



SURFACE VEHICLE STANDARD	J1508™	JAN2023
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Superseding J1508 MAR2009		
Hose Clamp Specifications		

RATIONALE

This SAE Standard is being updated to reflect current manufacturing practices and application needs. Changes to the document include:

- Term change of “ultimate torque” to “destructive torque” to better represent the definition.
- Addition of finish requirements.
- Addition of an assembly torque speed recommendation.
- Removal of duplicated inch unit references (kept metric units).
- Removal of Table 23, which was a duplicate of Table 22 that uses metric values.
- Removal of 13.7.2, which discussed max installation torque for T-bolts.

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1. SCOPE

This SAE Standard covers 32 types of clamps most commonly and suitably being used on OEM coolant, fuel, oil, vacuum, and emission systems.

1.1 Purpose

This document is compiled for the specific purpose of describing the basic characteristics and minimum performance requirements recommended by the manufacturers. No application recommendations are intended or implied.

For the benefit of the user in selecting appropriate products for their application, the committee has published ancillary documents that may assist you in this selection. The documents are SAE J1610, SAE J1697, and TMC RP 332.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J178	Music Steel Spring Wire and Springs
SAE J402	New Steel Designation System for Wrought or Rolled Steel
SAE J478	Slotted and Recessed Head Screws
SAE J1086	Numbering Metals and Alloys
SAE J1610	Test Method for Evaluating the Sealing Capability of Hose Connections with a PVT Test Facility
SAE J1697	Recommended Practices for Design and Evaluation of Passenger and Light Truck Coolant Hose Clamped Joints

2.1.2 ANSI Accredited and IFI Publications

Copies of these documents are available online at <https://webstore.ansi.org/>.

ANSI B1.1, 3M	Unified Inch Screw Thread
ANSI B1.3M	Screw Thread Gauging Systems for Dimensional Acceptability
IFI 112	High Performance Thread Rolling Screws

2.1.3 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM A228	Standard Specification for Steel Wire, Music Spring Quality
ASTM A525	Specification for General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process
ASTM B117	Standard Method of Salt Spray (Fog) Testing

2.1.4 U.S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

MIL-STD-MS21044 Nut, Self-Locking, Hexagon, Regular Height, 250 °F, 125 ksi Ft_u and 60 ksi Ft_u

MIL-STD-MS21045 Nut, Self-Locking, Hexagon, Regular Height, 450 °F, 125 ksi Ft_u

MIL-STD-MS39326 Clamp, Spring: Hose (Low Pressure) Type “E”

2.1.5 AISI Publications

Available from American Iron and Steel Institute, 25 Massachusetts Avenue, NW, Suite 800, Washington, DC 20001, Tel: 202-452-7100, www.steel.org.

AISI Material Standards

NOTE: If specifications referred to in this document are no longer available through AISI, cross reference them to the SAE “J” standards in 2.2.1.

2.1.6 TMC Publications

Available from the Technology and Maintenance Council, American Trucking Associations, 2200 Mill Road, Alexandria, VA 22314, Tel: (703) 838-1700, www.truckline.com.

TMC RP 332 Guidelines for Hose, Clamps, and Fittings for Cooling and Charge Air-Cooling Systems

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J403 Chemical Compositions of SAE Carbon Steels

SAE J404 Chemical Compositions of SAE Alloy Steels

SAE J405 Chemical Compositions of SAE Wrought Stainless Steels

3. DEFINITIONS

3.1 FREE TORQUE

The torque value expressed in newton meters when the clamp is tightened four complete revolutions of the screw or nut, while in the free state. This value does not include any break-away effects due to staking or passage of the band ends beyond the screw head.

3.2 DURABILITY TORQUE

The maximum torque value applied to a clamp without evidence of deformation or excessive wear when tightened once over a steel mandrel.

3.3 INSTALLATION TORQUE

The recommended torque for installation of the clamp. This is generally expressed in terms of 50 to 75% of the rated destructive torque for specific clamps. Installation torque is sometimes referred to as application torque.

3.4 DESTRUCTIVE TORQUE

The torque value at which the clamp develops deformation over a steel mandrel to a degree that it cannot be reused or no longer achieves its intended use.

4. FINISH REQUIREMENT

4.1 Parts manufactured to this document beginning April 1, 2023, shall meet the following requirements. Statements in subsequent finish clauses for individual groupings within this document may provide additional information or information for parts manufactured prior to April 1, 2023.

4.2 The external surfaces and threads of all carbon steel parts shall be plated or coated with a suitable material that passes a salt spray test in accordance with ISO 9227 or ASTM B117.

4.3 No appearance of corrosion products of the base metal before 72 hours.

4.4 The following exceptions shall apply:

- a. Edges such as hex points, serrations, and crests of threads where there can be mechanical deformation of the plating or coating typical of mass-produced parts or shipping effects.
- b. Areas where there is mechanical deformation of the plating or coating caused by crimping, flaring, bending, and other post-plate metal forming operations.
- c. Areas where the parts are suspended or affixed in the test chamber where condensate can accumulate.

4.5 Parts manufactured to this standard shall not be cadmium plated and shall not use hexavalent chromate coatings. Internal fluid passages shall be protected from corrosion during storage and shipping. Changes in plating or coating shall be re-qualified to ensure assembly torque is not affected.

5. ASSEMBLY TORQUE SPEED RECOMMENDATION

It is recommended to use a torque gun with a spindle speed less than 200 rpm. A typical method is to have an initial spindle speed less than 200 rpm and then reduce to less than 20 rpm for the final tightening. Hand tools used manually comply with the recommendation.

6. CLASSIFICATION

For ease of handling the various clamp designs and modifications thereof, clamps have been grouped by their basic design and functional characteristics:

6.1 Group #1 (Types "A," "AHH," "B," "D," "C," "F," "FEO," "FE," "HD," "I," "M," "MX," "TB," "SSC," and "G")

Clamps which require torquing a screw or nut for installation.

6.1.1 "A" and "AHH"

Dual body wires utilizing a machine screw with trunnion nut for the tightening mechanism. Screw position tangential to the diameter. See Figure 1 and Tables 1A and 1B.

6.1.2 "B" and "D"

Flat band body stock utilizing a machine screw and square nut for the tightening mechanism. Screw position tangential to the diameter. See Figures 2, 3A, and 3B and Tables 2, 3A, and 3B.

6.1.3 "C"

Flat band body stock utilizing a bridge structure to position the machine screw and nut tightening mechanism perpendicular to the diameter. See Figure 4 and Tables 4A and 4B.

6.1.4 "F," "FEO," "FE," "HD," "I," "M," and "MX"

A tangential worm drive screw engaging either pierced through slots or embossed threads. Those using pierced through slots are also available in extended band versions to protect soft hose compounds. See Figures 5 to 11 and Tables 5 to 14.

NOTE: "FE" means type "F," embossed slots; "FEO" means type "F," embossed slots with screw offset from centerline of the band.

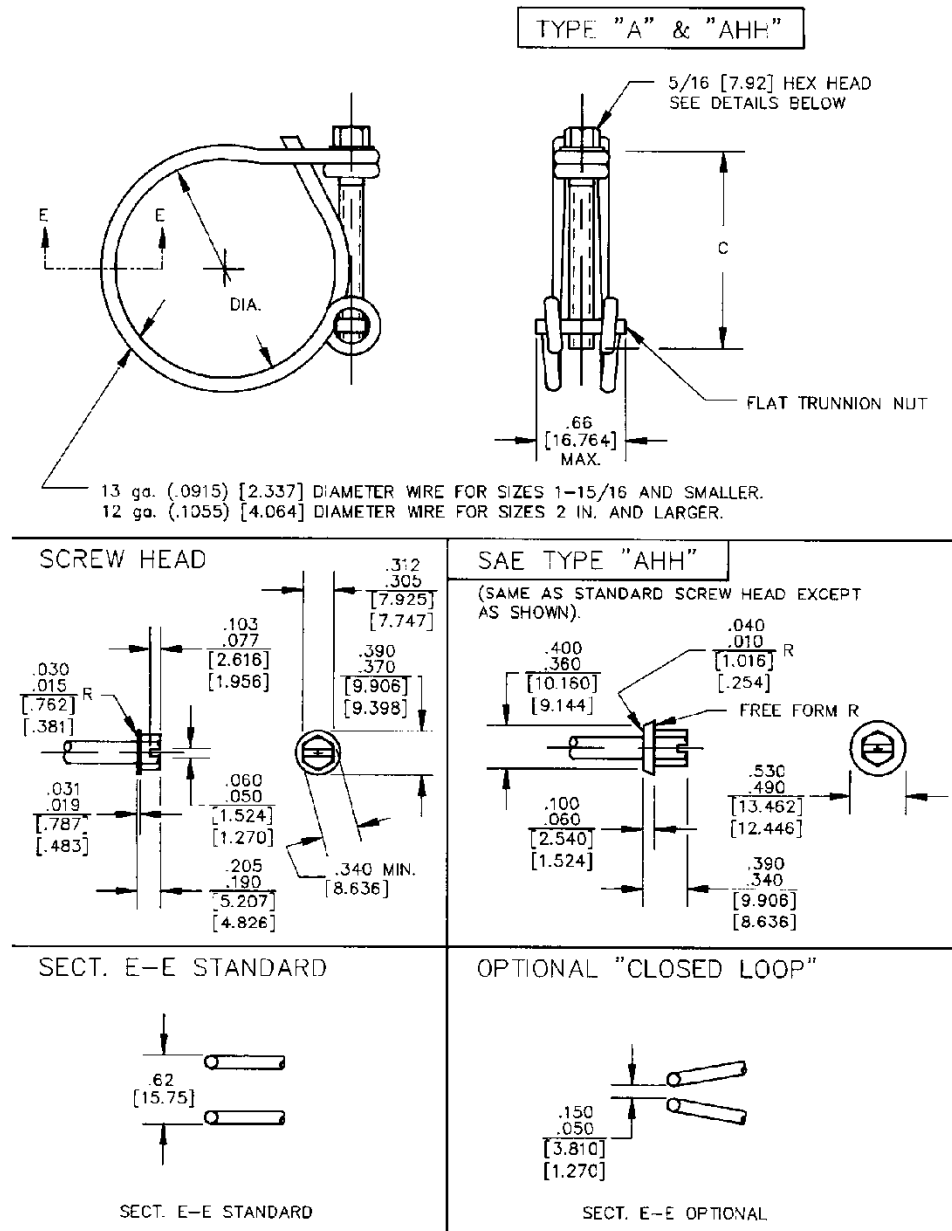


Figure 1 - Basic envelope drawing, inch (mm)

Table 1A - Types “A,” “AHH,” and “SLA” (metric)

SAE Size No.	Open Dia mm	Closed Dia mm	Adjust Range mm	Screw Length mm	SAE Size No.	Open Dia mm	Closed Dia mm	Adjust Range mm	Screw Length mm
16	12.70	11.18	1.52	21.59		52.07	45.97	6.10	37.59
18	14.22	12.19	2.03	21.59	66	52.32	47.75	4.57	37.59
20	15.75	13.97	1.78	21.59	68	53.85	49.28	4.57	37.59
22	17.53	14.73	2.79	21.59		53.85	48.51	5.33	37.59
24	19.05	16.26	2.79	31.24		54.61	49.28	5.33	37.59
26	20.57	17.53	3.05	31.24	70	55.63	50.04	5.59	37.59
28	22.35	19.05	3.30	31.24		55.88	50.29	5.59	37.59
	23.11	19.81	3.30	31.24		55.88	49.53	6.35	43.94
30	23.88	20.57	3.30	31.24	72	57.15	51.56	5.59	37.59
	24.64	21.34	3.30	31.24		56.39	49.96	6.35	43.94
	25.15	21.34	3.81	31.24		56.39	50.29	6.10	37.59
32	25.40	22.35	3.05	31.24		57.15	51.56	5.69	37.59
	26.16	23.11	3.05	31.24		57.15	50.80	6.35	43.94
34	26.92	23.88	3.05	31.24	74	58.67	53.85	4.83	37.59
	27.69	24.38	3.30	31.24		58.67	52.32	6.35	43.94
	28.20	24.38	3.81	31.24		60.20	54.61	5.59	43.94
36	28.45	24.13	4.32	31.24	76	60.45	55.63	4.83	37.59
	28.96	25.65	3.30	31.24		60.96	55.37	5.59	37.59
	29.21	25.91	3.30	31.24	78	61.98	57.15	4.83	37.59
38	30.23	26.92	3.30	31.24	80	63.50	57.91	5.59	37.59
	30.48	27.18	3.30	31.24	82	65.02	59.44	5.59	37.59
	30.99	27.69	3.30	31.24	84	66.55	61.21	5.33	37.59
40	31.75	27.69	4.06	31.24	86	68.33	62.74	5.59	37.59
	32.51	27.94	4.57	37.59	88	69.85	64.26	5.59	37.59
42	33.27	29.46	3.81	31.24	90	71.37	65.79	5.59	37.59
44	35.05	30.23	4.83	31.24		72.14	66.55	5.59	37.59
46	36.58	31.75	4.83	31.24	92	73.15	67.56	5.59	37.59
48	38.10	33.27	4.83	31.24	94	74.68	69.09	5.59	37.59
50	39.62	35.05	4.57	31.24	96	76.20	70.61	5.59	37.59
	39.62	34.29	5.33	37.59	98	77.72	72.14	5.59	37.59
52	41.15	36.58	4.57	31.24	100	79.25	73.91	5.33	37.59
	41.66	35.31	6.35	37.59	102	81.03	75.44	5.59	37.59
	42.42	36.25	6.10	43.94	104	82.55	76.96	5.59	37.59
	42.67	36.32	6.35	43.94		83.31	77.72	5.59	37.59
54	42.93	38.10	4.83	31.24	106	84.07	78.49	5.59	37.59
	42.93	37.08	5.84	37.59	108	85.85	80.26	5.59	37.59
	43.18	37.34	5.84	37.59	110	87.38	81.79	5.59	37.59
	43.43	37.01	6.35	43.94	112	88.90	82.55	6.35	43.94
	43.69	38.10	5.59	37.59	114	90.42	84.07	6.35	43.94
	44.20	38.10	6.10	43.94	116	91.95	85.85	6.10	43.94
56	44.45	39.62	4.83	37.59	118	93.73	87.38	6.35	43.94
	44.45	38.86	5.59	37.59	120	95.25	88.90	6.35	43.94
	44.70	38.35	6.35	43.94	122	96.77	90.42	6.35	43.94
	45.72	39.62	6.10	37.59	124	98.55	91.95	6.35	43.94
58	45.97	41.15	4.83	37.59	126	100.08	93.73	6.35	43.94
	46.74	41.91	4.83	37.59	128	101.60	95.25	6.35	43.94



SAE Size No.	Open Dia mm	Closed Dia mm	Adjust Range mm	Screw Length mm	SAE Size No.	Open Dia mm	Closed Dia mm	Adjust Range mm	Screw Length mm
60	46.74	41.15	5.59	37.59	130	103.12	96.77	6.35	43.94
	46.99	41.15	5.84	37.59	132	104.65	98.55	6.10	43.94
	47.75	42.93	4.83	37.59	134	106.43	100.08	6.35	43.94
	47.75	41.40	6.35	43.94	136	107.95	101.60	6.35	43.94
	48.01	41.61	6.35	43.94	138	109.47	103.12	6.35	43.94
62	48.51	43.69	4.83	37.59	140	111.25	104.65	6.60	43.94
	48.51	42.93	5.59	37.59	142	112.78	106.43	6.35	43.94
	49.28	44.45	4.83	37.59	144	114.30	107.95	6.35	43.94
	49.28	43.69	5.59	37.59	146	115.82	109.47	6.35	43.94
	49.28	42.93	6.35	43.94	148	117.35	111.25	6.10	43.94
64	49.78	43.31	6.35	43.94	150	119.13	112.78	6.35	43.94
	49.78	43.94	5.84	37.59	152	120.65	114.30	6.35	43.94
	50.29	43.94	6.35	43.94	154	122.17	115.82	6.35	43.94
	50.80	45.97	4.83	37.59	156	123.95	117.35	6.60	43.94
	50.80	45.21	5.59	37.59	158	125.48	119.13	6.35	43.94
	50.80	44.45	6.35	43.94	160	127.00	120.65	6.35	43.94
	51.56	45.47	6.10	43.94					

Table 1B - Types "A," "AHH," and "SLA" (English)

SAE Size No.	Open Dia Inches	Closed Dia Inches	Adjust Range Inches	Screw Length Inches	SAE Size Inches	Open Dia Inches	Closed Dia Inches	Adjust Range Inches	Screw Length Inches
16	0.50	0.440	0.06	0.85		2.05	1.810	0.24	1.48
18	0.56	0.480	0.08	0.85	66	2.06	1.880	0.18	1.48
20	0.62	0.550	0.07	0.85	68	2.12	1.940	0.18	1.48
22	0.69	0.580	0.11	0.85		2.12	1.910	0.21	1.48
24	0.75	0.640	0.11	1.23		2.15	1.940	0.21	1.48
26	0.81	0.690	0.12	1.23	70	2.19	1.970	0.22	1.48
28	0.88	0.750	0.13	1.23		2.20	1.980	0.22	1.48
	0.91	0.780	0.13	1.23		2.20	1.950	0.25	1.73
30	0.94	0.810	0.13	1.23	72	2.22	1.967	0.25	1.73
	0.97	0.840	0.13	1.23		2.22	1.980	0.24	1.48
	0.99	0.840	0.15	1.23		2.25	2.030	0.22	1.48
32	1.00	0.880	0.12	1.23		2.25	2.030	0.22	1.48
	1.03	0.910	0.12	1.23		2.25	2.000	0.25	1.73
34	1.06	0.940	0.12	1.23	74	2.31	2.120	0.19	1.48
	1.09	0.960	0.13	1.23		2.31	2.060	0.25	1.73
	1.11	0.960	0.15	1.23		2.37	2.150	0.22	1.48
36	1.12	0.950	0.17	1.23	76	2.38	2.190	0.19	1.48
	1.14	1.010	0.13	1.23		2.40	2.180	0.22	1.48
	1.15	1.020	0.13	1.23	78	2.44	2.250	0.19	1.48
38	1.19	1.060	0.13	1.23	80	2.50	2.280	0.22	1.48
	1.20	1.070	0.13	1.23	82	2.56	2.340	0.22	1.48
	1.22	1.090	0.13	1.23	84	2.62	2.410	0.21	1.48
40	1.25	1.090	0.16	1.23	86	2.69	2.470	0.22	1.48
	1.28	1.100	0.18	1.48	88	2.75	2.530	0.22	1.48
42	1.31	1.160	0.15	1.23	90	2.81	2.590	0.22	1.48
44	1.38	1.190	0.19	1.23		2.84	2.620	0.22	1.48
46	1.44	1.250	0.19	1.23	92	2.88	2.660	0.22	1.48



SAE Size No.	Open Dia Inches	Closed Dia Inches	Adjust Range Inches	Screw Length Inches	SAE Size Inches	Open Dia Inches	Closed Dia Inches	Adjust Range Inches	Screw Length Inches
48	1.50	1.310	0.19	1.23	94	2.94	2.720	0.22	1.48
50	1.56	1.380	0.18	1.23	96	3.00	2.780	0.22	1.48
	1.56	1.350	0.21	1.48	98	3.06	2.840	0.22	1.48
52	1.62	1.440	0.18	1.23	100	3.12	2.910	0.21	1.48
	1.64	1.390	0.25	1.48	102	3.19	2.970	0.22	1.48
	1.67	1.427	0.24	1.73	104	3.25	3.030	0.22	1.48
	1.68	1.430	0.25	1.73		3.28	3.060	0.22	1.48
54	1.69	1.500	0.19	1.23	106	3.31	3.090	0.22	1.48
	1.69	1.460	0.23	1.48	108	3.38	3.160	0.22	1.48
	1.70	1.470	0.23	1.48	110	3.44	3.220	0.22	1.48
	1.71	1.457	0.25	1.73	112	3.50	3.250	0.25	1.73
	1.72	1.500	0.22	1.48	114	3.56	3.310	0.25	1.73
	1.74	1.500	0.24	1.73	116	3.62	3.380	0.24	1.73
56	1.75	1.560	0.19	1.48	118	3.69	3.440	0.25	1.73
	1.75	1.530	0.22	1.48	120	3.75	3.500	0.25	1.73
	1.76	1.510	0.25	1.73	122	3.81	3.560	0.25	1.73
	1.80	1.560	0.24	1.48	124	3.88	3.620	0.26	1.73
58	1.81	1.620	0.19	1.48	126	3.94	3.690	0.25	1.73
	1.84	1.650	0.19	1.48	128	4.00	3.750	0.25	1.73
	1.84	1.620	0.22	1.48	130	4.06	3.810	0.25	1.73
	1.85	1.620	0.23	1.48	132	4.12	3.880	0.24	1.73
60	1.88	1.690	0.19	1.48	134	4.19	3.940	0.25	1.73
	1.88	1.630	0.25	1.73	136	4.25	4.000	0.25	1.73
	1.89	1.638	0.25	1.73	138	4.31	4.060	0.25	1.73
	1.91	1.720	0.19	1.48	140	4.38	4.120	0.26	1.73
	1.91	1.690	0.22	1.48	142	4.44	4.190	0.25	1.73
62	1.94	1.750	0.19	1.48	144	4.50	4.250	0.25	1.73
	1.94	1.720	0.22	1.48	146	4.56	4.310	0.25	1.73
	1.94	1.690	0.25	1.73	148	4.62	4.380	0.24	1.73
	1.96	1.705	0.25	1.73	150	4.69	4.440	0.25	1.73
	1.96	1.730	0.23	1.48	152	4.75	4.500	0.25	1.73
	1.98	1.730	0.25	1.73	154	4.81	4.560	0.25	1.73
64	2.00	1.810	0.19	1.48	156	4.88	4.620	0.26	1.73
	2.00	1.780	0.22	1.48	158	4.94	4.690	0.25	1.73
	2.00	1.750	0.25	1.73	160	5.00	4.750	0.25	1.73
	2.03	1.790	0.24	1.73					

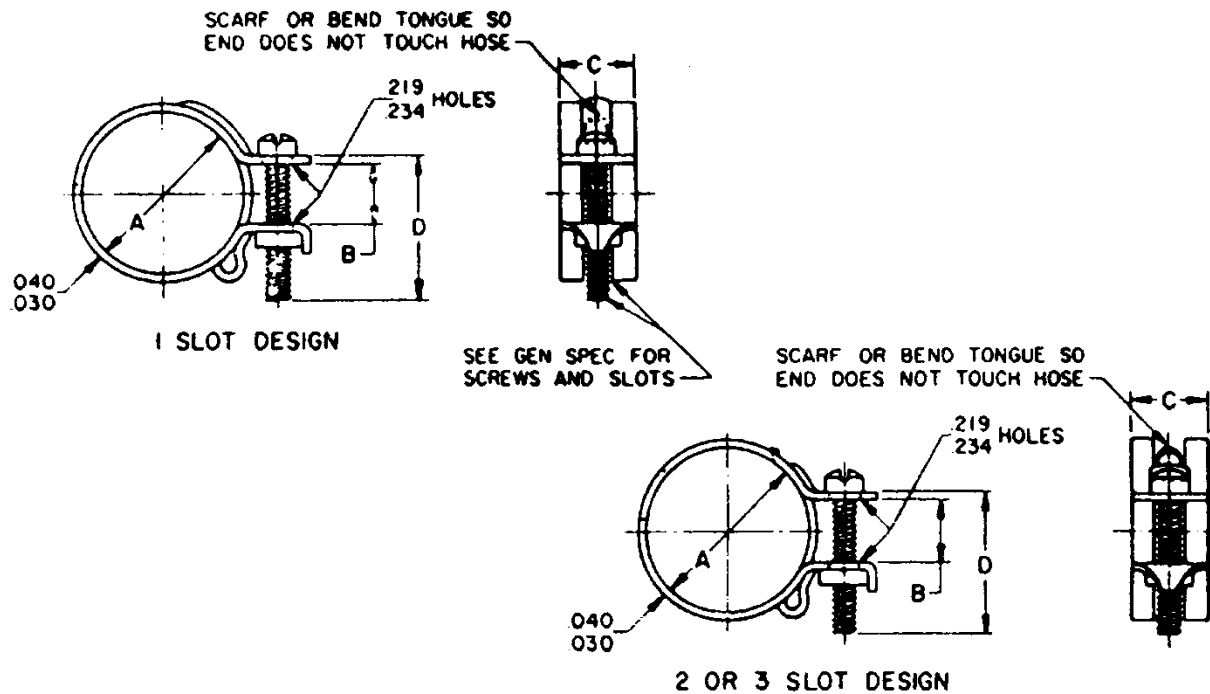


Figure 2 - Dimensions of Type "B" hose clamps

Table 2 - Dimensions of Type "B" hose clamps, inch

SAE Size No.	A Dia Nom	A Dia Open	A Dia Closed	B ⁽¹⁾ Gap	C Band Width ±0.01	D Screw Length Min	SAE Size No.	A Dia Nom	A Dia Open	A Dia Closed	B ⁽¹⁾ Gap	C Band Width ±0.01	D Screw Length Min
18	0.50	0.58	0.44	0.38	0.50 ⁽²⁾	1.00	58	1.75	1.83	1.64	0.50	0.623	1.12
20	0.56	0.64	0.48	0.38	0.50 ⁽²⁾	1.00	60	1.81	1.89	1.70	0.50	0.623	1.12
22	0.62	0.70	0.55	0.38	0.50 ⁽²⁾	1.00	62	1.88	1.95	1.77	0.50	0.623	1.12
24	0.69	0.77	0.61	0.38	0.50 ⁽²⁾	1.00	64	1.94	2.02	1.83	0.50	0.623	1.12
26	0.75	0.83	0.67	0.38	0.50 ⁽²⁾	1.00	67	2.03	2.11	1.92	0.50	0.623	1.12
28	0.81	0.89	0.73	0.38	0.50 ⁽²⁾	1.00							
30	0.88	0.95	0.80	0.38	0.50 ⁽²⁾	1.00	70	2.12	2.20	2.02	0.50	0.623	1.12
32	0.94	1.02	0.86	0.38	0.50 ⁽²⁾	1.00	72	2.19	2.27	2.08	0.50	0.623	1.12
35	1.03	1.11	0.95	0.38	0.50 ⁽²⁾	1.00	75	2.28	2.36	2.17	0.50	0.623	1.12
36	1.06	1.14	0.98	0.38	0.50 ⁽²⁾	1.00	79	2.38	2.48	2.27	0.50	0.623	1.25
38	1.12	1.20	1.02	0.38	0.50 ⁽²⁾	1.12	83	2.50	2.61	2.39	0.50	0.623	1.25
40	1.19	1.27	1.08	0.50	0.50 ⁽²⁾	1.12	88	2.62	2.75	2.52	0.50	0.623	1.25
42	1.25	1.33	1.14	0.50	0.62 ⁽³⁾	1.12	92	2.75	2.88	2.64	0.50	0.623	1.25
44	1.31	1.39	1.20	0.50	0.62 ⁽³⁾	1.12	96	2.88	3.00	2.77	0.50	0.623	1.25
46	1.38	1.45	1.27	0.50	0.62 ⁽³⁾	1.12	100	3.00	3.12	2.89	0.50	0.62	1.25
48	1.44	1.52	1.33	0.50	0.62 ⁽³⁾	1.12	104	3.12	3.25	3.02	0.50	0.62	1.25
50	1.50	1.58	1.39	0.50	0.62 ⁽³⁾	1.12	108	3.25	3.38	3.14	0.50	0.62	1.25
52	1.56	1.64	1.45	0.50	0.62 ⁽³⁾	1.12	112	3.38	3.50	3.27	0.50	0.62	1.25
54	1.62	1.70	1.52	0.50	0.62 ⁽³⁾	1.12	122	3.56	3.81	3.42	0.62	0.75	1.38
56	1.69	1.77	1.58	0.50	0.62 ⁽³⁾	1.12							

(1) Reference dimension. When gap is at value tabulated, clamp diameter shall approximate the nominal diameter.

(2) 0.62 inch width optional with user.

(3) 0.50 inch width optional with user.

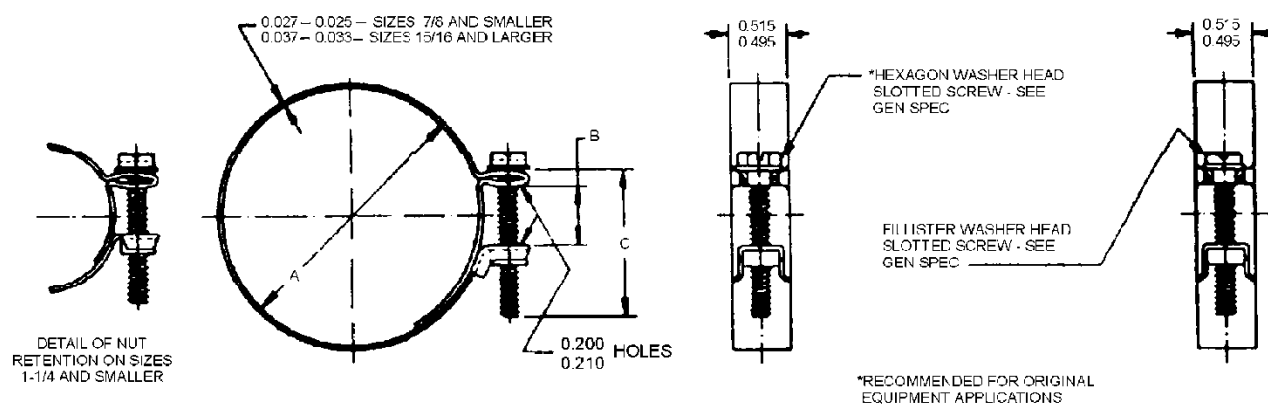
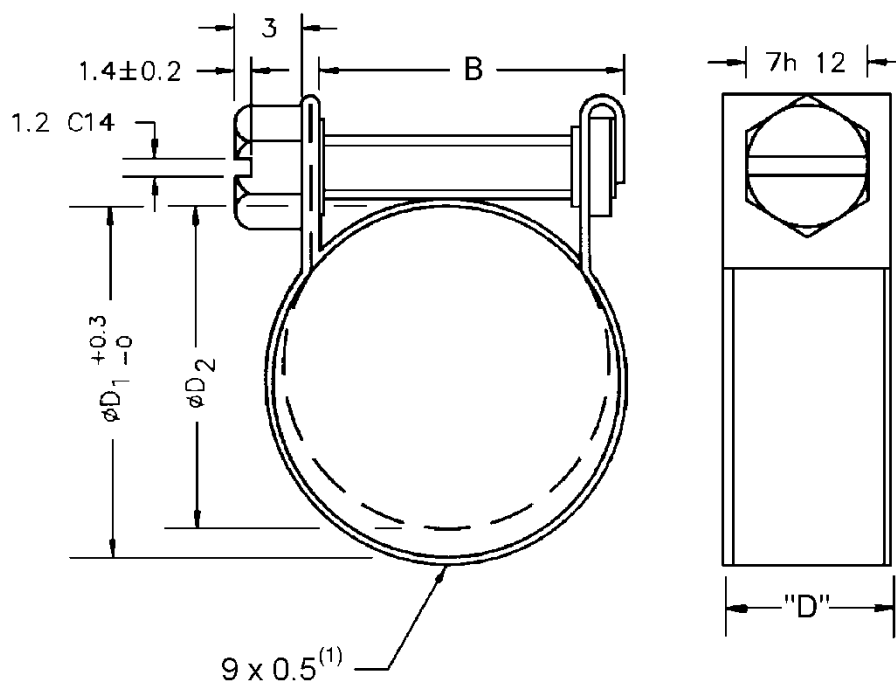


Figure 3A - Type "D" hose clamps, inch (see Table 3A)



(1) t = BAND THICKNESS = [0.5 mm] 0.02 in

Figure 3B - Type "D" (see Table 3B)

Table 3A - Dimensions of Type "D" hose clamps, inch (see Figure 3A)

SAE Size No.	A Dia Nom	A Dia Open	A Dia Closed	B Gap	C Screw Length Min	SAE Size No.	A Dia Nom	A Dia Open	A Dia Closed	B Gap	C Screw Length Min
23	0.62	0.72	0.53	0.38	1.12	119	3.62	3.72	3.41	0.75	1.50
25	0.69	0.78	0.59	0.38	1.12	121	3.69	3.78	3.47	0.75	1.50
27	0.75	0.84	0.66	0.38	1.12	123	3.75	3.84	3.53	0.75	1.50
29	0.81	0.91	0.72	0.38	1.12	125	3.81	3.91	3.59	0.75	1.50
31	0.88	0.97	0.78	0.38	1.12	127	3.88	3.97	3.66	0.75	1.50
33	0.94	1.03	0.84	0.38	1.12	129	3.94	4.03	3.72	0.75	1.50
35	1.00	1.09	0.91	0.38	1.12	131	4.00	4.09	3.78	0.75	1.50
37	1.06	1.16	0.97	0.38	1.12	133	4.06	4.16	3.84	0.75	1.50
39	1.12	1.22	1.03	0.38	1.12	135	4.12	4.22	3.91	0.75	1.50



SAE Size No.	A Dia Nom	A Dia Open	A Dia Closed	B Gap	C Screw Length Min	SAE Size No.	A Dia Nom	A Dia Open	A Dia Closed	B Gap	C Screw Length Min
41	1.19	1.28	1.06	0.50	1.25	137	4.19	4.28	3.97	0.75	1.50
43	1.25	1.34	1.12	0.50	1.25	139	4.25	4.34	4.03	0.75	1.50
45	1.31	1.41	1.19	0.50	1.25	141	4.31	4.41	4.09	0.75	1.50
47	1.38	1.47	1.25	0.50	1.25	143	4.38	4.47	4.16	0.75	1.50
49	1.44	1.53	1.31	0.50	1.25	145	4.44	4.53	4.22	0.75	1.50
51	1.50	1.59	1.38	0.50	1.25	147	4.50	4.59	4.28	0.75	1.50
53	1.56	1.66	1.44	0.50	1.25	149	4.56	4.66	4.34	0.75	1.50
55	1.62	1.72	1.50	0.50	1.25	151	4.62	4.72	4.41	0.75	1.50
57	1.69	1.78	1.56	0.50	1.25	153	4.69	4.78	4.47	0.75	1.50
59	1.75	1.84	1.62	0.50	1.25	155	4.75	4.84	4.53	0.75	1.50
61	1.81	1.91	1.69	0.50	1.25	157	4.81	4.91	4.59	0.75	1.50
63	1.88	1.97	1.75	0.50	1.25	159	4.88	4.97	4.66	0.75	1.50
65	1.94	2.03	1.81	0.50	1.25	161	4.94	5.03	4.72	0.75	1.50
67	2.00	2.09	1.88	0.50	1.25	163	5.00	5.09	4.78	0.75	1.50
69	2.06	2.16	1.94	0.50	1.25	165	5.06	5.16	4.84	0.75	1.50
71	2.12	2.22	2.00	0.50	1.25	167	5.12	5.22	4.91	0.75	1.50
73	2.19	2.28	2.06	0.50	1.25	169	5.19	5.28	4.97	0.75	1.50
75	2.25	2.34	2.12	0.50	1.25	171	5.25	5.34	5.03	0.75	1.50
77	2.31	2.41	2.19	0.50	1.25	173	5.31	5.41	5.09	0.75	1.50
79	2.38	2.47	2.22	0.62	1.38	175	5.38	5.47	5.16	0.75	1.50
81	2.44	2.53	2.28	0.62	1.38	177	5.44	5.53	5.22	0.75	1.50
83	2.50	2.59	2.34	0.62	1.38	179	5.50	5.59	5.28	0.75	1.50
85	2.56	2.66	2.41	0.62	1.38	181	5.56	5.66	5.34	0.75	1.50
87	2.62	2.72	2.47	0.62	1.38	183	5.62	5.72	5.41	0.75	1.50
89	2.69	2.78	2.53	0.62	1.38	185	5.69	5.78	5.47	0.75	1.50
91	2.75	2.84	2.59	0.62	1.38	187	5.75	5.84	5.53	0.75	1.50
93	2.81	2.91	2.66	0.62	1.38	189	5.81	5.91	5.59	0.75	1.50
95	2.88	2.97	2.72	0.62	1.38	191	5.88	5.97	5.66	0.75	1.50
97	2.94	3.03	2.78	0.62	1.38	193	5.94	6.03	5.72	0.75	1.50
99	3.00	3.09	2.84	0.62	1.38	195	6.00	6.09	5.78	0.75	1.50
101	3.06	3.16	2.91	0.62	1.38						
103	3.12	3.22	2.97	0.62	1.38						
105	3.19	3.28	3.03	0.62	1.38						
107	3.25	3.34	3.09	0.62	1.38						
109	3.31	3.41	3.16	0.62	1.38						
111	3.38	3.47	3.22	0.62	1.38						
113	3.44	3.53	3.28	0.62	1.38						
115	3.50	3.59	3.34	0.62	1.38						
117	3.56	3.66	3.34	0.75	1.50						

Table 3B - Type "D" (see Figure 3B)

Manufacturers Designation for SAE Size ⁽¹⁾	Diameter Supplied mm	Clamping Range mm	B mm	D mm	Recommended Tightening Torque N·m
8	8.3	6.0-8.3	13.1	9.1	1.5
9	9.3	7.0-9.5	13.1	9.1	1.5
10	10.3	8.0-10.3	13.1	9.1	1.5
11	11.3	9.0-11.5	13.1	9.1	1.5
12	12.3	10.0-12.3	15.9	9.1	1.5
13	13.3	11.0-13.5	15.9	9.1	1.5
14	14.3	12.0-14.3	15.9	9.1	1.5
15	15.3	13.0-15.5	15.9	9.1	1.5
16	16.3	14.0-16.3	15.9	9.1	1.5
17	17.3	15.0-17.5	15.9	9.1	1.5

⁽¹⁾ • = In the absence of an appropriate SAE size.

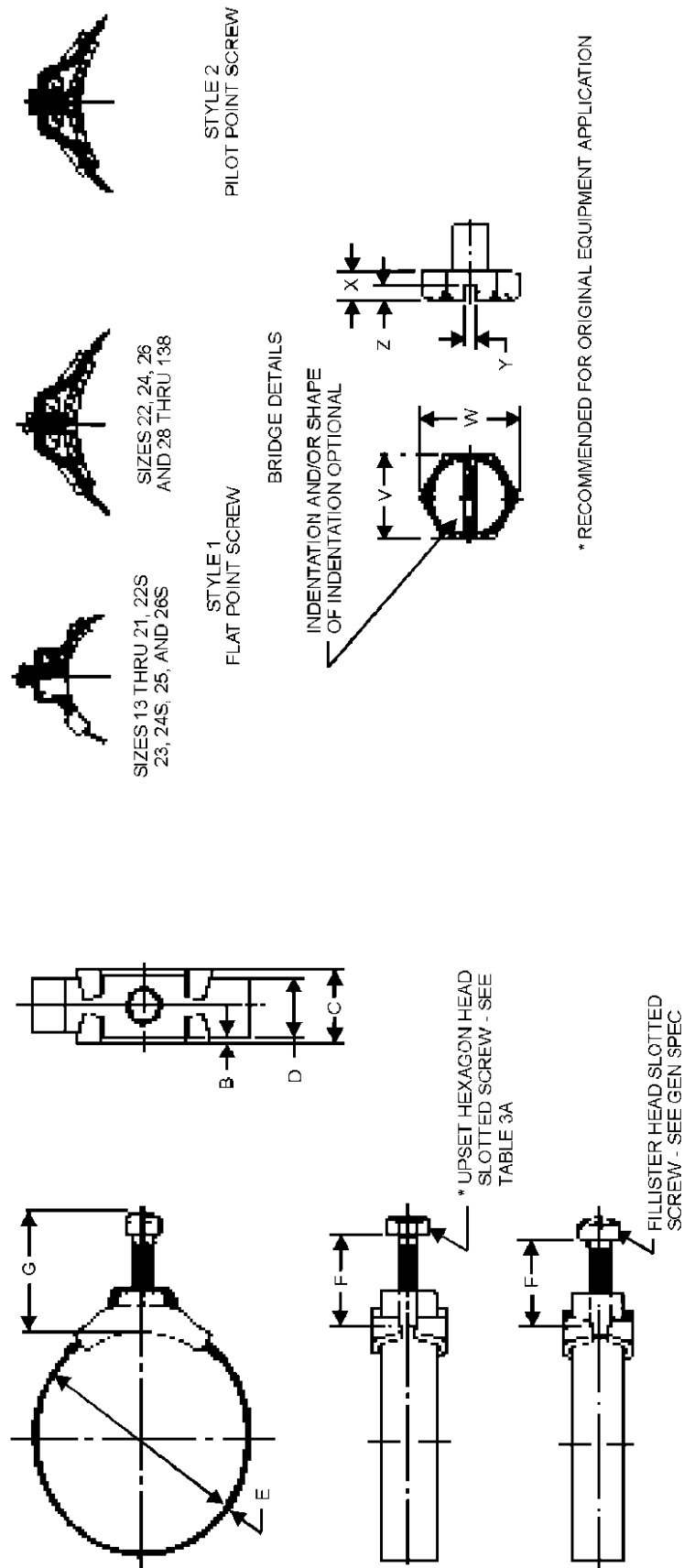


Figure 4 - Type "C" hose clamps

Torque required to draw band through bridge on free clamp shall not exceed 4 lb-in for sizes having 6-32 screws, 8 lb-in for sizes having 10-24 screws, and 10 lb-in for sizes having 12-24 screws.

It is recommended that Type "C" Clamps not be tightened beyond maximum torques of 9 lb-in for sizes having 6-32 screws, 22 lb-in for sizes having 10-24 screws, and 30 lb-in for sizes having 12-24 screws.

Table 4A - Dimensions of Type "C" hose clamps, inch

SAE Size No. ⁽¹⁾	A Diameter Open	A Diameter Closed	B Bridge Stock Thickness ±0.002	C ⁽²⁾ Bridge Width Max	D Band Width ±0.010	E ⁽³⁾ Band Thick- ness ±0.001	F Screw Size and Length	G ⁽²⁾ Height Over Screw Max
13	0.40	0.34	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
14	0.43	0.37	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
15	0.46	0.40	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
16	0.50	0.37	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
17	0.53	0.40	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
18	0.56	0.43	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
19	0.59	0.46	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
20	0.62	0.50	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
21	0.65	0.53	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
22	0.69	0.38	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
22N	0.69	0.56	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
23	0.71	0.59	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
24	0.75	0.44	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
24N	0.75	0.62	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
25	0.78	0.66	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
26	0.81	0.50	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
26N	0.81	0.69	0.035	0.41	0.281	0.010	6-32 x 0.50	0.64
28	0.88	0.56	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
30	0.94	0.62	0.050	0.72	0.505	0.017	12-24 x 0.88	1.13
30N	0.94	0.62	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
32	1.00	0.69	0.050	0.72	0.505	0.017	12-24 x 0.88	1.13
32N	1.00	0.69	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
34	1.06	0.75	0.050	0.72	0.505	0.020	12-24 x 0.88	1.13
34N	1.06	0.75	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
36	1.12	0.81	0.050	0.72	0.505	0.020	12-24 x 0.88	1.13
36N	1.12	0.81	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
38	1.19	0.88	0.062	0.72	0.505	0.020	12-24 x 0.88	1.13
38N	1.19	0.88	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
40	1.25	0.94	0.062	0.72	0.505	0.020	12-24 x 0.88	1.13
40N	1.25	0.94	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
42	1.31	1.00	0.062	0.72	0.505	0.020	12-24 x 0.88	1.13
42N	1.31	1.00	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
44	1.38	1.06	0.062	0.72	0.505	0.020	12-24 x 0.88	1.13
44N	1.38	1.06	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
46	1.44	1.12	0.062	0.72	0.505	0.020	12-24 x 0.88	1.13
46N	1.44	1.12	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
48	1.50	1.19	0.062	0.72	0.505	0.020	12-24 x 0.88	1.13
48N	1.50	1.19	0.050	0.64	0.438	0.017	10-24 x 0.88	1.13
50	1.56	1.25	0.062	0.72	0.505	0.020	12-24 x 0.88	1.13
52	1.62	1.31	0.062	0.72	0.505	0.020	12-24 x 0.88	1.13
54	1.69	1.38	0.62	0.72	0.505	0.020	12-24 x 1.00	1.13
56	1.75	1.44	0.62	0.72	0.505	0.020	12-24 x 1.00	1.13
58	1.81	1.50	0.62	0.72	0.505	0.020	12-24 x 1.00	1.13
60	1.88	1.56	0.62	0.72	0.505	0.020	12-24 x 1.00	1.13

SAE Size No. ⁽¹⁾	A Diameter Open	A Diameter Closed	B Bridge Stock Thickness ±0.002	C ⁽²⁾ Bridge Width Max	D Band Width ±0.010	E ⁽³⁾ Band Thick- ness ±0.001	F Screw Size and Length	G ⁽²⁾ Height Over Screw Max
62	1.94	1.62	0.62	0.72	0.505	0.020	12-24 x 1.00	1.13
64	2.00	1.69	0.62	0.72	0.505	0.020	12-24 x 0.88	1.13
66	2.06	1.69	0.62	0.72	0.505	0.020	12-24 x 0.88	1.25
68	2.12	1.75	0.62	0.72	0.505	0.020	12-24 x 0.88	1.25
70	2.19	1.81	0.62	0.72	0.505	0.020	12-24 x 0.88	1.25
72	2.25	1.88	0.62	0.72	0.505	0.020	12-24 x 0.88	1.25
74	2.31	1.94	0.62	0.72	0.505	0.020	12-24 x 0.88	1.25
76	2.38	2.00	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
78	2.44	2.06	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
80	2.50	2.12	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
82	2.56	2.19	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
84	2.62	2.25	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
86	2.69	2.31	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
88	2.75	2.38	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
90	2.81	2.44	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
92	2.88	2.50	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
94	2.94	2.56	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
96	3.00	2.62	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
100	3.12	2.75	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
104	3.25	2.88	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
110	3.44	3.06	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
114	3.56	3.19	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
118	3.69	3.31	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
138	4.31	3.94	0.62	0.72	0.505	0.020	12-24 x 1.00	1.25
54	1.69	1.38	0.62	0.72	0.505	0.020	12-24 x 1.00	1.13
56	1.75	1.44	0.62	0.72	0.505	0.020	12-24 x 1.00	1.13

⁽¹⁾ The N suffix applied to SAE size numbers designates the smaller series clamp design where sizes overlap in two clamp designs.

⁽²⁾ Reference dimension for clearance purposes only.

⁽³⁾ For size numbers 30 through 138, clamps having 0.020 tabulated band thickness are also available with 0.018 through 0.016 and 0.027 through 0.025 band thickness where so specified by user.

Table 4B - Dimension of hexagon screw heads, inch

Screw Size	V Across Flats Max	V Across Flats Min	W Across Corners Min	X Head Height Max	X Head Height Min	Y Slot Width Max	Y Slot Width Min	Z Slot Depth Max	Z Slot Depth Min
6	0.250	0.244	0.272	0.080	0.067	0.048	0.039	0.046	0.033
10	0.375	0.367	0.409	0.145	0.120	0.060	0.050	0.072	0.057
12	0.375	0.367	0.409	0.155	0.139	0.067	0.056	0.077	0.093

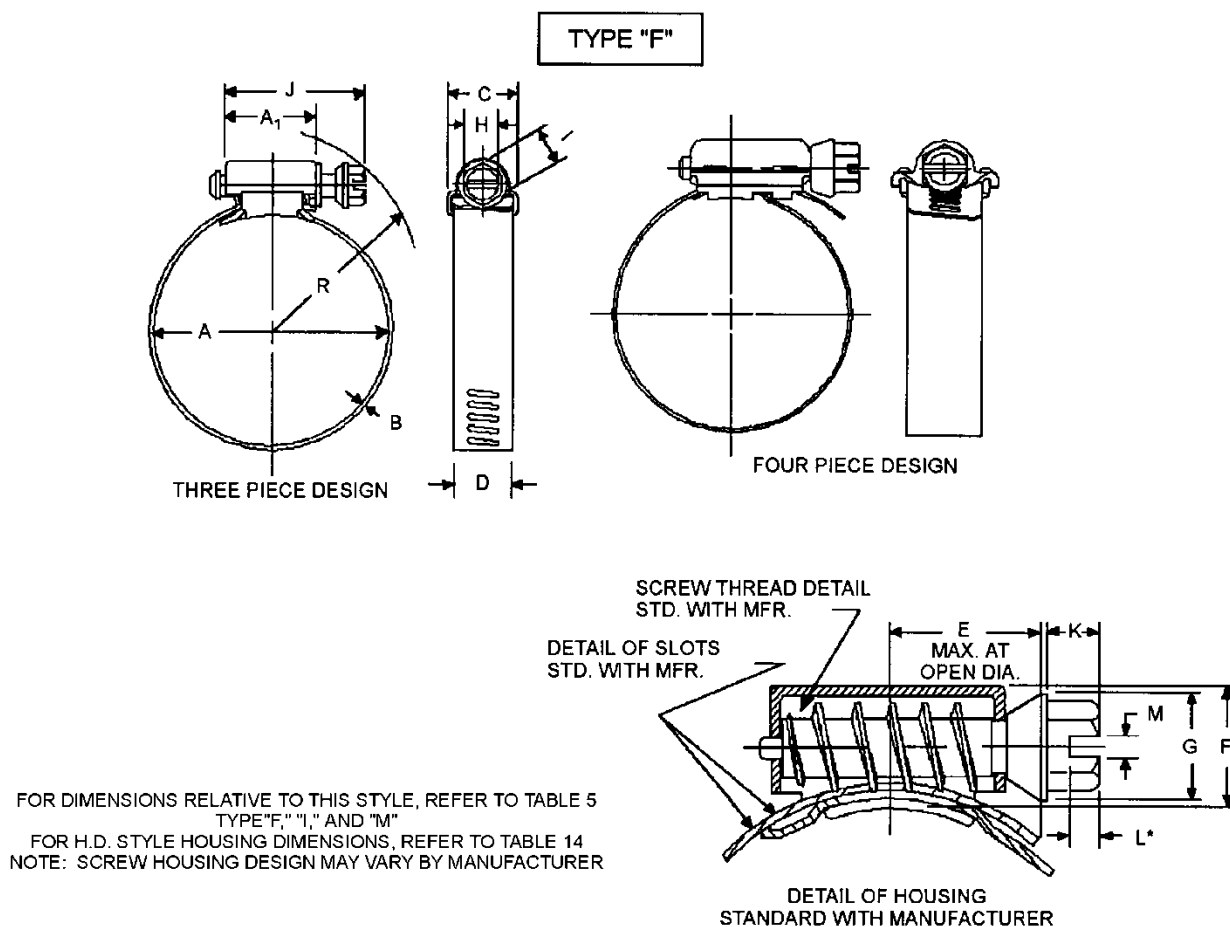
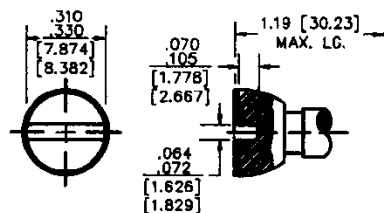
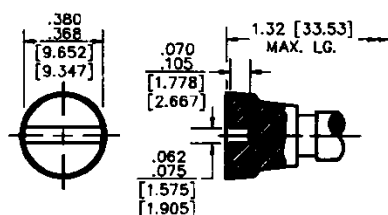


Figure 5 - Types "F," "I," and "M"

Table 5 - Dimensions of Type "F," "I," and "M" clamps

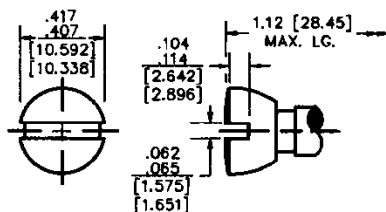
Dimension	Type F mm	Type I mm	Type M mm
A ⁽¹⁾ HSG Length (Ref)	19.3	16.3	10.7
B Thickness	0.53/0.79	0.48/0.76	0.48/0.66
C HSG Width (Ref)	20.6	13.5	15.2
D Bandwidth	12.57/14.45	10.03/11.23	7.75/8.26
E Max at Open Diameter	19.1	12.7	11.2
F Height (Ref)	14.2	10.2	9.6
G Collar Diameter	9.40/10.80	7.49/9.52	⁽¹⁾
H Across Flats	7.75/7.92	6.20/6.35	6.20/6.35
I Across Corners (Min)	8.64	6.86	6.86
J LG of Screw (Max)	34.3	28.7	20.3
K Hex Height	3.56/6.35	3.56/4.45	3.56/4.70
L Slot Depth	1.96/3.05	1.32/2.67	1.32/2.67
M Slot Width	1.42/1.93	1.07/1.52	1.07/1.52

⁽¹⁾ Type "M" clamps do not have collars as standard. See Style 6.

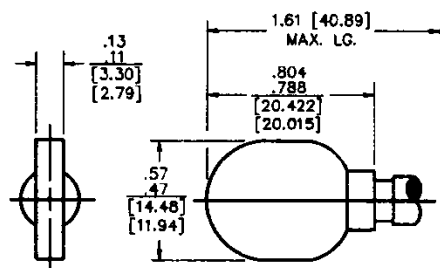


OPTIONAL DESIGNS

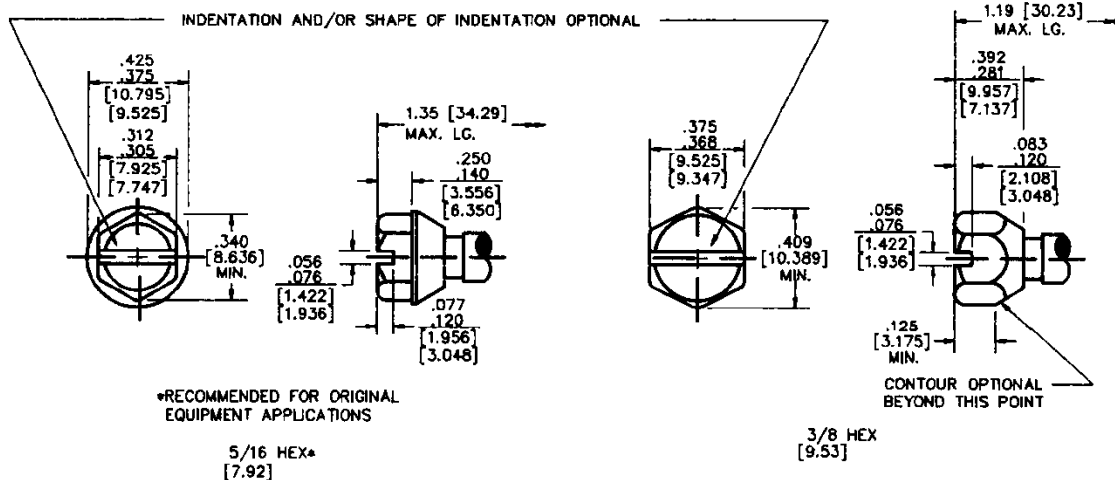
STYLE 1



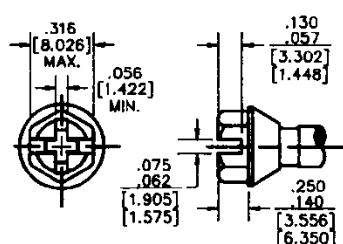
STYLE 2



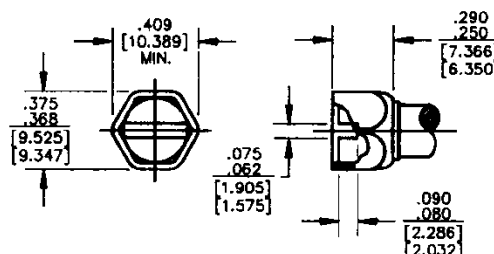
STYLE 3



STYLE 4



STYLE 5



STYLE 6

Figure 6 - Type "F" hose clamps

Table 6 - Dimensions of Type “F” hose clamps

SAE Size No. ⁽¹⁾⁽²⁾	A Diameter ⁽³⁾ Open mm	A Diameter ⁽³⁾ Closed mm	R Radius ⁽⁴⁾ Over Screw mm
06	19.8	11.2	29.7
08	23.1	12.7	30.9
10	26.9	14.2	32.0
12	31.7	17.5	33.5
16	38.1	20.6	36.1
20	44.4	20.6	38.6
24	50.8	26.9	41.4
28	57.1	33.3	44.5
32	63.5	39.6	47.2
36	69.8	45.9	50.0
40	76.2	52.3	53.0
44	82.5	58.6	55.8
48	88.9	65.0	58.9
52	95.2	71.4	61.9
56	101.6	77.7	65.0
60	107.9	84.1	68.0
64	114.3	90.4	71.1
72	127.0	103.1	77.2
80	139.7	117.3	83.3
88	152.4	130.0	89.6
96	165.1	141.2	95.7
104	177.8	156.9	101.8

⁽¹⁾ For SAE sizes not listed, the size is determined by $(A-12.7)/406.4$, rounding to nearest upper size in increments of one.

⁽²⁾ Diameter shall be determined by assembly.

⁽³⁾ Reference dimensions for clearance purposes only.

Table 7 - Dimensions of Type “I” hose clamps

SAE Size No. ⁽¹⁾	A Diameter ⁽²⁾ Open mm	A Diameter ⁽²⁾ Closed mm	R Radius ⁽³⁾ Over Screw mm
06	19.8	11.2	25.4
08	23.1	12.7	26.1
10	26.9	14.2	27.6
12	31.7	17.5	28.4
16	38.1	20.6	31.7
20	44.4	20.6	35.0
24	50.8	26.9	38.1
28	57.1	33.3	41.1
32	63.5	39.6	45.0
36	69.8	45.9	47.5

⁽¹⁾ Larger size clamps available through manufacturers.

⁽²⁾ Diameter shall be determined by assembly over mandrels.

⁽³⁾ Reference dimensions for clearance purposes.