

REL NO	LTR	NO	REVISION	DWN	CKD	APVD	DATE
ECO-165950	A	1	PRODUCTION RELEASE	AGJ	AGJ	M.WICKMANN	07NOV16

SEISMIC INSTALLATIONS NOTES:

1. THE DESIGN OF POST-INSTALLED ANCHORS IN CONCRETE USED FOR THE COMPONENT ANCHORAGE IS PRE-QUALIFIED FOR SEISMIC APPLICATIONS IN ACCORDANCE WITH "ACI 355.2-07" AND DOCUMENTED IN A REPORT BY A REPUTABLE TESTING AGENCY. (EX. THE EVALUATION SERVICE REPORT ISSUED BY THE INTERNATIONAL CODE COUNCIL)
2. ANCHORS MUST BE INSTALLED TO AN EMBEDMENT DEPTH AS RECOMMENDED IN THE PRE-QUALIFICATION TEST REPORT AS DEFINED IN NOTE 1. FOR "CBC 2016" APPLICATIONS.
3. ANCHORS MUST BE INSTALLED IN MINIMUM 3000 PSI COMPRESSIVE STRENGTH NORMAL WEIGHT STRUCTURAL CONCRETE. CONCRETE AGGREGATE MUST COMPLY WITH "ASTM C33".
4. ANCHORS MUST BE INSTALLED TO THE TORQUE SPECIFICATION AS RECOMMENDED BY THE ANCHOR MANUFACTURER.
5. ANCHORS MUST BE INSTALLED IN LOCATIONS SPECIFIED ON THIS INSTALLATION DRAWING.
6. WASHERS MUST BE INSTALLED AT EACH ANCHOR LOCATION BETWEEN THE ANCHOR HEAD AND EQUIPMENT FOR TENSION LOAD DISTRIBUTION. WASHERS MUST BE TYPE A OR B PLAIN WASHERS MEETING ASME B18.21.1-2009. WASHER SIZE TO MATCH ANCHOR DIAMETER.
7. CONCRETE FLOOR SLAB AND CONCRETE HOUSEKEEPING PADS MUST BE DESIGNED FOR SEISMIC APPLICATIONS IN ACCORDANCE WITH "ACI 318-11".
8. ALL HOUSEKEEPING PAD THICKNESSES MUST BE DESIGNED IN ACCORDANCE WITH THE PRE-QUALIFICATION TEST REPORT AS DEFINED IN NOTE 1 OR A MINIMUM OF 1.5X THE ANCHOR EMBEDMENT DEPTH, WHICHEVER IS LARGEST (UNLESS NOTED OTHERWISE).
9. ALL HOUSEKEEPING PADS MUST BE DOWELLED OR CAST INTO THE BUILDING STRUCTURAL FLOOR SLAB AND DESIGNED FOR SEISMIC APPLICATION PER "ACI 318-11" AND AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
10. FLOOR MOUNTED EQUIPMENT (WITH OR WITHOUT A HOUSEKEEPING PAD) MUST BE INSTALLED TO A STEEL REINFORCED STRUCTURAL CONCRETE FLOOR THAT IS SEISMICALLY DESIGNED AND APPROVED BY THE ENGINEER OF RECORD TO RESIST ALL LOADS FROM EQUIPMENT BEING ANCHORED TO THE FLOOR.
11. COORDINATE REINFORCEMENT OF SUPPORT STRUCTURE WITH EQUIPMENT ANCHOR LOCATIONS.
12. ATTACHING SEISMIC CERTIFIED EQUIPMENT TO FLOOR OTHER THAN THOSE DESIGNED TO ACCEPT THE SEISMIC LOADS FROM CERTIFIED EQUIPMENT BY THE STRUCTURAL ENGINEER OF RECORD IS PROHIBITED.
13. INSTALLATION ONTO A STEEL ROOF STRUCTURE OR MANUFACTURED STEEL CURB SHALL BE COORDINATED WITH THE STRUCTURAL ENGINEER OF RECORD.
14. CONNECTIONS TO THE EQUIPMENT, INCLUDING BUT NOT LIMITED TO CONDUIT, WIRING FROM CABLE TRAYS, OTHER ELECTRICAL SERVICES OR OTHER CONNECTIONS, ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND BEYOND THE SCOPE OF THIS DOCUMENT. FLEXIBLE ATTACHMENTS MUST BE USED FOR SEISMIC CONNECTIONS TO ISOLATED COMPONENTS OR ISOLATED EQUIPMENT. THE FLEXIBLE ATTACHMENT MUST PROVIDE FOR ENOUGH RELATIVE DISPLACEMENT TO REMAIN CONNECTED TO THE EQUIPMENT AND FUNCTIONAL DURING AND AFTER A SEISMIC EVENT.
15. REFER TO GENSET OUTLINE DRAWINGS FOR WEIGHT, CG AND CONFIGURATION SPECIFICS.

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		SIM TO: NONE	DWN: A. JOHNSON		CUMMINS POWER GENERATION	
DO NOT SCALE PRINT		CKD: A. JOHNSON	INSTALLATION, GENSET			
DIM	X ± 1	0.00- 4.99 +0.15/-0.08	APVD: M. WICKMANN	SEISMIC REQUIREMENTS		
	.X ± 0.8	5.00- 9.99 +0.20/-0.10	DATE: 07NOV16	SITE CODE		
	.XX ± 0.38	10.00-17.49 +0.25/-0.13		PGF		
		17.50-24.99 +0.30/-0.13		D A056M541		
ANG TOL: ±	1.0°	SCALE: 1/1	FIRST USED ON: ARROW		SHEET 1 OF 4	DRG REV A
- CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP			FOR INTERPRETATION OF DIMENSIONS AND TOLERANCING, SEE ASME Y14.5M-1994			

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GRADE MOUNTED GENERATOR SETS

CUMMINS GENSET MODEL	CONFIGURATION	ATTACHMENT TO CONCRETE				
		EVALUATION PARAMETERS	CONCRETE ANCHORS	ANCHOR EMBEDMENT	ANCHOR SPACING	DISTANCE TO NEAREST EDGE
C125 N6 C150 N6	GENERATOR SET WITH OR WITHOUT ENCLOSURE	CBC 2016/IBC 2015 S _{ds} ≤ 2.5 I _p ≤ 1.5 a _p /R _p ≤ 2.5/2.0 z/h = 1.0 Ω = 2.5				SEE NOTE

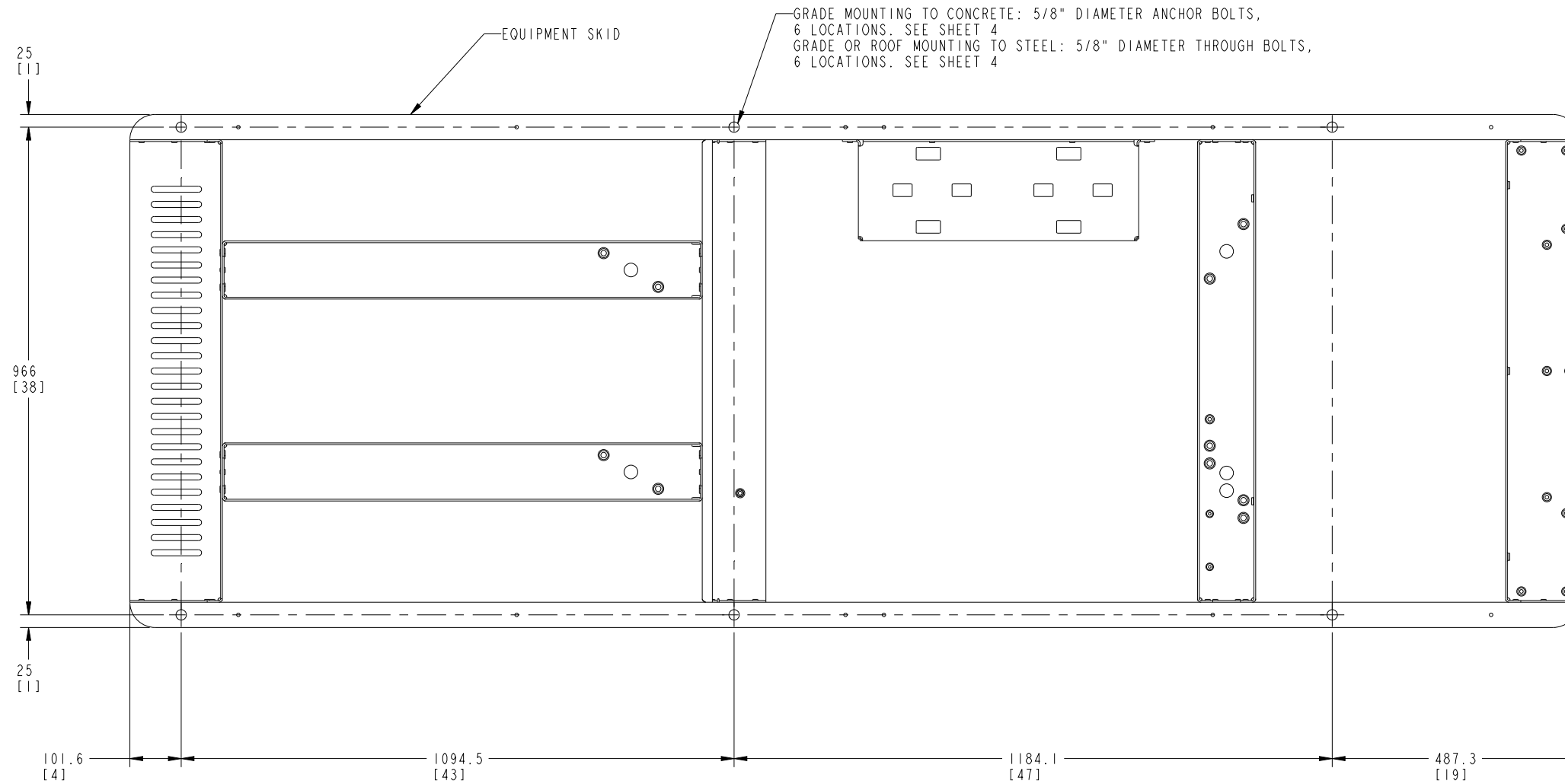
NOTE: TYPE OF ANCHOR, ANCHOR ATTACHMENT SPECIFICS AND MINIMUM SLAB THICKNESS TO BE DESIGNED BY ENGINEER OF RECORD.

GRADE/ROOF MOUNTED GENERATOR SETS

CUMMINS GENSET MODEL	CONFIGURATION	ATTACHMENT TO STEEL	
		EVALUATION PARAMETERS	STEEL BOLTS
C125 N6 C150 N6	GENERATOR SET WITH OR WITHOUT ENCLOSURE	CBC 2016/IBC 2015 S _{ds} ≤ 2.5 I _p ≤ 1.5 a _p /R _p ≤ 2.5/2.0 z/h ≤ 1.0	(QTY 6) 5/8" DIAMETER ASTM A325N OR A490 BOLTS WITH WASHERS THROUGH THE BASE RAIL MOUNTING HOLES.

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		SH TO NONE	DWN A. JOHNSON		CUMMINS POWER GENERATION	
DIM	X ± 1 .X ± 0.8 .XX ± 0.38	DO NOT SCALE PRINT	CKD A. JOHNSON		INSTALLATION, GENSET	
	HOLE	0.00- 4.99 +0.15/-0.08 5.00- 9.99 +0.20/-0.10 10.00-17.49 +0.25/-0.13 17.50-24.99 +0.30/-0.13	APVD M. WICKMANN	SITE CODE	SEISMIC REQUIREMENTS	
ANG TOL: ±	1.0°	SCALE: 1/1	DATE 07NOV16	PGF	DWG FILE	A056M541
			FOR INTERPRETATION OF DIMENSIONS AND TOLERANCING, SEE ASME Y14.5M-1994	ARROW	SHEET	2 OF 4
			PROPERTY OF CUMMINS POWER GENERATION GROUP		DWG REV	A

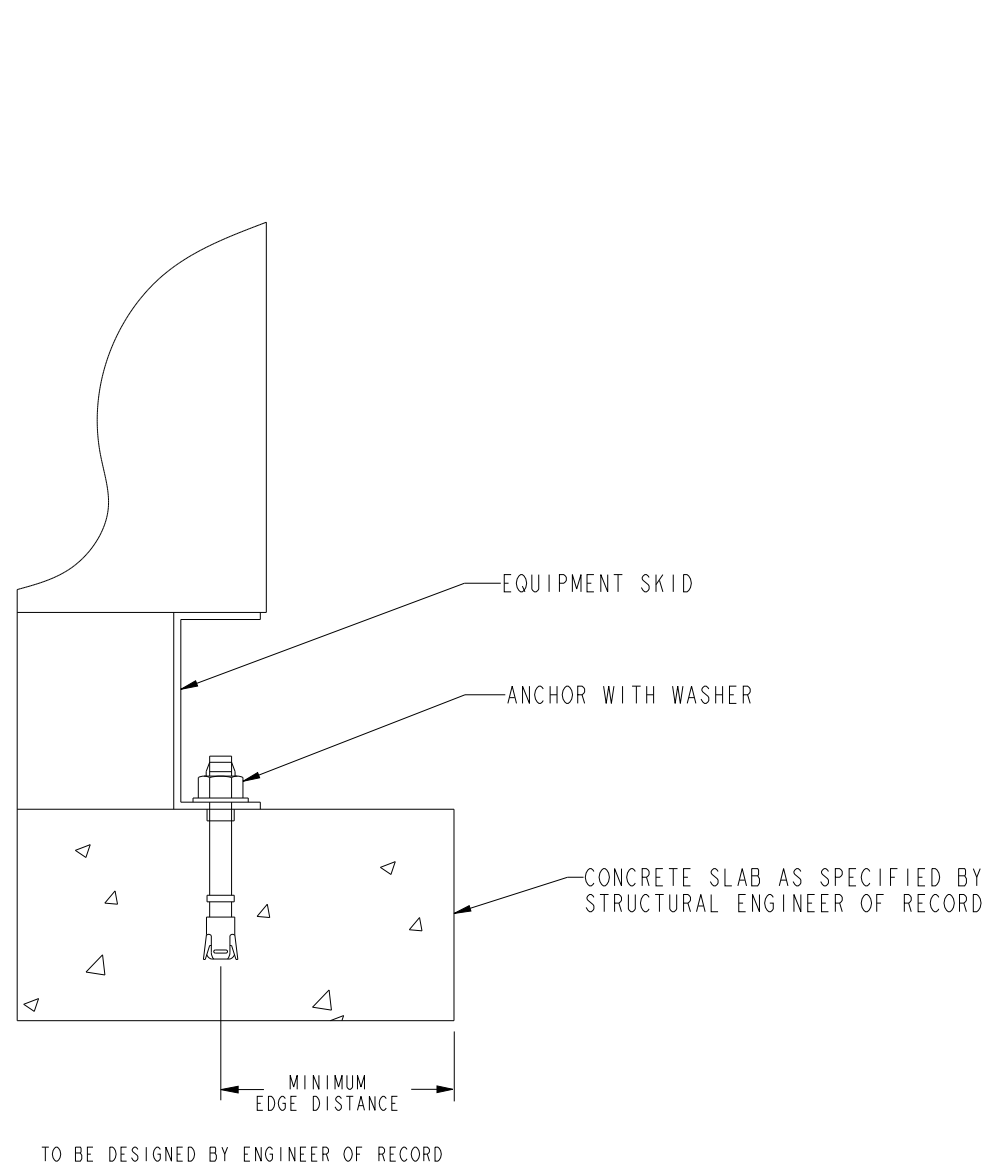
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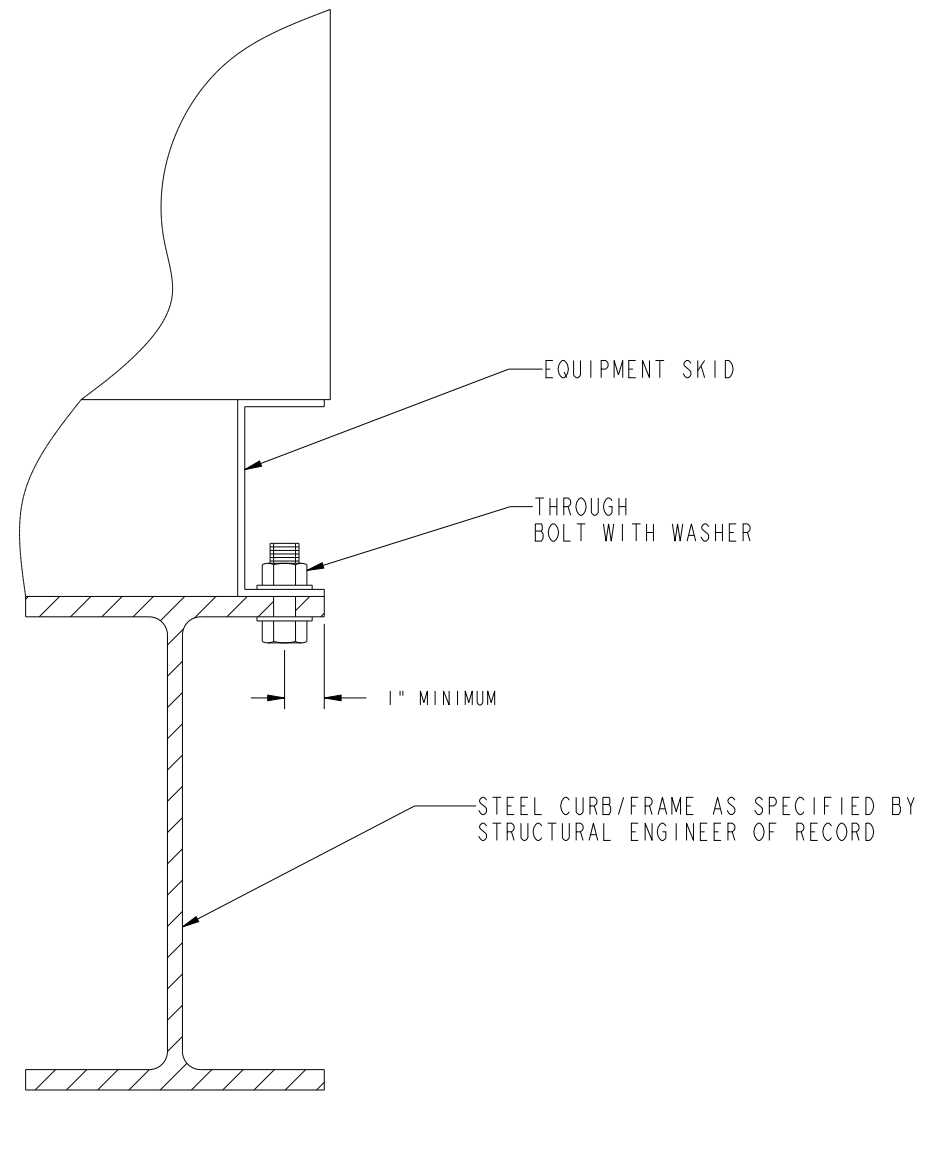
SCALE 3/16

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		DIM TOLERANCES		FINISH TO NONE		DWN A. JOHNSON			CUMMINS POWER GENERATION	
X ± 1	0.00 - 4.99 +0.15/-0.08	DO NOT SCALE PRINT				CKD A. JOHNSON			INSTALLATION, GENSET	
.X ± 0.8	5.00 - 9.99 +0.20/-0.10					APVD M. WICKMANN		SEISMIC REQUIREMENTS		
.XX ± 0.38	10.00 - 17.49 +0.25/-0.13					DATE 07NOV16		SITE CODE		
	17.50 - 24.99 +0.30/-0.13					FIRST USED ON ARROW		PGF		
ANG TOL: ± 1.0°	SCALE: 1/1					- CONFIDENTIAL -		DWN FILE D		
						PROPERTY OF CUMMINS POWER GENERATION GROUP		A056M541		
								3 of 4		
								REV A		

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CONCRETE CONNECTION



STEEL CONNECTION

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		SIM TO: NONE	DWN: A. JOHNSON		CUMMINS POWER GENERATION												
DO NOT SCALE PRINT			CKD: A. JOHNSON		INSTALLATION, GENSET												
DIM	TOLERANCE	<table border="1"> <tr> <td>X ± 1</td> <td>0.00 - 4.99</td> <td>+0.15 / -0.08</td> </tr> <tr> <td>.X ± 0.8</td> <td>5.00 - 9.99</td> <td>+0.20 / -0.10</td> </tr> <tr> <td>.XX ± 0.38</td> <td>10.00 - 17.49</td> <td>+0.25 / -0.13</td> </tr> <tr> <td></td> <td>17.50 - 24.99</td> <td>+0.30 / -0.13</td> </tr> </table>	X ± 1	0.00 - 4.99	+0.15 / -0.08	.X ± 0.8	5.00 - 9.99	+0.20 / -0.10	.XX ± 0.38	10.00 - 17.49	+0.25 / -0.13		17.50 - 24.99	+0.30 / -0.13	APVD: M. WICKMANN	SEISMIC REQUIREMENTS	
X ± 1	0.00 - 4.99	+0.15 / -0.08															
.X ± 0.8	5.00 - 9.99	+0.20 / -0.10															
.XX ± 0.38	10.00 - 17.49	+0.25 / -0.13															
	17.50 - 24.99	+0.30 / -0.13															
ANG TOL: ± 1.0°	SCALE: 1/1		DATE: 07NOV16	SITE CODE: PGF	DWG FILE: A056M541												
<small>FOR INTERPRETATION OF DIMENSIONS AND TOLERANCING, SEE ASME Y14.5M-1994</small>			FIRST USED ON: ARROW	SHEET: 4 of 4	DWG REV: A												

Part A056M541 A

Description	Legacy Name	External Regulations	Application Status	Release Phase Code	Security Classification	Alternates
INSTALLATION,GENSET	A056M541	IBC,OSHPD	Production Only	Production	Confidential	

Part Specifications :A056M541 A

Name	Description	Legacy Name
A030B356	SPECIFICATION,MATERIAL	CES10903
A056M542	DRAWING,ENGINEERING	A056M542