ IN.	700 LB S
MIP	135 LB PER SQ IN. 4110 BHP

LIST OF PARTS

QUANTITIES GIVEN ARE FOR ONE ENGINE N ^o ONLY.								
DIST. MARK	DESCRIPTION	WORKING N ^o OFF		MATERIAL	MAKERS	DO REMARKS	COST INDEX USN ^o	SHIP NOTE
		ASD	OFF AND SPARE					
1	AFT JOURNAL AFT SHAFT	ONE		STEEL	↑		7	
2	FORD JOURNAL AFT SHAFT	ONE		"			7	
3	AFT JOURNAL FORD ^o SHAFT	ONE		"			7	
4	FORD JOURNAL FORD ^o SHAFT	ONE		"			7	
5	JOURNALS - PLAIN	8		"			7	
6	CRANK PINS	10		"	ORDERED W/STDE FINISHED		7	
7	CRANK WEBS	20		"			7	
8	PLUG 1/2 GAS	20		R.N.B.			7	
9	PLUG 1" GAS	10		"			7	
10	LOOKING PINS	30		STEEL			7	
11	SPIGOT PLATE	ONE		"			7	
12	COWLING BOLTS	12	12	3/4" NICKEL STEEL		38-45 TENSILE 19% ELONG.	5	
13	NUTS	12	12	STEEL		38-38 TENS 25% ELONG.	5	
14	SPLIT PINS	12		"	✓		5	
15								

T.P.M.
Q 23-5-38

CRANKSHAFT.

SCALES:- FULL SIZE, $\frac{1}{20}$, $\frac{2}{5}$.

DRAWING No 311.1

ENGINE № 3956 - 7

Lloyd's Register

10/1150 0.151

W1150-0156

R. & W. HAWTHORN, LESLIE
& CO. LTD.

Swan Hunter & Wigham Richardson Ltd.
SHIP NO. 1561-1563.

ENGINE NO. 3956-3954

Drawing n° 311.1

crankshaft

*approved
24/5/38*

*Double Cr. Pair 47 1/2" in dia
Stroke 1400 mm*

m.v. "Thiara"

NEWCASTLE ON TYNE.

Report No. 97941.



14 MAY 1938

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Lloyd's Register
Foundation