

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, stabilized or cancelled. SAE invites your written comments and suggestions.

REV.
A

SAE AS39029/57

RATIONALE

REVISE TO INCLUDE COMMENTS RECEIVED BY THE GOVERNMENT AND INDUSTRY, REMOVE GOVERNMENT JARGON, UPDATE REFERENCES, ALIGN SPECIFICATION WITH SAE GUIDELINES, AND REVIEW SPECIFICATION FOR KNOWN TECHNICAL PROBLEMS

NOTICE

THE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE LATEST ISSUE OF SAE AS39029.

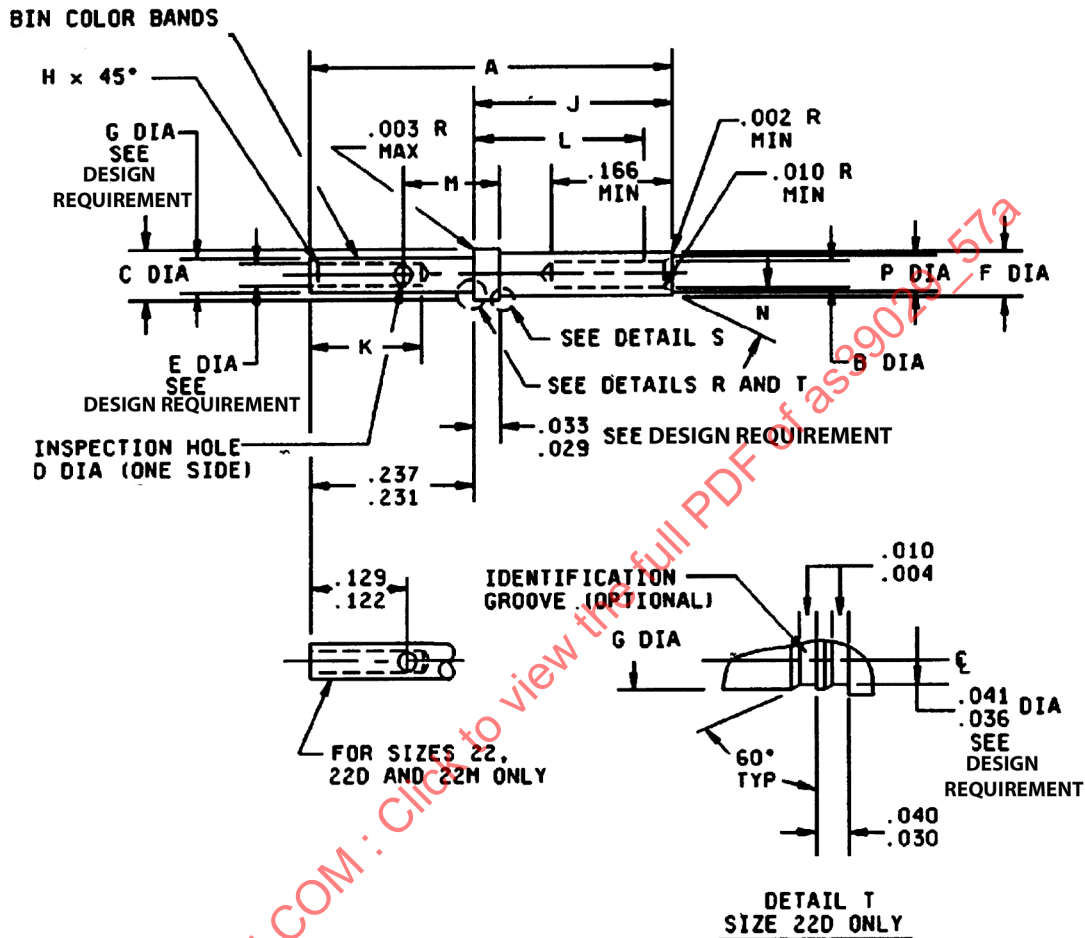
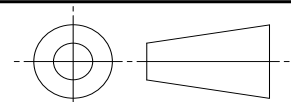


FIGURE 1 - CONNECTOR CONTACT

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/AS39029/57A>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS39029

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

(R) CONTACTS, ELECTRICAL CONNECTORS, SOCKET CRIMP REMOVABLE (FOR MIL-DTL-24308, MIL-DTL-38999 SERIES II, MIL-DTL-55302/68, /71, /72, /75 AND MIL-DTL-83733 CONNECTORS)

SAE AS39029/57
SHEET 1 OF 6

REV.
A

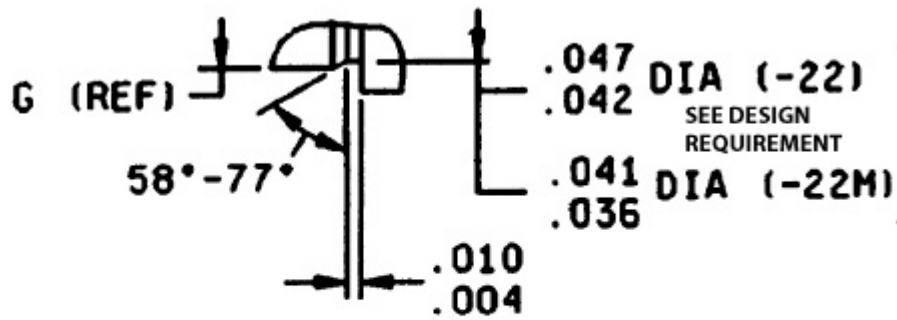
Copyright 2012 SAE International
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Fax: 724-776-0790

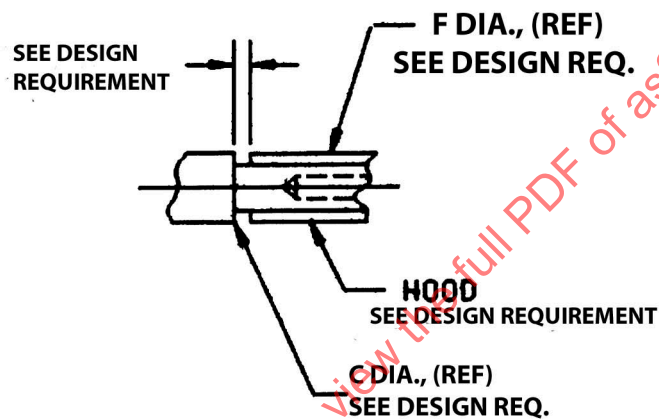
Tel: +1 724-776-4970 (outside USA)
Email: CustomerService@sae.org

SAE WEB ADDRESS: <http://www.sae.org>

ISSUED 2000-07 REVISED 2012-01



DETAIL R
SIZES 22, 22M ONLY



DETAIL S (ALL SIZES)

FIGURE 1 - CONNECTOR CONTACT (CONTINUED)

TABLE 1 - CONNECTOR CONTACT

BIN CODE	A REF	B DIA (MIN)	C DIA	D DIA	E DIA	F DIA MAX	G DIA	H
354, 662	.518 (13.16)	.031 (.79)	.062 (1.57) .060 (1.52)	.022 (.56) .018 (.46)	.0355 (.90) .0335 (.85)	.062 (1.57)	.048 (1.22) .046 (1.17)	.005 (.13) .003 (.08)
355		.031 (.79)	.062 (1.57) .060 (1.52)	.022 (.56) .018 (.46)	.029 (.74) .027 (.69)	.062 (1.57)	.046 (1.17) .044 (1.12)	
356		.031 (.79)	.071 (1.80) .069 (1.75)	.022 (.56) .018 (.46)	.0375 (.95) .0355 (.90)	.062 (1.57)	.052 (1.32) .050 (1.27)	
357, 658		.0415 (1.05)	.094 (2.39) .091 (2.31)	.032 (.81) .026 (.66)	.048 (1.22) .046 (1.17)	.078 (1.98)	.070 (1.78) .068 (1.73)	.010 (.25)
358		.064 (1.63)	.130 (3.30) .127 (3.23)	.042 (1.07) .036 (.914)	.068 (1.73) .066 (1.68)	.113 (2.87)	.103 (2.62) .101 (2.57)	.005 (.13)
359		.0955 (2.43)	.182 (4.62) .179 (4.55)	.042 (1.07) .036 (.914)	.102 (2.59) .098 (2.49)	.161 (4.09)	.151 (3.84) .148 (3.76)	.016 (.41) .005 (.13)

TABLE 1 - CONNECTOR CONTACT (CONTINUED)

BIN CODE	J	K MIN	L MIN (SEE DESIGN REQ)	M	N°	P DIA MIN
354, 662	.289 (7.34) .279 (7.09)	.141 (3.58)	.248 (6.30)	-----	50° 44°	.047 (1.19)
355				-----		
356				-----		
357, 658		.209 (5.31)		.078 (1.98) .072 (1.83)	47° 28°	.053 (1.35)
358				.088 (2.24) .082 (2.08)		.084 (2.13)
359						.118 (2.30)

TABLE 2 - DESIGN CHARACTERISTICS

BIN CODE	COLOR BANDS			MATING END SIZE	WIRE BARRELL SIZE	TYPE	CLASS
	1 ST	2 ND	3 RD				
354	ORANGE	GREEN	YELLOW	22	22D	A	B
355	ORANGE	GREEN	GREEN	22	22M		
356	ORANGE	GREEN	BLUE	22	22		
357	ORANGE	GREEN	VOILET	20	20		
358	ORANGE	GREEN	GRAY	16	16		
359	ORANGE	GREEN	WHITE	12	12		
658 1/	BLUE	GREEN	GRAY	20	20		
662 1/	BLUE	BLUE	RED	22	22D		

1/ FINISH SHALL BE GOLD PLATING IN ACCORDANCE WITH ASTM B 488, TYPE II, CODE C, CLASS 1.27 OVER A SUITABLE UNDERPLATE. SILVER AND NICKEL SHALL NOT BE USED AS AN UNDERPLATE ON CLASSES M & N. THIS FINISH IS INTENDED FOR USE WITH MIL-DTL-24308 NON-MAGNETIC CONNECTORS, CLASS M AND N ONLY.

TABLE 3 - TOOLS

BIN CODE	BASIC CRIMPING TOOL	POSITIONER	INSTALLING TOOL	REMOVAL TOOL
354, 662	M22520/2-01 M22520/7-01	M22520/2-06 M22520/7-06	M81969/14-01 M81969/8-01	M81969/14-01 M81969/8-02
355	M22520/2-01 M22520/7-01	M22520/2-06 M22520/7-06	M81969/14-01 M81969/8-01	M81969/14-01 M81969/8-02
356	M22520/2-01 M22520/7-01	M22520/2-06 M22520/7-06	M81969/8-03	M81969/8-04
357, 658	M22520/2-01 M22520/7-01 M22520/1-01	M22520/2-10 M22520/7-08 M22520/1-04 (RED)	M81969/14-02 M81969/8-05	M81969/14-02 M81969/8-06
358	M22520/1-01 M22520/7-01	M22520/1-04 (BLUE) M22520/7-04	M81969/14-03 M81969/8-07	M81969/14-03 M81969/8-08
359	M22520/1-01	M22520/1-04 (YELLOW)	M81969/14-04 M81969/8-09	M81969/14-04 M81969/8-10

TABLE 4 - PROBE DAMAGE INSERTION DEPTHS

CONTACT SIZE	INSERTION DEPTH (INCHES) +.020 -.000
22, 22M, 22D, 20	.083 - .125 <u>1/</u>
16	.135
12	.166

1/ INDICATED DIMENSIONS REPRESENT ½ AND ¾ DEPTHS.

TABLE 5 - PART NUMBER AND BIN CODE

BIN CODE	PART NUMBER	SUPERSEDED PART NUMBER
354	M39029/57-354	MS27491-22D
355 <u>1/</u> , <u>2/</u> , <u>3/</u>	M39029/57-355	MS27491-22M
356 <u>1/</u> , <u>2/</u> , <u>3/</u>	M39029/57-356	MS27491-22
357 <u>2/</u>	M39029/57-357	MS27491-20
358 <u>2/</u> , <u>3/</u>	M39029/57-358	MS27491-16
359 <u>2/</u> , <u>3/</u>	M39029/57-359	MS27491-12
658 <u>4/</u>	M39029/57-658	
662 <u>4/</u>	M39029/57-662	

1/ NOT RECOMMENDED FOR NEW DESIGN

2/ NOT FOR USE WITH MIL-DTL-83733 OR MIL-DTL-24308 CONNECTORS (FOR MIL-DTL-83733 USE CONTACT SIZES 20, 16 AND 12, SEE AS39029/4 OR /5).

3/ NOT FOR USE WITH MIL-DTL-55302 CONNECTORS

4/ FOR USE WITH MIL-DTL-24308 NON-MAGNETIC CONNECTORS, CLASS M AND N ONLY.

REQUIREMENTS: ALL REQUIREMENTS SHALL CONSIST OF THIS SPECIFICATION AND THE LATEST ISSUE OF AS39029.

1. DESIGN:

CONTACTS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE 1 AND TABLE 1. DIMENSIONS ARE IN INCHES. METRIC EQUIVALENTS ARE GIVEN FOR GENERAL INFORMATION ONLY. DIMENSIONS SHOWN APPLY AFTER PLATING. OPERATING TEMPERATURE RANGE: -65 °C (-85 °F) TO 200 °C (392 °F). FOR BIN CODES 354 AND 362 ONLY, DIAMETERS E AND G ARE TO BE CONCENTRIC WITHIN .003 (TIR) REGARDLESS OF FEATURE SIZE (RFS); FOR ALL OTHER CONTACT SIZES, DIAMETERS E AND G TO BE CONCENTRIC WITHIN .001 (TIR) AT MAXIMUM MATERIAL CONDITION (MMC). THE .036-.041 DIAMETER IN DETAIL "T" AND THE .042-.047/.036-.041 DIAMETERS IN DETAIL "R" SHALL BE CONCENTRIC TO G DIAMETER WITHIN .003 TIR (RFS). FOR DETAIL "S", THE MECHANICAL PRESSURE MEMBER SHALL BE SHROUDED. HOODS IF USED SHALL CONFORM TO THE REQUIREMENTS HEREIN. THE MAXIMUM ALLOWABLE GAP BETWEEN THE HOOD AND THE BODY OF THE CONTACT IS .010 INCHES (EXCEPT 22D AND 22M CONTACTS). THE MAXIMUM ALLOWABLE GAP FOR SIZE 22D AND 22M CONTACTS IS .006 INCHES. IN ATTACHMENT AREA, THE CONTACT BODY "C" DIAMETER SHALL EXCEED THE HOOD "F" DIAMETER BY 0.001 INCH MIN. REGARDLESS OF FEATURE SIZE (RFS). OPTIONAL DESIGNS MAY HAVE A FULL LENGTH CORROSION RESISTANT STEEL HOOD. THE .029-.033 SHOULDER DIMENSION DOES NOT APPLY TO BIN CODES 354, 355 AND 362. DIMENSION L MINIMUM IS THE POINT AT WHICH A SQUARE ENDED PIN OF THE SAME BASIC DIAMETER AS THE MATING CONTACT FIRST ENGAGES THE SOCKET CONTACT SPRING.

2. TOOLS:

TOOLS REQUIRED FOR CRIMPING CONTACTS TO THE WIRE/CABLE AND THE INSTALLING/REMOVAL FROM THE CONNECTOR SHALL BE IN ACCORDANCE WITH TABLE 3.

3. PART NUMBERS:

CONTACT PART NUMBERS SHALL BE IN ACCORDANCE WITH TABLE 5. SUPERSEDED PART NUMBERS ARE AS SPECIFIED.

4. MATERIALS:

MATERIALS SHALL BE IN ACCORDANCE WITH SAE AS39029.

OUTGASSING REQUIREMENT:

PART NUMBERS M39029/57-658 AND M39029/57-662 SHALL MEET THE OUTGASSING REQUIREMENTS OF ASTM-E595. THE REQUIREMENT MAY BE VERIFIED BY CERTIFICATION. CONTACT THE QUALIFYING ACTIVITY FOR DETAILS CONCERNING THE CERTIFICATION PROCESS.

 An SAE International Group	AEROSPACE STANDARD	SAE AS39029/57 SHEET 4 OF 6	REV. A
	(R) CONTACTS, ELECTRICAL CONNECTORS, SOCKET CRIMP REMOVABLE (FOR MIL-DTL-24308, MIL-DTL-38999 SERIES II, MIL-DTL-55302/68, /71, /72, /75 AND MIL-DTL-83733 CONNECTORS)		