

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 revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

REV.
C

AS39029™/17

RATIONALE

REVISION IS REQUIRED TO IMPROVE DRAWING QUALITY, TO REVISE THE USAGE STATEMENT TO MEET THE LATEST SAE GUIDELINES, TO INCORPORATE THE APPLICABLE AS39029 BASE SPEC DETAIL SHEET EXCEPTIONS, AND TO ADD METRIC EQUIVALENTS/FORMAT UPDATES.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS39029.

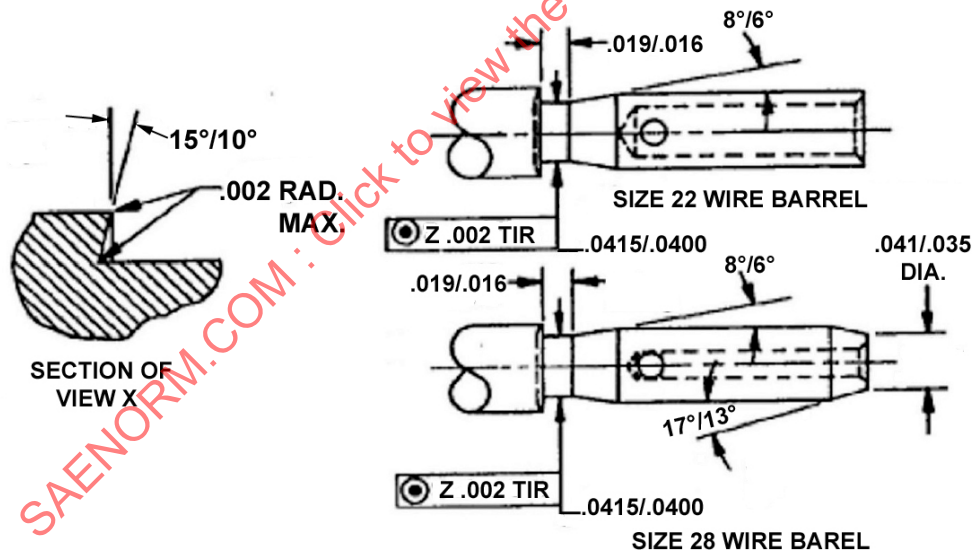
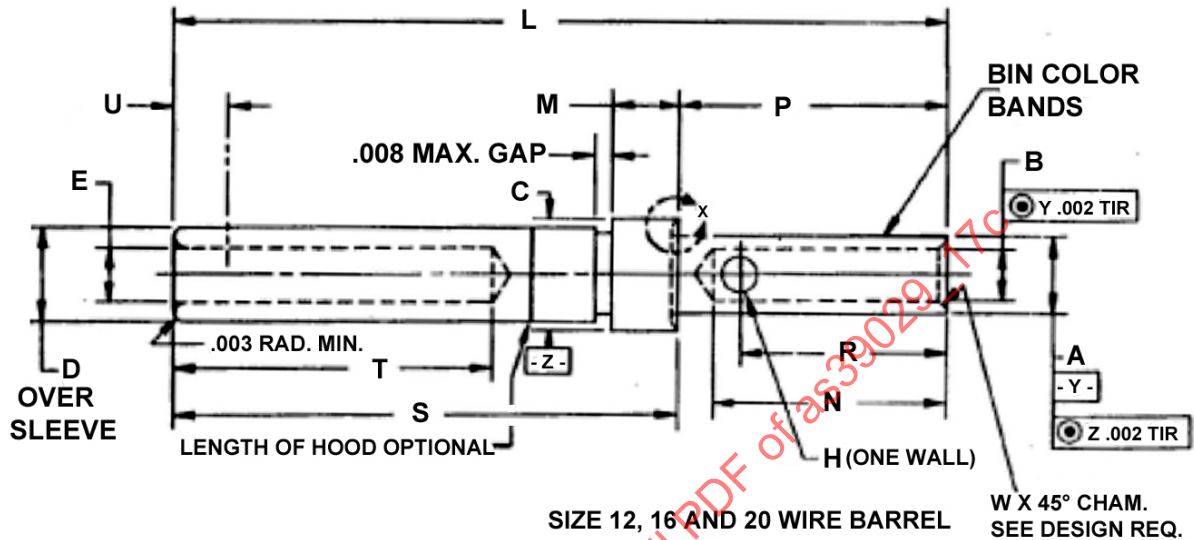
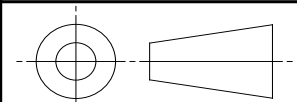


FIGURE 1 - AS39029/17 SOCKET CONFIGURATIONS

For more information on this standard, visit
<https://www.sae.org/standards/content/AS39029/17C>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8/AE-8C1

PROCUREMENT SPECIFICATION: AS39029



AEROSPACE STANDARD

(R) CONTACTS, ELECTRICAL CONNECTOR
SOCKET, CRIMP REMOVABLE
(FOR AS81511 SERIES 3 CONNECTORS)

AS39029™/17
SHEET 1 OF 4

REV.
C

Copyright © 2020 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 2000-06 REVISED 2016-05 REAFFIRMED 2020-12

TABLE 1 - FIGURE 1 METRIC EQUIVALENTS

INCHES	MILLIMETERS	INCHES	MILLIMETERS	INCHES	MILLIMETERS
.002	0.05	.016	0.41	.0400	1.02
.003	0.08	.019	0.48	.041	1.04
.008	0.20	.035	0.89	.0415	1.05

TABLE 2 - CONTACT DIMENSIONS

BIN CODE	A DIA.	B DIA.	C DIA.	D MAX. DIA.	E MIN. DIA. ONLY	H DIA.	L (REF.)	M	N	P	R	S	T	U MAX.	W CHAM.
171	.0480	.0200	.0555			.022		.445	.155	.218	.145	.726	.250		.006
	(1.22)	(0.51)	(1.41)	.055	.028	(0.56)	.937	(11.30)	(3.94)	(5.54)	(3.68)	(18.44)	(6.35)	.038	(0.15)
	.0465	.0180	.0540	(1.40)	(0.71)	.018	(23.80)	.425	.145	.208	.139	.716	.190	(0.97)	.003
172	(1.18)	(0.46)	(1.37)			(0.46)		(10.80)	(3.68)	(5.28)	(3.53)	(18.19)	(4.83)		(0.08)
	.0480	.0355	.0555			.022		.445	.155	.218	.145	.726	.250		.006
	(1.22)	(0.90)	(1.41)	.055	.028	(0.56)	.937	(11.30)	(3.94)	(5.54)	(3.68)	(18.44)	(6.35)	.038	(0.15)
173	.0465	.0335	.0540	(1.40)	(0.71)	.018	(23.80)	.425	.145	.208	.139	.716	.190	(0.97)	.003
	(1.18)	(0.85)	(1.37)			(0.46)		(10.80)	(3.68)	(5.28)	(3.53)	(18.19)	(4.83)		(0.08)
	.0615	.0450	.0760			.027		.395	.195	.218	.165	.726	.360		.007
174	(1.56)	(1.14)	(1.93)	.076	.0415	(0.69)	.937	(10.03)	(4.95)	(5.54)	(4.19)	(18.44)	(9.14)	.045	(0.18)
	.0600	.0430	.0745	(1.93)	(1.05)	.023	(23.80)	.375	.185	.208	.159	.716	.270	(1.14)	.004
	(1.52)	(1.09)	(1.89)			(0.58)		(9.53)	(4.70)	(5.28)	(4.04)	(18.19)	(6.86)		(0.10)
175	.0925	.0645	.1080			.027		.370	.195	.218	.165	.726	.360		.010
	(2.35)	(1.64)	(2.74)	.108	.064	(0.69)	.937	(9.40)	(4.95)	(5.54)	(4.19)	(18.44)	(9.14)	.045	(0.25)
	.0910	.0625	.1065	(2.74)	(1.63)	.023	(23.80)	.350	.185	.208	.159	.716	.270	(1.14)	.006
175	(2.31)	(1.59)	(2.71)			(0.58)		(8.89)	(4.70)	(5.28)	(4.04)	(18.19)	(6.86)		(0.15)
	.1515	.1020	.1695			.042		.370	.232	.245	.196	.726	.360		.012
	(3.85)	(2.59)	(4.31)	.169	.0955	(1.07)	.954	(9.40)	(5.89)	(6.22)	(4.98)	(18.44)	(9.14)	.050	(0.30)
175	.1500	.0980	.1680	(4.29)	(2.43)	.038	(24.23)	.350	.216	.235	.190	.716	.250	(1.27)	.006
	(3.81)	(2.49)	(4.27)			(0.97)		(8.89)	(5.49)	(5.97)	(4.83)	(18.19)	(6.35)		(0.15)

TABLE 3 - MARKING AND DESIGN CHARACTERISTICS

BIN CODE	COLOR BANDS			MATING END SIZE	WIRE BARREL SIZE	TYPE	CLASS
	1 ST	2 ND	3 RD				
171	BROWN	VIOLET	BROWN	23	28	A	B
172	BROWN	VIOLET	RED	23	22		
173	BROWN	VIOLET	ORANGE	20	20		
174	BROWN	VIOLET	YELLOW	16	16		
175	BROWN	VIOLET	GREEN	12	12		

TABLE 4 - TOOL REQUIREMENTS

BIN CODE	BASIC CRIMPING TOOL	POSITIONER	INSTALLING TOOL	REMOVAL TOOL	
				WIRED CONTACT	UNWIRED CONTACT
171	M22520/2-01	M22520/2-16	M81969/16-04	M81969/16-04	M81969/30-01
172	M22520/2-01	M22520/2-16	M81969/16-04	M81969/16-04	M81969/30-01
173	M22520/2-01	M22520/2-17	M81969/16-01	M81969/16-01	M81969/30-02
174	M22520/2-01	M22520/2-18	M81969/16-02	M81969/16-02	M81969/30-03
175	M22520/1-01	M22520/1-10	M81969/16-03	M81969/16-03	M81969/30-04



AEROSPACE STANDARD

(R) CONTACTS, ELECTRICAL CONNECTOR
 SOCKET, CRIMP REMOVABLE
 (FOR AS81511 SERIES 3 CONNECTORS)

AS39029™/17
 SHEET 2 OF 4

REV.
 C

TABLE 5 - PART NUMBERS

AS39029 PART NUMBER	BIN CODE	SUPERSEDED PART NUMBER(S)
M39029/17-171	171	M39029/17-23-28
M39029/17-172	172	M39029/17-23-22
M39029/17-173	173	M39029/17-20-20
M39029/17-174	174	M39029/17-16-16
M39029/17-175	175	M39029/17-12-12

DETAIL SPECIFICATION REQUIREMENTS:

1. DESIGN:

CONTACT SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE 1 AND TABLES 2 AND 3. DIMENSIONS ARE IN INCHES AND SHOWN AFTER PLATING. UNLESS OTHERWISE SPECIFIED, SPHERICAL END DIMENSIONS SHALL CONFORM TO AS39029. ALL DIMENSIONS PROVIDED IN PARENTHESES ARE METRIC EQUIVALENTS AND GIVEN FOR GENERAL INFORMATION ONLY (SEE AS39029 SECTION 6). DIMENSION "U" IS THE POINT OF INITIAL ENGAGEMENT. THERE SHALL BE A MAXIMUM GAP OF .008 INCHES BETWEEN THE HOOD AND BODY OF THE CONTACT. A .002 INCH MAXIMUM BURR IS PERMITTED ON THE PERIPHERY OF SHOULDER NOTED (SEE VIEW X). AN ALTERNATE DESIGN OF THE WIRE BARREL LEAD-IN ANGLE SHALL BE AS FOLLOWS:

SIZE 23 - BLEND RADIUS .010 INCHES $\pm$.005 INCHES.
 SIZE 20 - BLEND RADIUS .015 INCHES $\pm$.005 INCHES.
 SIZE 16 - BLEND RADIUS .020 INCHES $\pm$.005 INCHES.
 SIZE 12 - BLEND RADIUS .020 INCHES $\pm$.010 INCHES.

2. TOOLS: TOOLS REQUIRED FOR CRIMPING CONTACTS TO WIRE/CABLE AND THE INSTALLING/REMOVAL FROM THE CONNECTOR SHALL BE IN ACCORDANCE WITH TABLE 4.
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 AS39029.
5. MECHANICAL: MECHANICAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.
6. ELECTRICAL: ELECTRICAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.
7. ENVIRONMENTAL: ENVIRONMENTAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.

VIBRATION SHALL BE IN ACCORDANCE WITH EIA-364-28 TEST CONDITION IV WITH A TEMPERATURE CYCLE IN ACCORDANCE WITH TEST CONDITION I. TEST THE CONTACT IN THE HIGHEST TEMPERATURE RATED, MIL-C-81511 CONNECTOR SERIES. THE MINIMUM TEMPERATURE SHALL BE -65 (+0, -3) °C. THE DURATION OF TIME AT THE TEMPERATURE'S STEPS 1 AND 3 SHALL BE 25% OF THE TIME DETERMINED BY THE SPECIFIED CONNECTOR MASS. THERE SHALL BE A MINIMUM OF 10% OR NOT LESS THAN THREE MATED CONTACTS WIRED IN SERIES. THE CONTACT RESISTANCE SHALL NOT INCREASE MORE THAN 5 OHMS DURING 1 MICROSECOND.

SHOCK SHALL BE IN ACCORDANCE WITH EIA-364-27 TEST CONDITION A. PERFORM ONE SHOCK IN EACH AXIS. THERE SHALL BE A MINIMUM OF 10% OR NOT LESS THAN THREE MATED CONTACTS WIRED IN SERIES. THE CONTACT RESISTANCE SHALL NOT EXCEED 5 OHMS IN 1 MICROSECOND.

	AEROSPACE STANDARD	AS39029™/17 SHEET 3 OF 4	REV. C
	(R) CONTACTS, ELECTRICAL CONNECTOR SOCKET, CRIMP REMOVABLE (FOR AS81511 SERIES 3 CONNECTORS)		