



Office: **Rotterdam, Neth.**

Date: **18 July 2013**

This certificate is issued to NICOVERKEN HOLLAND B.V. to certify that the undersigned surveyor to this Society did, at their request, attend their works at Schiedam, Neth. on 4 July 2013 for the purpose of examining the below noted previously used component:

ONE (1) RE-GROUND CRANKSHAFT

Particulars: Solid forged six-throw crankshaft for diesel engine type **YANMAR 6N330L**.
The maker's and Society embossed identity markings have been verified with and confirmed to true copy of initial LR certificate number KOB1039818/1 issued on 02-Jun-2010.
The nominal diameters specified for main journals $\varnothing 295$ mm. and crankpins $\varnothing 260$ mm. respectively.

Scope of Examination:

1. All main journals were re-polished to nominal size; all crankpins ground down to standard undersize, viz. - 0,50 mm. and, found the respective surface hardness within allowable range 73-78 Shore (HS) in way.
2. Journal and pin scantlings and shaft run-out were sample checked at random and confirmed to client's order protocol dd. 27-Jun-2013 and engine maker's tolerances, so far as specified.*
The aforesaid protocol in association with this certificate is to be made available for review upon request.
3. The non-destructive examinations of main journals and crankpins were reported free of surface breaking defects.*

The crankshaft has been examined without fitted crank web counter weights and, so far as could be ascertained the workmanship found of good quality and adequate standard.

For identification purposes crankshaft stamped **ROT1314266 + 7(RVI)13** confining the examination to this certificate.

* Calibration of measuring and testing equipment confirmed valid

Nicoverken Holland B.V.
Order number: PR1300000024


R.J. van Iersel
Surveyor to Lloyd's Register EMEA

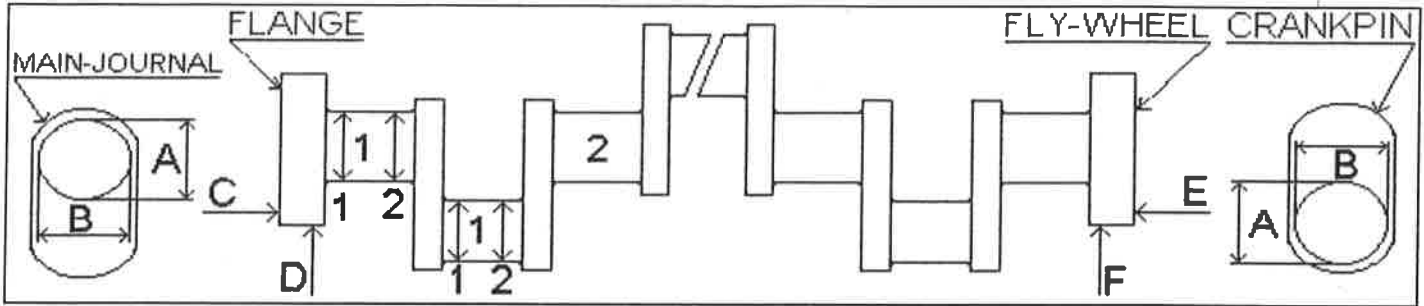
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SIZE PROTOCOL CRANKSHAFT

CLIENT: Nicoverken	TYPE: Yanmar 6N330	STROKE: 190,00
DATE : 27-06-2013	DATA: Z81189-B-1R.YIS-S43C-N. LR KOB NO,0962197.MPT 24 MAR 09	
ORDER: PR1300000024	RT 19 NOV 09 (Y) (YM) FIN NK 817 (K) 01-02-10 (YM) LR 003 KOB 1039818	
SHIP :	2071314266 7 (RVI) 13 DATE	



NOMINAL SIZE: MAINJOURNALS: _____ MM. STANDARD SIZE: MAINJOURNALS: 295,00 MM.
 CRANKPINS : _____ MM. CRANKPINS : 260,00 MM.

	MAINJOURNALS				H S D	ECCENTRICITY BETWEEN CENTERS		CRANKPINS				H S D
	A1	A2	B1	B2				A1	A2	B1	B2	
1	-1	-1	-1,5	-1,5	74,7	3	1	-51,5	-51,5	-51,5	-51,5	75,4
2	-2	-2	-2	-2	75,6	4	2	-50,5	-50,5	-51,5	-51,5	76,3
3	-2,5	-2	-2	-2	77,7	1	3	-51	-51,5	-51,5	-51,5	77,7
4	-2	-1,5	-2	-1,5	77,5	2	4	-51	-51	-51	-51	76,3
5	-2,5	-2,5	-2	-2	76,5	3	5	-51,5	-50	-51,5	-51,5	76,1
6	-2,5	-2	-2,5	-2	72,5	3	6	-51,5	-51,5	-51,5	-51,5	75,9
7	-2	-2	-2,	-2,5	73,6	2	7					
8							8					
9												

A-B MEASURE DEVIATION 1/100 MM.

ECCENTRICITY

REMARKS:

All main journals 1 ~ 7 polished and standard size
 All crankpin journals 1 ~ 6 grinded to U.S 0,5 mm

FLANGE		FLY WHEEL	
C	D	E	F
X	1,5		2
Width thrustbearing: 148,53			
Hardness: HSD			
Cracks: none cracks			

