

Issued 1990-03
Revised 1999-07

Superseding J1835 MAR90

Submitted for recognition as an American National Standard

Fastener Hardware for Wheels for Demountable Rims

1. **Scope**—This SAE Recommended Practice establishes the mounting hardware to be used with demountable rims, wheels for demountable rims, rim spacers designed for 28 degrees bevel mounting systems, and intended for use on commercial vehicles. The dimensions given are those necessary to maintain serviceability and interchangeability of mounting hardware.

This document is divided into two sections. Section 1 establishes the practice for new designs for mounting hardware. Section 2 records information on current mounting hardware. Special and less common applications are not covered in this document.

2. References

- 2.1 **Applicable Publications**—The following publications form a part of the specification to the extent specified herein. Unless otherwise indicated, the latest revision of SAE publications shall apply.

- 2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J393—Nomenclature—Wheels, Hubs and Rims for Commercial Vehicles

SAE J851—Dimensions—Wheels for Demountable Rims, Demountable Rims, and Rim Spacers—Commercial Vehicles

3. **Definitions**—A detailed listing of basic nomenclature is contained in SAE J393. Figures 1 through 8 and Tables 1 through 3, introduce, illustrate, and specify additional nomenclature and definitions. All dimensions are in inches unless otherwise specified. Single clamps are rim clamps with one hole and double clamps are rim clamps with two holes.

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, or cancelled. SAE invites your written comments and suggestions.

QUESTIONS REGARDING THIS DOCUMENT: (724) 772-8512 FAX: (724) 776-0243
TO PLACE A DOCUMENT ORDER: (724) 776-4970 FAX: (724) 776-0790
SAE WEB ADDRESS <http://www.sae.org>

4. Section 1—Mounting Hardware Dimensions (Recommended Practice):

4.1 Rim Clamp Nut

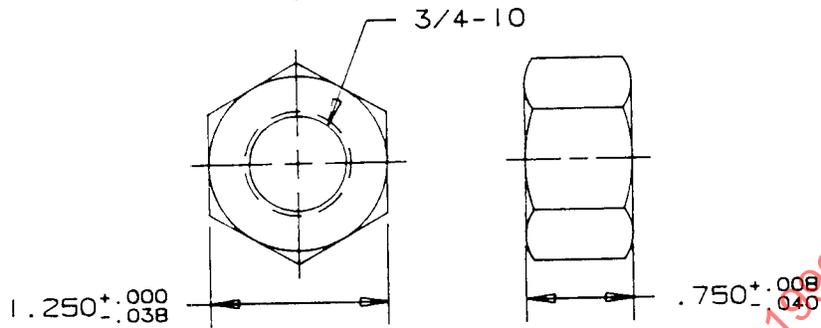


FIGURE 1—RIM CLAMP NUT

4.2 Rim Clamp Stud Standout

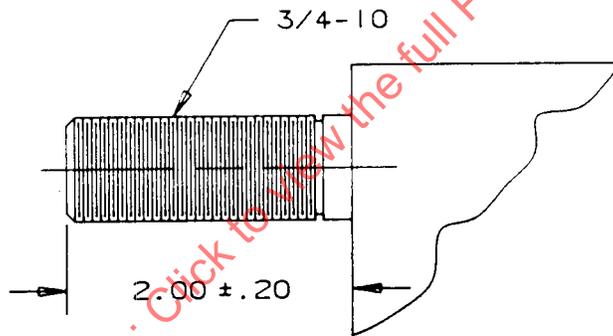


FIGURE 2—RIM CLAMP STUD STANDOUT

4.3 Rim Clamp Dimensions

4.3.1 DUAL MOUNTING

4.3.1.1 Dual Assembly

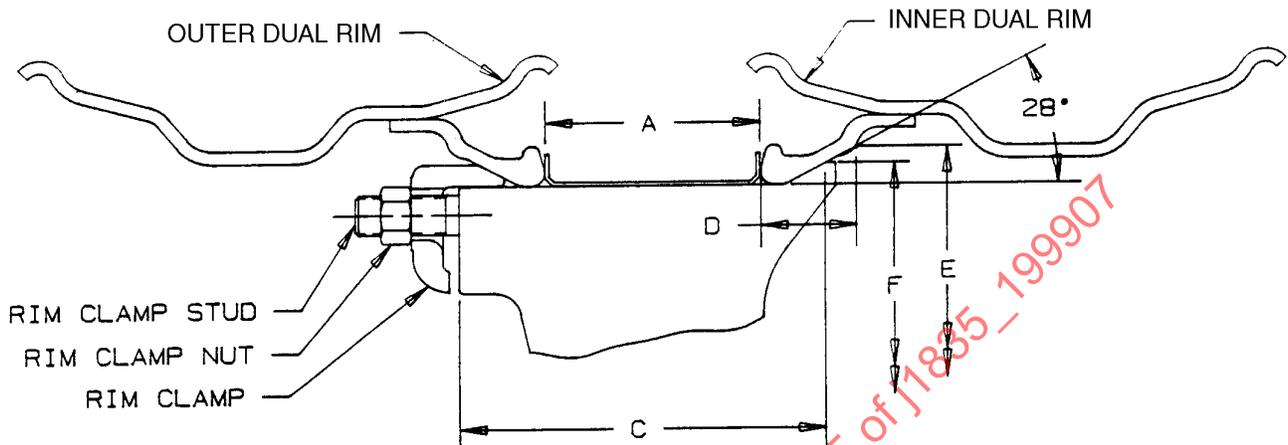


FIGURE 3—DUAL ASSEMBLY, DROP CENTER RIMS SHOWN

TABLE 1—DIMENSIONS FOR SINGLE CLAMPS (DUAL MOUNTING), REFER TO FIGURE 3

(A) Spacer Width	(B) Rim Clamp Toe Length	(C) Spoke Length	(D) Rim Bevel Intersection (28 degrees Layout Line)	(E) 28 degrees Bevel Layout Diameter (Nominal Wheel Diameter)	(F) Outside Diameter (Reference)
+0.060 -0.047	±0.05	±0.06	±0.040		
3.380	1.84	6.56	1.762	15, 20, 22, 24	E -0.635
3.620	1.59	6.56	1.762	15, 20, 22, 24	E -0.635
4.000	1.21	6.56	1.762	15, 20, 22, 24	E -0.635
3.620	1.84	6.81	1.762	20, 22, 24	E -0.635
4.000	1.46	6.81	1.762	20, 22, 24	E -0.635
4.250	1.21	6.81	1.762	20, 22, 24	E -0.635
3.620	1.59	6.81	2.000	20,24	E -0.719
4.000	1.21	6.81	2.000	20,24	E -0.719

TABLE 2—DIMENSIONS FOR DOUBLE CLAMPS (DUAL MOUNTING), REFER TO FIGURE 3

(A) Spacer Width	(B) Rim Clamp Toe Length	(C) Spoke Length	(D) Rim Bevel Intersection (28 degrees Layout Line)	(E) 28 degrees Bevel Layout Diameter (Nominal Wheel Diameter)	(G) Rim Clamp Diameter	(H) Hole Spread	(J) Rim Clamp Height	(F) Outside Diameter (Reference)
+0.060 -0.047	±0.05	±0.06	±0.040		±0.03	±0.01	±0.03	
4.000	1.21	6.56	1.762	15	13.54	4.50	1.82	E -0.635
4.000	1.21	6.56	1.762	20	18.54	6.81	2.42	E -0.635
4.000	1.21	6.56	1.762	22	20.54	8.91	2.42	E -0.635
3.380	1.84	6.56	1.762	15	13.54	4.50	1.82	E -0.635
3.380	1.84	6.56	1.762	20	18.54	6.81	2.42	E -0.635
3.380	1.84	6.56	1.762	22	20.54	8.91	2.42	E -0.635

4.3.1.2 Single Clamps

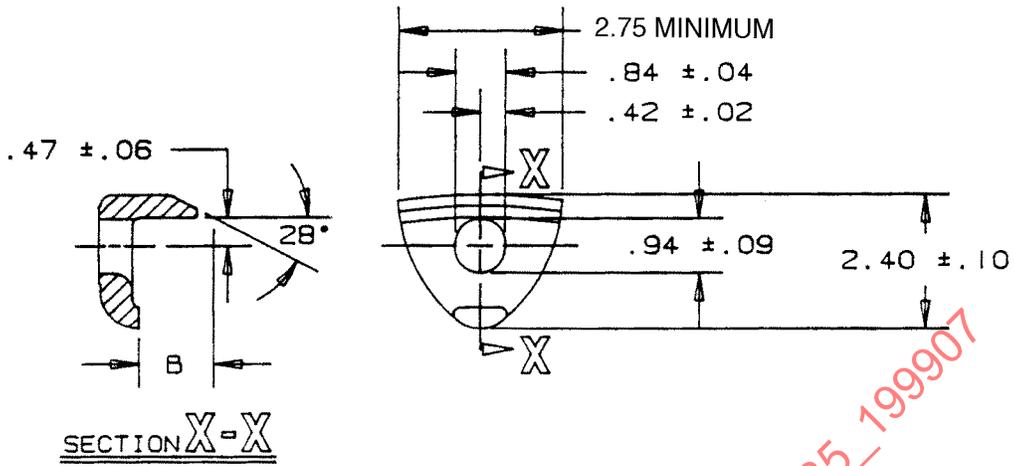


FIGURE 4—SINGLE CLAMPS

4.3.1.3 Double Clamps

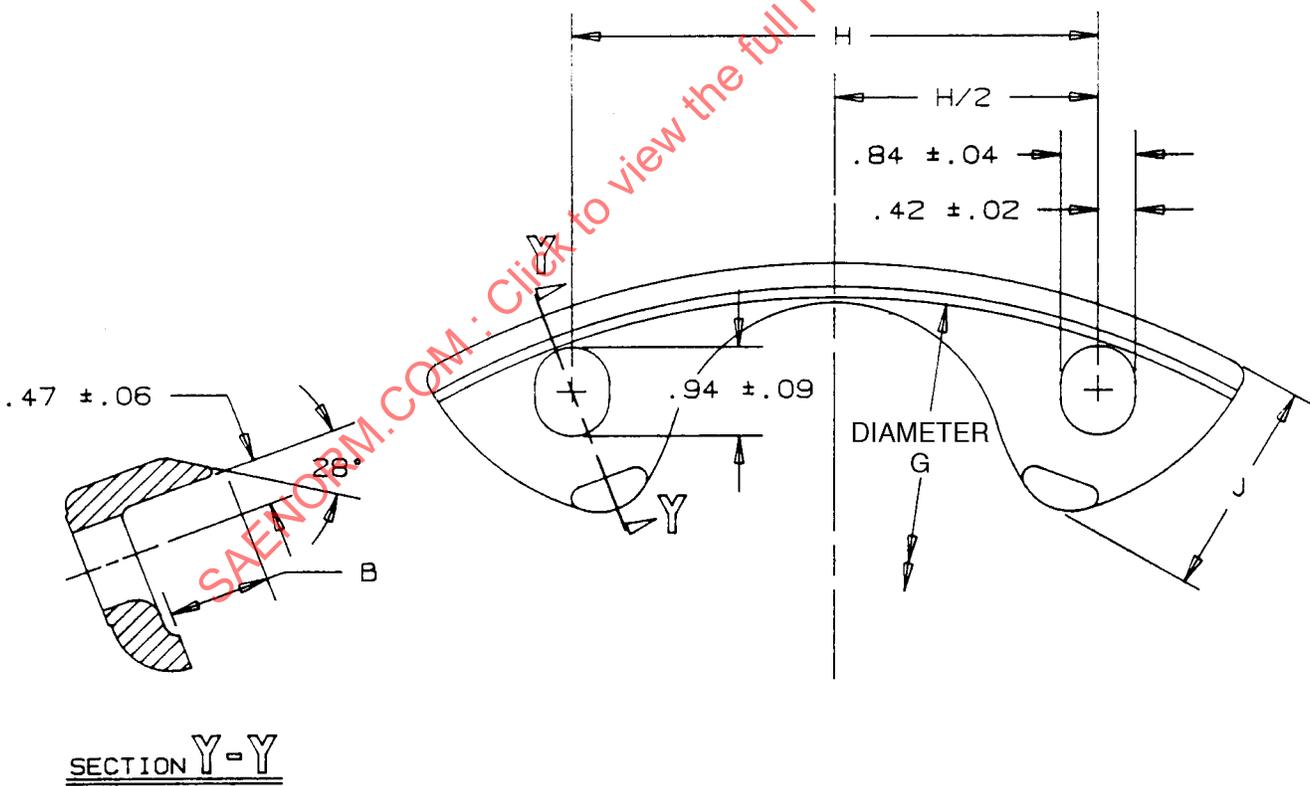


FIGURE 5—DOUBLE CLAMPS

4.3.2 SINGLE MOUNTING

4.3.2.1 Single Assembly

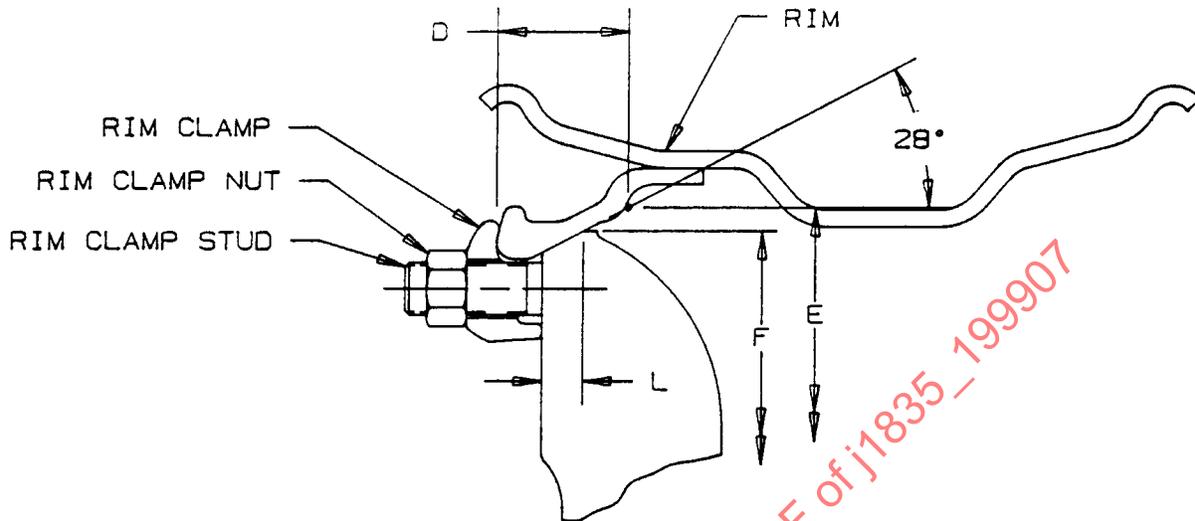


FIGURE 6—SINGLE ASSEMBLY, DROP CENTER RIM SHOWN

TABLE 3—DIMENSIONS FOR SINGLE CLAMPS (SINGLE MOUNTING), REFER TO FIGURE 6

(E) 28 degrees Bevel Layout Diameter (Nominal Wheel Diameter)	(D) Rim Bevel Intersection (28 degrees Layout Line ± 0.040)	(K) Rim Clamp Offset ± 0.03	(L) Bevel Length ± 0.06	(F) Outside Diameter (Reference)
20	1.762	0.46	0.60	E -0.635
22	1.762	0.46	0.60	E -0.635
24	1.762	0.46	0.60	E -0.635
20	2.000	0.63	0.60	E -0.719
24	2.000	0.63	0.60	E -0.719

4.3.2.2 Single Clamps

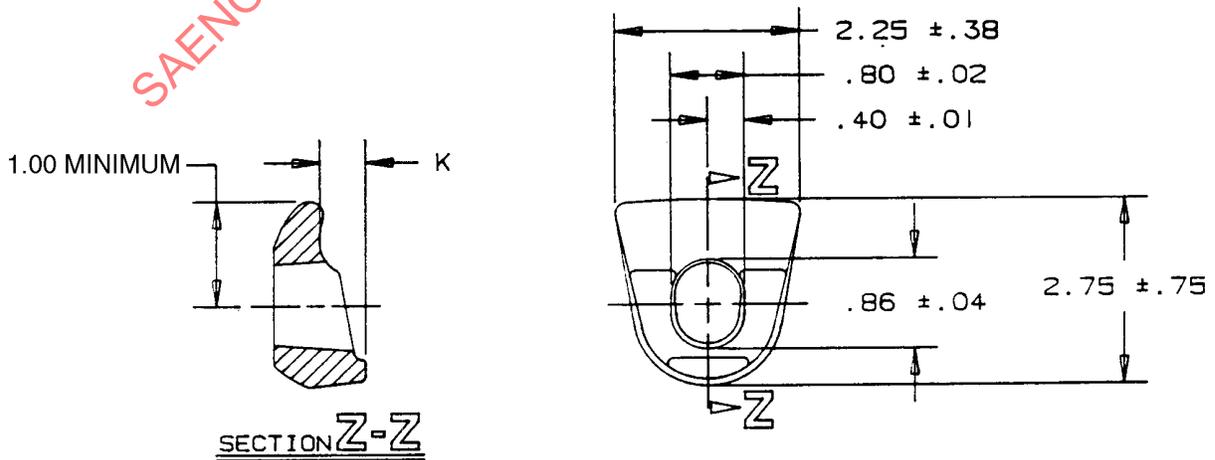


FIGURE 7—SINGLE CLAMPS

5. Section 2—Mounting Hardware Dimensions (Current Practice):

5.1 Single Clamps

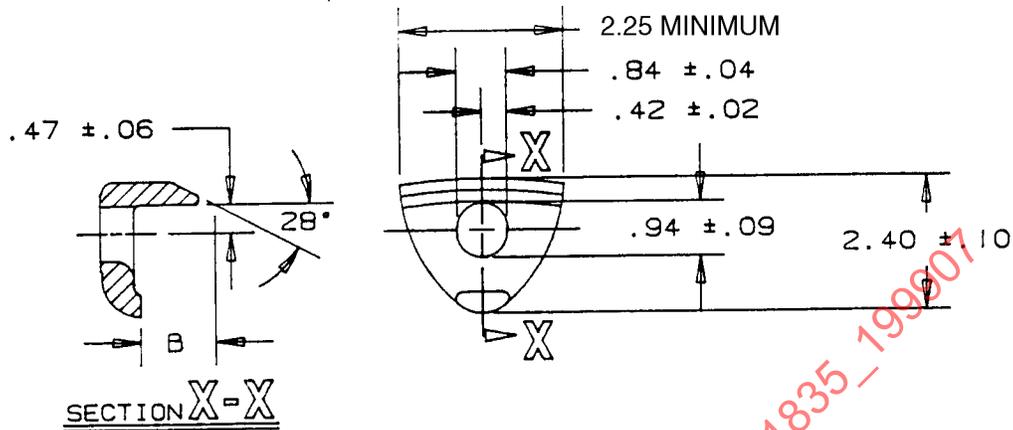


FIGURE 8—SINGLE CLAMPS

TABLE 4—DIMENSION FOR SINGLE CLAMPS (DUAL MOUNTING), REFER TO FIGURE 8

(A) Spacer Width +0.060 -0.047	(B) Rim Clamp Toe Length ±0.13	(C) Spoke Length ±0.06	(E) 28 degrees Bevel Layout Diameter (Nominal Wheel Diameter)	(D) Rim Bevel Intersection (28 degrees Layout Line) ±0.040	(F) Outside Diameter (Reference)
3.380	1.86	6.56	15, 20, 22, 24	1.762	E -.635
3.620	1.56	6.56	15, 20, 22, 24	1.762	E -.635
4.000	1.25	6.56	15, 20, 22, 24	1.762	E -.635
3.620	1.82	6.81	20, 22, 24	1.762	E -.635
4.000	1.48	6.81	20, 22, 24	1.762	E -.635
3.620	1.59	6.81	20, 24	2.000	E -.719
4.000	1.21	6.81	20, 24	2.000	E -.719
3.380	2.30	6.94	20, 22, 24	1.762	E -.635
3.620	2.05	6.94	20, 22, 24	1.762	E -.635
4.000	1.67	6.94	20, 22, 24	1.762	E -.635
4.250	1.42	6.94	20, 22, 24	1.762	E -.635
3.620	2.03	7.03	20, 22, 24	1.762	E -.635
4.000	1.72	7.03	20, 22, 24	1.762	E -.635
4.250	1.47	7.03	20, 22, 24	1.762	E -.635
4.500	1.22	7.03	20, 22, 24	1.762	E -.635
3.380	2.36	7.06	20, 22, 24	1.762	E -.635
3.620	2.06	7.06	20, 22, 24	1.762	E -.635
4.000	1.75	7.06	20, 22, 24	1.762	E -.635
4.250	1.50	7.06	20, 22, 24	1.762	E -.635
4.500	1.25	7.06	20, 22, 24	1.762	E -.635