

Electrical Terminals—Eyelet and Spade Type —SAE J561 JUN80

SAE Standard
Completely Revised June 1980

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ELECTRICAL TERMINALS— EYELET AND SPADE TYPE—SAE J561 JUN80

SAE Standard

Report of the Electrical Equipment Division, approved August 1918, completely revised by the Electrical Equipment Committee June 1980.

1. **Scope**— This SAE Standard covers general requirements and dimensions of various sizes of eyelet and spade type terminals.

2. **General Requirements**— The eyelet and spade type terminals listed in this SAE Standard may be used for terminating wire ends, or for terminating circuits on devices other than wire. Performance requirements for low tension wire terminals are specified in SAE J163 (January, 1974).

Terminals shall be free from burrs, corrosion, or any foreign matter, and shall be of a temper that will permit attachment to wires or circuits on devices without fracturing or cracking.

Terminals may be applied to wire by crimping, welding, swaging, soldering, or any combination thereof at the conductor grip. Insulation grips shall be used on all terminals assembled to 8 gage (8 mm²) and smaller insulated wire except where usage provides other means of relieving strain.

Materials should be of copper, brass, or other copper alloys. Minimum metal thickness is the nominal thickness shown less a standard strip stock tolerance. Thickness is based on SAE CA260 (UNS C26000) brass conductivity and may be adjusted for use with other materials.

TABLE 1—STUD OR SCREW AND HOLE OR SLOT SIZES

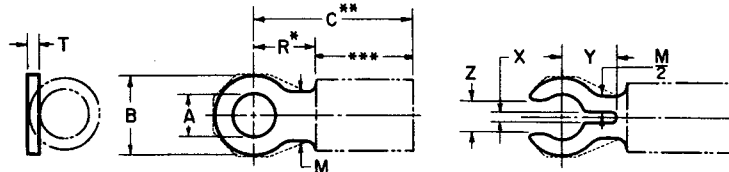
SAE No.	Stud or Screw Size		Hole or Slot Size for Eyelet or Spade, A	
	Nominal	Max	Min	Max
1	4	0.1120	0.123	0.129
2	6	0.1380	0.144	0.150
3	8	0.1640	0.170	0.176
4	10	0.1900	0.201	0.207
5	1/4	0.2500	0.279	0.285
6	5/16	0.3125	0.342	0.348
7	3/8	0.3750	0.404	0.410
8	7/16	0.4375	0.466	0.476
9	1/2	0.5000	0.528	0.538

TABLE 1A—METRIC STUD OR SCREW AND HOLE OR SLOT SIZES

SAE No.	Metric Stud or Screw Size		Hole or Slot Size for Eyelet or Spade, A	
	Nominal	Max	Min	Max
1M	M3	3.00 mm	3.20 mm	3.40 mm
2M	M4	4.00 mm	4.20 mm	4.40 mm
3M	M5	5.00 mm	5.30 mm	5.50 mm
4M	M6	6.00 mm	6.30 mm	6.50 mm
5M	M8	8.00 mm	8.40 mm	8.60 mm
6M	M10	10.00 mm	10.50 mm	10.70 mm
7M	M12	12.00 mm	12.55 mm	12.85 mm
8M	M14	14.00 mm	14.65 mm	14.95 mm
9M	M16	16.00 mm	16.75 mm	17.05 mm

Note: Table 1A is for reference purposes only.

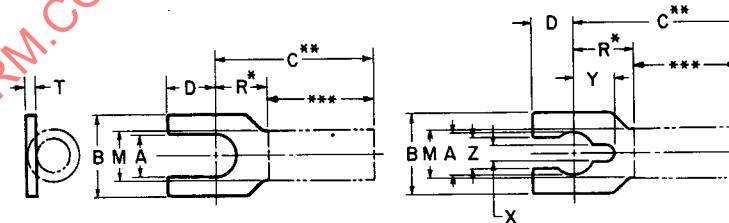
The ϕ symbol is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. If the symbol is next to the report title, it indicates a complete revision of the report.



- * CLEARANCE TO NEAREST OBSTRUCTION
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TABLE 2—STRAIGHT-TYPE EYELET AND SNAP-ON EYELET TERMINALS

SAE No.	Screw Size	A				B		C		M		R		T, Nom		X		Y		Z	
		Min		Max		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
		in	mm	in	mm																
To Use on SAE No. 18 and No. 20 (0.8 mm ² and 0.5 mm ²) Wire																					
A001	4	0.123	3.13	0.129	3.27	0.24	6.1	0.63	16.0	0.15	3.9	0.19	4.9	0.0253	0.643	—	—	—	—	—	—
A002	6	0.144	3.66	0.150	3.81	0.24	6.1	0.66	16.7	0.15	3.9	0.25	6.4	0.0253	0.643	—	—	—	—	—	—
A003	8	0.170	4.32	0.176	4.47	0.34	8.7	0.70	17.7	0.15	3.9	0.30	7.7	0.0253	0.643	0.06	1.5	0.18	4.6	0.140	3.56
A004	10	0.201	5.11	0.207	5.25	0.34	8.7	0.70	17.7	0.15	3.9	0.30	7.7	0.0253	0.643	0.06	1.5	0.29	7.4	0.150	3.81
A005	1/4	0.279	7.09	0.285	7.23	0.43	11.0	0.85	21.5	0.15	3.9	0.37	9.4	0.0253	0.643	—	—	—	—	—	—
A006	5/16	0.342	8.69	0.348	8.83	0.43	11.0	0.85	21.5	0.15	3.9	0.43	11.0	0.0253	0.643	—	—	—	—	—	—
To Use on SAE No. 14 and No. 16 (2.0 mm ² and 1.0 mm ²) Wire																					
B101	4	0.123	3.13	0.129	3.27	0.24	6.1	0.76	19.3	0.17	4.4	0.19	4.9	0.0285	0.724	—	—	—	—	—	—
B102	6	0.144	3.66	0.150	3.81	0.24	6.1	0.76	19.3	0.17	4.4	0.25	6.4	0.0285	0.724	—	—	—	—	—	—
B103	8	0.170	4.32	0.176	4.47	0.34	8.7	0.82	20.8	0.17	4.4	0.30	7.7	0.0285	0.724	0.06	1.5	0.18	4.6	0.140	3.56
B104	10	0.201	5.11	0.207	5.25	0.34	8.7	0.82	20.8	0.17	4.4	0.30	7.7	0.0285	0.724	0.06	1.5	0.29	7.4	0.150	3.81
B105	1/4	0.279	7.09	0.285	7.23	0.43	11.0	0.88	22.3	0.17	4.4	0.37	9.4	0.0285	0.724	—	—	—	—	—	—
B106	5/16	0.342	8.69	0.348	8.83	0.55	14.0	1.04	26.4	0.18	4.6	0.43	11.0	0.0285	0.724	—	—	—	—	—	—
B107	3/8	0.404	10.27	0.410	10.41	0.55	14.0	1.04	26.4	0.18	4.6	0.50	12.7	0.0285	0.724	—	—	—	—	—	—
To Use on SAE No. 10 and No. 12 (5.0 mm ² and 3.0 mm ²) Wire																					
B203	8	0.170	4.32	0.176	4.47	0.34	8.7	0.96	24.3	0.24	6.1	0.30	7.7	0.0403	1.024	0.06	1.5	0.18	4.6	0.140	3.56
B204	10	0.201	5.11	0.207	5.25	0.34	8.7	0.96	24.3	0.24	6.1	0.30	7.7	0.0403	1.024	0.06	1.5	0.29	7.4	0.150	3.81
B205	1/4	0.279	7.09	0.285	7.23	0.50	12.7	1.04	26.4	0.24	6.1	0.37	9.4	0.0403	1.024	—	—	—	—	—	—
B206	5/16	0.342	8.69	0.348	8.83	0.68	17.3	1.16	29.4	0.24	6.1	0.43	11.0	0.0403	1.024	—	—	—	—	—	—
B207	3/8	0.404	10.27	0.410	10.41	0.68	17.3	1.16	29.4	0.24	6.1	0.50	12.7	0.0403	1.024	—	—	—	—	—	—
B208	7/16	0.466	11.84	0.476	12.09	0.68	17.3	1.16	29.4	0.30	7.7	0.62	15.8	0.0403	1.024	—	—	—	—	—	—
B209	1/2	0.528	13.42	0.538	13.66	0.68	17.3	1.16	29.4	0.30	7.7	0.62	15.8	0.0403	1.024	—	—	—	—	—	—
To Use on SAE No. 8 (8.0 mm ²) Wire																					
B304	10	0.201	5.11	0.207	5.25	0.34	8.7	1.13	28.7	0.24	6.1	0.30	7.7	0.0453	1.151	—	—	—	—	—	—
B305	1/4	0.279	7.09	0.285	7.23	0.50	12.7	1.13	28.7	0.24	6.1	0.37	9.4	0.0453	1.151	—	—	—	—	—	—
B306	5/16	0.342	8.69	0.348	8.83	0.68	17.3	1.26	32.0	0.24	6.1	0.43	11.0	0.0453	1.151	—	—	—	—	—	—
B307	3/8	0.404	10.27	0.410	10.41	0.68	17.3	1.26	32.0	0.24	6.1	0.50	12.7	0.0453	1.151	—	—	—	—	—	—
B308	7/16	0.466	11.84	0.476	12.09	0.68	17.3	1.38	35.0	0.30	7.7	0.62	15.8	0.0453	1.151	—	—	—	—	—	—
B309	1/2	0.528	13.42	0.538	13.66	0.68	17.3	1.38	35.0	0.30	7.7	0.62	15.8	0.0453	1.151	—	—	—	—	—	—



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TABLE 3—STRAIGHT-TYPE SPADE TERMINALS

SAE No.	Screw Size	A				B		C		D		M		R		T		X		Y		Z	
		Min		Max		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	in	mm
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	-0.005	-0.13
To Use on SAE No. 18 and No. 20 (0.8 mm ² and 0.5 mm ²) Wire																							
H003	8	0.170	4.32	0.176	4.47	0.37	9.4	0.82	20.8	0.25	6.4	0.15	3.9	0.30	7.7	0.0253	0.643	0.06-0.10	1.5-2.5	0.15-0.21	3.8-5.3	0.148	3.76
H004	10	0.201	5.11	0.207	5.25	0.37	9.4	0.82	20.8	0.25	6.4	0.15	3.9	0.30	7.7	0.0253	0.643	0.06-0.10	1.5-2.5	0.15-0.21	3.8-5.3	0.175	4.44
To Use on SAE No. 14 and No. 16 (2.0 mm ² and 1.0 mm ²) Wire																							
H103	8	0.170	4.32	0.176	4.47	0.37	9.4	0.82	20.8	0.25	6.4	0.17	4.4	0.30	7.7	0.0285	0.724	0.06-0.10	1.5-2.5	0.15-0.21	3.8-5.3	0.148	3.76
H104	10	0.201	5.11	0.207	5.25	0.37	9.4	0.82	20.8	0.25	6.4	0.17	4.4	0.30	7.7	0.0285	0.724	0.06-0.10	1.5-2.5	0.15-0.21	3.8-5.3	0.175	4.44
To Use on SAE No. 10 and No. 12 (5.0 mm ² and 3.0 mm ²) Wire																							
H203	8	0.170	4.32	0.176	4.47	0.37	9.4	0.82	20.8	0.25	6.4	0.24	6.1	0.30	7.7	0.0403	1.024	0.06-0.10	1.5-2.5	0.15-0.21	3.8-5.3	0.148	3.76
H204	10	0.201	5.11	0.207	5.25	0.37	9.4	0.82	20.8	0.25	6.4	0.24	6.1	0.30	7.7	0.0403	1.024	0.06-0.10	1.5-2.5	0.15-0.21	3.8-5.3	0.175	4.44
To Use on SAE No. 8 (8.0 mm ²) Wire																							
H304	10	0.201	5.11	0.207	5.25	0.37	9.4	1.13	28.7	0.25	6.4	0.24	6.1	0.30	7.7	0.0453	1.151	0.06-0.10	1.5-2.5	0.15-0.21	3.8-5.3	0.175	4.44

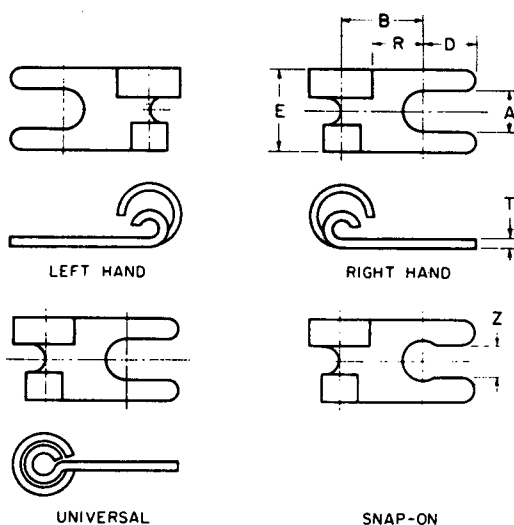


TABLE 4—SIDE-TYPE SPADE TERMINALS

SAE No.	Screw Size	A				B		D		E		R		T		Z	
		Min		Max													
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
To Use on SAE No. 14 (2.0 mm ²) Wire and Smaller																	
M103	8	0.170	4.32	0.176	4.47	0.34	8.7	0.25	6.4	0.38	9.7	0.30	7.7	0.0285	0.724	0.148	3.76
M104	10	0.201	5.11	0.207	5.25	0.34	8.7	0.25	6.4	0.38	9.7	0.30	7.7	0.0285	0.724	0.175	4.44
To Use on SAE No. 10 and No. 12 (5.0 mm ² and 3.0 mm ²) Wire																	
M203	8	0.170	4.32	0.176	4.47	0.37	9.4	0.25	6.4	0.38	9.7	0.30	7.7	0.0403	1.024	0.148	3.76
M204	10	0.201	5.11	0.207	5.25	0.37	9.4	0.25	6.4	0.38	9.7	0.30	7.7	0.0403	1.024	0.175	4.44
To Use on SAE No. 8 (8.0 mm ²) Wire																	
M304	10	0.201	5.11	0.207	5.25	0.40	10.2	0.25	6.4	0.38	9.7	0.30	7.7	0.0453	1.151	0.175	4.44

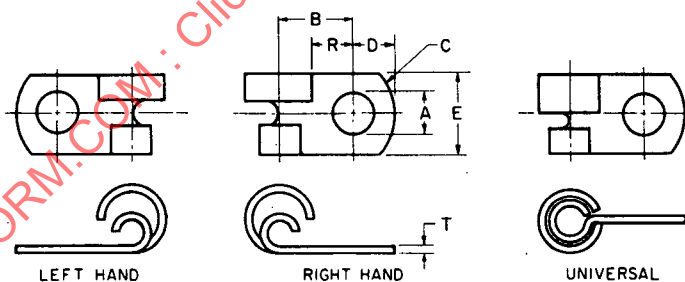


TABLE 5—SIDE-TYPE EYELET TERMINALS

SAE No.	Screw Size	A				B Min		C Max		D		E		R Min		T Nom	
		Min		Max													
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		
To Use on SAE No. 14 (2.0 mm ²) Wire and Smaller																	
K101	4	0.123	3.13	0.129	3.27	0.27	6.9	0.38	9.6	0.155	3.94	0.31	7.9	0.19	4.9	0.0285	0.724
K102	6	0.144	3.66	0.150	3.81	0.27	6.9	0.38	9.6	0.155	3.94	0.31	7.9	0.25	6.4	0.0285	0.724
K103	8	0.170	4.32	0.176	4.47	0.34	8.7	0.38	9.6	0.19	4.8	0.38	9.7	0.30	7.7	0.0285	0.724
K104	10	0.201	5.11	0.207	5.25	0.34	8.7	0.38	9.6	0.19	4.8	0.38	9.7	0.30	7.7	0.0285	0.724
K105	1/4	0.279	7.09	0.285	7.23	0.37	9.4	0.63	16.0	0.25	6.4	0.50	12.7	0.37	9.4	0.0285	0.724
K106	5/16	0.342	8.69	0.348	8.83	0.43	11.0	0.63	16.0	0.31	7.9	0.62	15.7	0.43	11.0	0.0285	0.724
K107	3/8	0.404	10.27	0.410	10.41	0.47	12.0	0.76	19.3	0.375	9.52	0.75	19.0	0.50	12.7	0.0285	0.724
To Use on SAE No. 10 and No. 12 (5.0 mm ² and 3.0 mm ²) Wire																	
K203	8	0.170	4.32	0.176	4.47	0.34	8.7	0.38	9.6	0.19	4.8	0.38	9.7	0.30	7.7	0.0403	1.024
K204	10	0.201	5.11	0.207	5.25	0.34	8.7	0.38	9.6	0.19	4.8	0.38	9.7	0.30	7.7	0.0403	1.024
K205	1/4	0.279	7.09	0.285	7.23	0.43	11.0	0.63	16.0	0.25	6.4	0.50	12.7	0.37	9.4	0.0403	1.024
K206	5/16	0.342	8.69	0.348	8.83	0.49	12.5	0.63	16.0	0.31	7.9	0.62	15.7	0.43	11.0	0.0403	1.024
K207	3/8	0.404	10.27	0.410	10.41	0.49	12.5	0.76	19.3	0.375	9.52	0.75	19.0	0.50	12.7	0.0403	1.024
To Use on SAE No. 6 and No. 8 (13.0 mm ² and 8.0 mm ²) Wire																	
K304	10	0.201	5.11	0.207	5.25	0.40	10.2	0.63	16.0	0.19	4.8	0.38	9.7	0.30	7.7	0.0453	1.151
K305	1/4	0.279	7.09	0.285	7.23	0.47	12.0	0.76	19.3	0.375	9.52	0.75	19.0	0.37	9.4	0.0453	1.151
K306	5/16	0.342	8.69	0.348	8.83	0.55	14.0	0.76	19.3	0.375	9.52	0.75	19.0	0.43	11.0	0.0453	1.151
K307	3/8	0.404	10.27	0.410	10.41	0.60	15.3	0.76	19.3	0.375	9.52	0.75	19.0	0.50	12.7	0.0453	1.151
K308	7/16	0.466	11.84	0.476	12.09	0.68	17.3	0.76	19.3	0.375	9.52	0.75	19.0	0.62	15.8	0.0453	1.151