

NOTES:-

SHAFT STIFFNESS:-

THE STIFFNESS OF THE SHAFT BETWEEN THE MAIN ROTOR CORE  $\phi$  AND THE SHAFT FACE 'A' IS  $2.9752 \times 10^6$  kgcm/radian (STIFFENING EFFECT OF MAIN ROTOR CORE IS NOT INCLUDED IN THIS FIGURE)

SHAFT MATERIAL:-

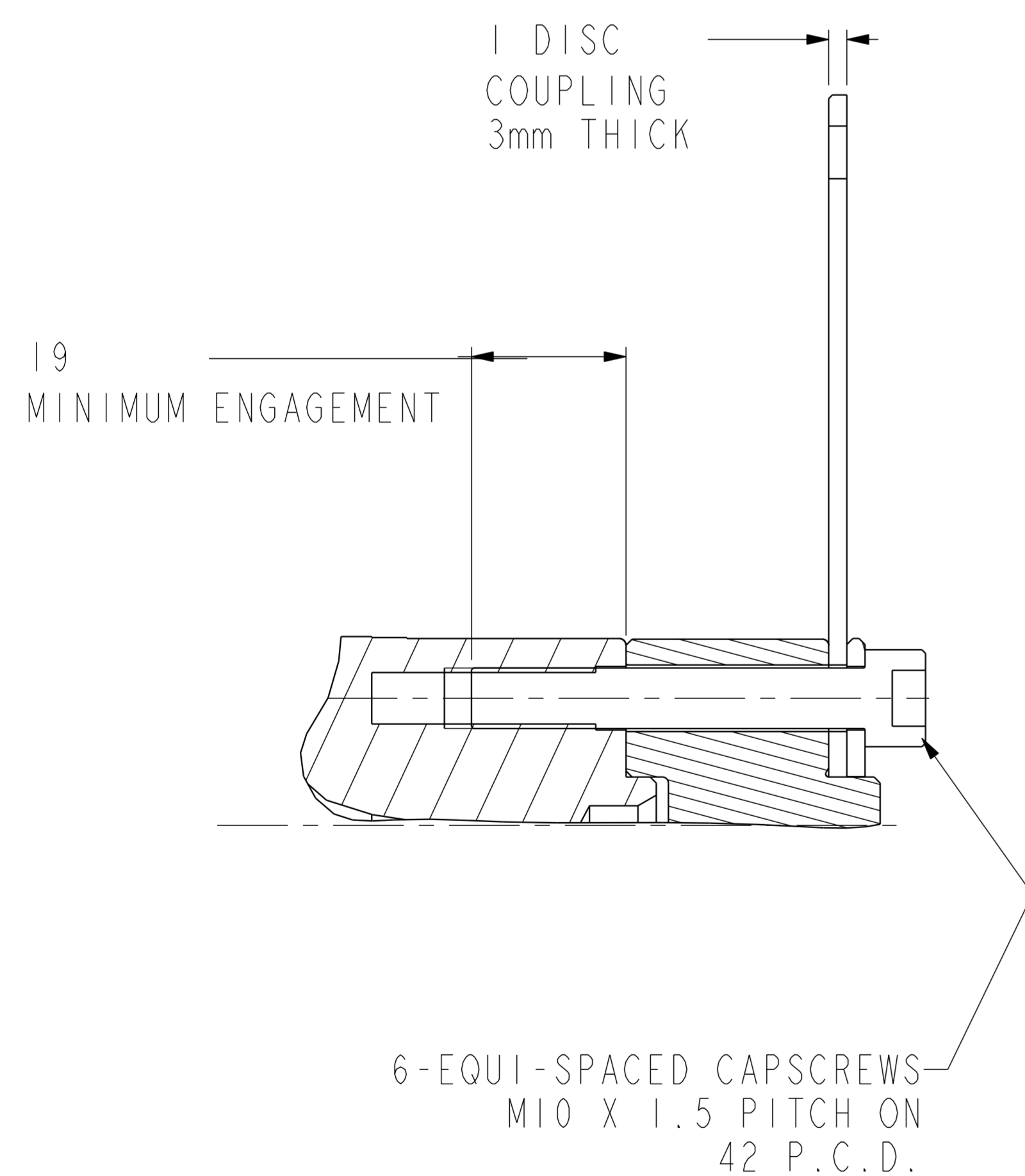
STEEL - C40E TO BSEN 10083-2 2006 (APPROVED BY MARINE AUTHORITIES WHEN APPROPRIATE) MAXIMUM RECOMMENDED VIBRATORY STRESS LEVEL IN THE SHAFT IS  $34.47 \times 10^6$  N/m<sup>2</sup> FOR SPEED RANGE OF 0.95 TO 1.1 X NOMINAL SPEED AND  $68.94 \times 10^6$  N/m<sup>2</sup> FOR RUN THROUGH CONDITIONS, FOR INDUSTRIAL MACHINES.

FOR MARINE AUTHORITIES, THEIR APPROPRIATE RULES WILL APPLY.

CUMMINS GENERATOR TECHNOLOGIES LTD SHOULD BE NOTIFIED OF ANY ROTORS NOT COMPLYING WITH THESE RULES. CUMMINS GENERATOR TECHNOLOGIES LTD BALANCE ROTORS TO COMPLY WITH INTERNATIONAL STD BS ISO 1940 PARTS 1 AND 2 . BALANCE GRADE 2.5

FOR UNBALANCED MAGNETIC PULL (U.M.P.) REFER BACK TO THE FACTORY.

APPROVED DOCUMENT



COMPONENT	MASS (kg)	WR <sup>2</sup> (kgm <sup>2</sup> )
SHAFT	7.282	0.0026
FAN	0.976	0.0067
MAIN ROTOR	20.356	0.0711
EXCITER ROTOR	3.495	0.0139
TOTAL WITHOUT EBG ROTOR	32.109	0.0943
EBG ROTOR	1.701	0.0017
TOTAL WITH EBG ROTOR	33.810	0.0960

ADAPTOR SAE No.	COUPLING SAE No.	COUPLING DIMENSIONS		MASS OF DISC (kg) (1 X 3mm THICK)	MASS OF SHAFT SPACER (kg)	MASS OF PRESSURE PLATE (kg)	TOTAL MASS OF COUPLING ASSEMBLY (kg)	COUPLING STIFFNESS (kgcm/rad)	COUPLING DISC WR <sup>2</sup> (kgm <sup>2</sup> )
		ØXX mm	YY mm						
4/5	6 1/2	215.8	10	0.850	0.233	0.069	1.152	13.955 X 10 <sup>6</sup>	0.0049
4/5	7 1/2	241.2	10	1.069	0.233	0.069	1.371	13.835 X 10 <sup>6</sup>	0.0079
4/5	8	263.5	41.8	1.275	0.974	0.069	2.318	13.747 X 10 <sup>6</sup>	0.0111
3/4	10	314.2	33.6	1.819	0.783	0.069	2.671	13.616 X 10 <sup>6</sup>	0.0225
3	11 1/2	352.3	19.4	2.287	0.452	0.069	2.808	13.555 X 10 <sup>6</sup>	0.0355

CONVERSION FACTORS		
TO CONVERT	TO	DIVIDE BY
kg	lb	0.453592
kgm <sup>2</sup>	lbf ft <sup>2</sup>	0.04214
kgcm/rad	lbin/rad	1.1521246
N/m <sup>2</sup>	lbf/in <sup>2</sup>	6894.76

MOD.	ISSUE	DRAWN	DATE	MODIFICATION
4-9111-12	A	SMJ	06.07.07	ORIGINAL ISSUE

<b>CONFIDENTIAL PROPERTY OF CUMMINS GENERATOR TECHNOLOGIES LTD.</b>				P12D ONE BEARING MOMENTS OF INERTIA AND SHAFT DETAILS			
MATERIAL PROPS	-	DIMENSIONS IN MILLIMETRES (MM) AT 20°C	PROJECTION	SCALE	3:10	MATERIAL	-
FINISH SPEC	-	SURFACE FINISH VALUES IN MICRO METRES		WEIGHT	=	DRG. SIZE	A
GEOMETRY SPEC	-			DRAWN	SMJ	06.07.07	CASTING No.
ASSEMBLY SPEC	-	UNLIMITED DIMS ±	CHECKED	RPM	09.07.07	PART No.	L15-13221
PERFORMANCE SPEC	-		APPROVED	DPC	12.07.07	REL. PHASE	P
QUALITY SPEC	-					PROF/ENGINEER	
						SHEET	1 OF 1 SHEETS