

ENGINE MODEL	MAN 6L23/30H	LOCATION	COSCO DALIAN	Submit by	Michael Wong
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4. SPECIFICATION OF DIESEL ENGINE

Engine Type: DOOSAN-MAN DIESEL 6L23/30H

Engine no: AE NO.1—MM3349; AE NO.3—MM3351

Running hours: AE NO.1—51536HRS; AE NO.3—46568HRS

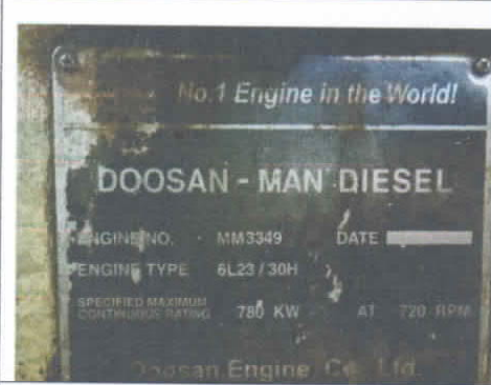


Engine rpm: 720rpm

Rated output: 780kw



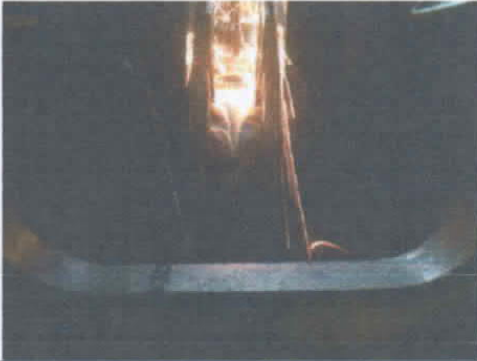


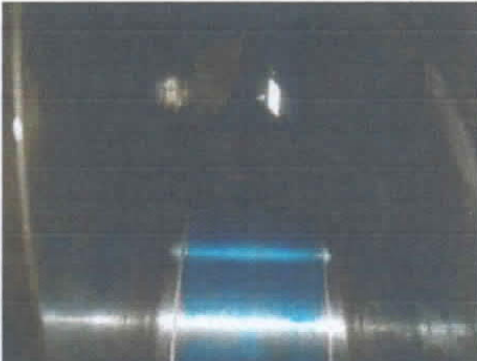



5. SERVICE REPORT

- A. Inspect all of the crankpins diameter of A/E NO.1 & NO.3, found all crankpins have big ovality;
- B. Test crankpins surface hardness, found in normal condition;
- C. Check the magnaflux test for crack detection, found all crankpins surface crack free;
- D. Check the run-out of main journal, the readings as follow:
A/E NO.1—Main journal No.2: 0.02mm, No.6: 0.03mm;
A/E NO.3—Main journal No.2: 0.01mm, No.6: 0.03mm;
- E. Discuss with superintendent & C/E, decide all crankpins of A/E NO.1 & NO.3 grinding to 1.50mm undersize(183.50mm), just same with A/E NO.2, which grinding before by another service team;
- F. Grinding all crankpins of A/E NO.1 & NO.3 to 1.50mm undersize;
- G. Check the surface condition by special dummy bearing, found the contact area were more than 90%;
- H. Check the crankpins surface roughness after grinding & polishing, range in Ra:0.20-0.29 μ m;

6. PHOTO DESCRIPTION

		
<p>Engine Nameplate</p>	<p>Calibration</p>	<p>Hardness test</p>

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Magnaflux test	Run-out test	Grinding in progress
		
After grinding & polishing	Blue fitting by dummy BRG	Blue contact area >90%
		
Blue contact area >90%	Final roughness test	Final calibration

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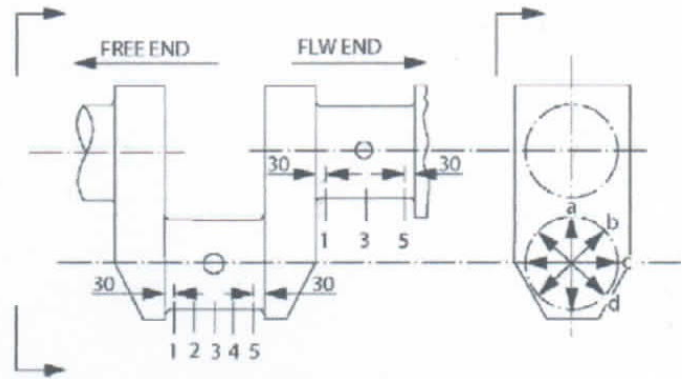
7. CRANKPIN MEASUREMENT RECORD

Drawing No.:

Direction of rotation: CW

Checked: Crankpin No.: 2/4

Main Journal No.: 1/3/5



Measures with 0.01mm accuracy,

NO.1 was taken from Free end side.

A/E NO.1 CRANK PIN (original dia.: $\varnothing 185.00$ mm) before Grinding				A/E NO.1 CRANK PIN (dia.: $\varnothing 183.50$ mm) after Grinding			
		2	4	Hardness (HB)	2	4	Hardness (HB)
1	a	184.75	184.75	210-252	183.49	183.49	
	c	184.90	184.89		183.50	183.50	
2	a	184.80	184.75	213-249	183.47	183.48	
	c	184.88	184.88		183.47	183.47	
3	a	184.69	184.70	211-253	183.48	183.47	
	c	184.90	184.89		183.48	183.48	
4	a	184.74	184.69	217-249	183.47	183.47	
	c	184.83	184.85		183.47	183.48	
5	a	184.73	184.73	220-250	183.47	183.48	
	c	184.95	184.92		183.49	183.49	
6	a	184.75	184.79	219-251	183.48	183.48	
	c	184.90	184.91		183.47	183.47	

Remarks:

- All crankpins of A/E NO.1 have big ovality before grinding;
- Surface hardness range in 210-253HB, which in normal condition;
- No crack found after magnaflux test;
- After grinding & polishing, surface roughness range in Ra 0.21-0.29 μ m;

A/E NO.3 CRANK PIN (original dia.: $\varnothing 185.00$ mm) before Grinding				A/E NO.3 CRANK PIN (dia.: $\varnothing 183.50$ mm) after Grinding			
		2	4	Hardness (HB)	2	4	Hardness (HB)
1	a	184.73	184.75	208-245	183.49	183.49	
	c	184.88	184.90		183.49	183.49	
2	a	184.78	184.78	213-239	183.48	183.47	
	c	184.90	184.90		183.47	183.47	