

	SURFACE VEHICLE RECOMMENDED PRACTICE	 J1730 MAR2012
		Issued 1996-10 Revised 2012-03
		Superseding J1730 JUL2004
(R) ABS Exciter Ring Location Standardization		

RATIONALE

This current document includes ABS sensor interface dimensions for drum brakes only. Additions to the document are being made to include ABS sensor interface dimensions for disc brake applications.

1. SCOPE

This SAE Recommended Practice establishes the Antilock Brake System [ABS] sensor interface and envelope dimensions for standardizing the location of the ABS rings mounted on the inner end of spoke wheels, hubs and hub-rotor assemblies on the following axle designations.

- a. FF
- b. FL
- c. FC
- d. FH
- e. L
- f. R
- g. U
- h. W
- j. N
- k. P

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1.1 Purpose

This document provides standardized wheel end ABS sensor interface dimensions for spoke wheels, hubs, and hub-rotor assemblies intended for normal highway use on trucks, buses, truck trailers and multi-purpose vehicles. The illustrations given in the document are for reference only. These illustrations show typical sensor ring designs and mountings, but are not limited to those shown. Serviceability considerations are not covered in this document.

2. REFERENCES

2.1 Related Publications

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

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 724-776-4970 (outside USA), www.sae.org.

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

SAE J1842 Disc Wheel Hub/Spoke Wheel and Axle Interface Dimensions - Commercial Vehicles

SAE J2475 Wheel End Assembly and Axle Spindle Interface Dimensions - Truck and Bus

3. DEFINITIONS

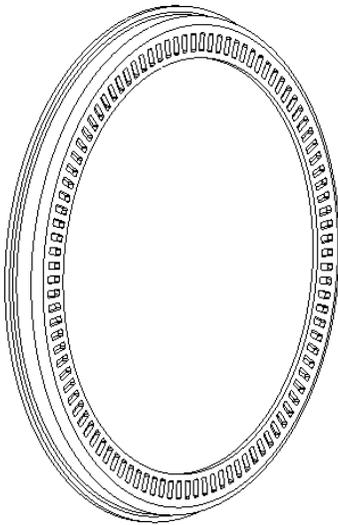
A listing of the basic nomenclature and definitions is shown as follows. A hub shall be defined as a disc wheel hub or the hub area of a spoke wheel. A hub/rotor assembly shall be defined as the combination of a hub and rotor. The rotor may be attached to the hub with a variety of techniques (i.e., bolted, retained with a stud and nut).

3.1 Definitions

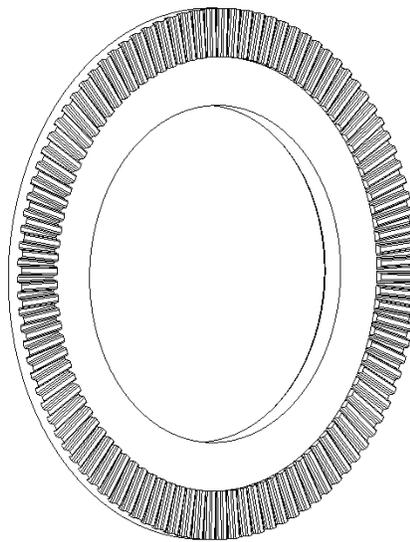
See Figures 1 to 11.

- a. A = Outer Bearing Cup [per American Bearing Manufacturers Association]
- b. B = Inner Bearing Cup [per American Bearing Manufacturers Association]
- c. C = Wheel Speed Sensor
- d. D = 7 mm diameter sensor target zone
- e. E = Dimension from inner bearing cup seat to the face of the ABS exciter ring teeth
- f. F = Minimum inside diameter of the ABS exciter ring to allow for seal clearance
- g. G = Basic Sensor pitch diameter
- h. H = Maximum outside diameter of the ABS tone ring

3.2 Typical ABS Ring Configurations



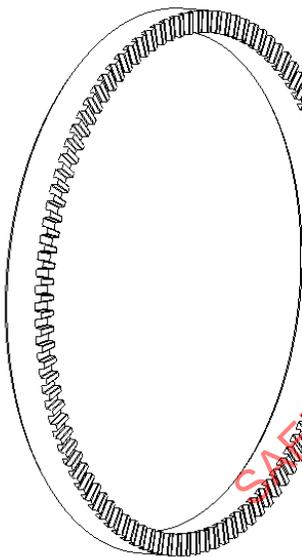
U – Shaped ABS ring



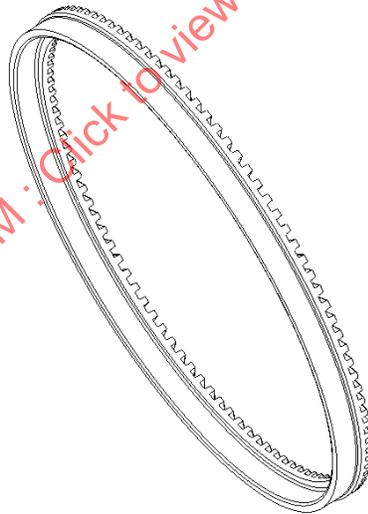
Flat ABS ring



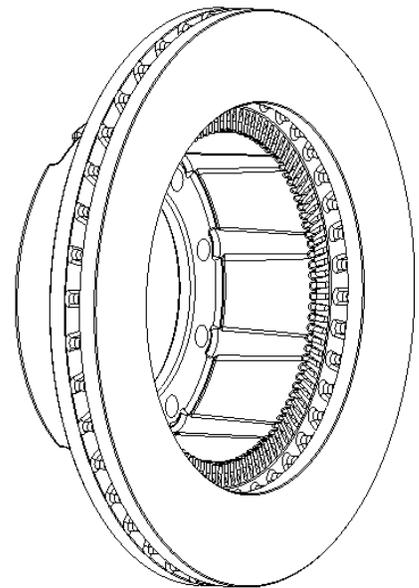
L – Shaped ABS ring



Rectangular section ABS ring



Machined clearances ABS ring



Rotor mounted ABS ring teeth

4. DIMENSIONS FOR DRUM BRAKE APPLICATIONS

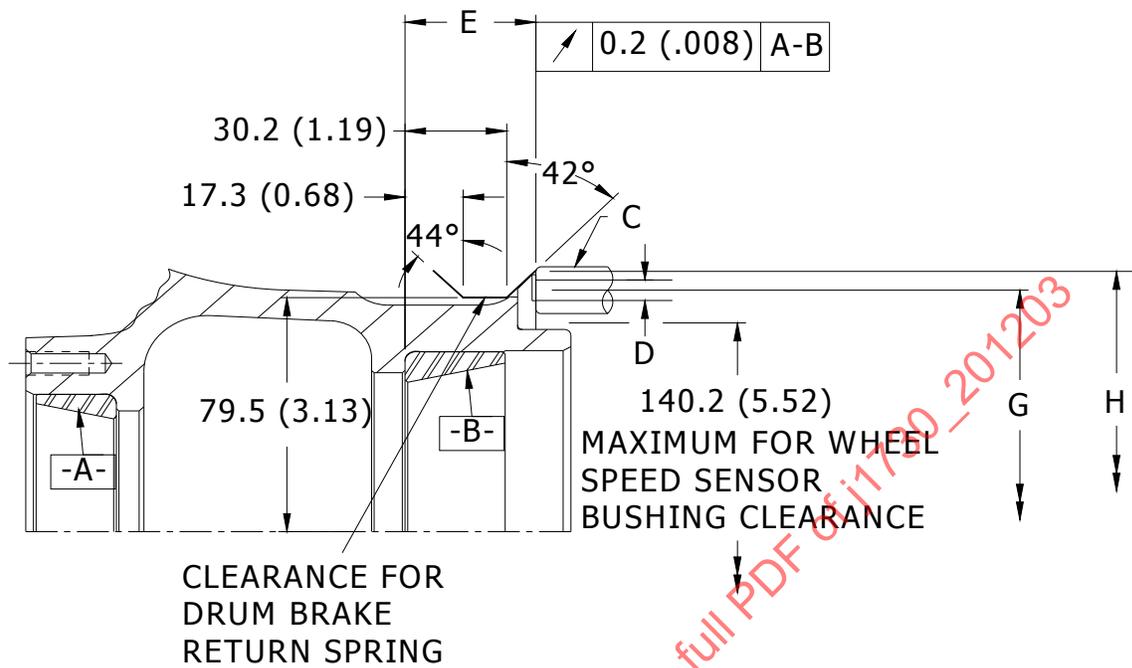


FIGURE 1 - FF DRUM BRAKE APPLICATION

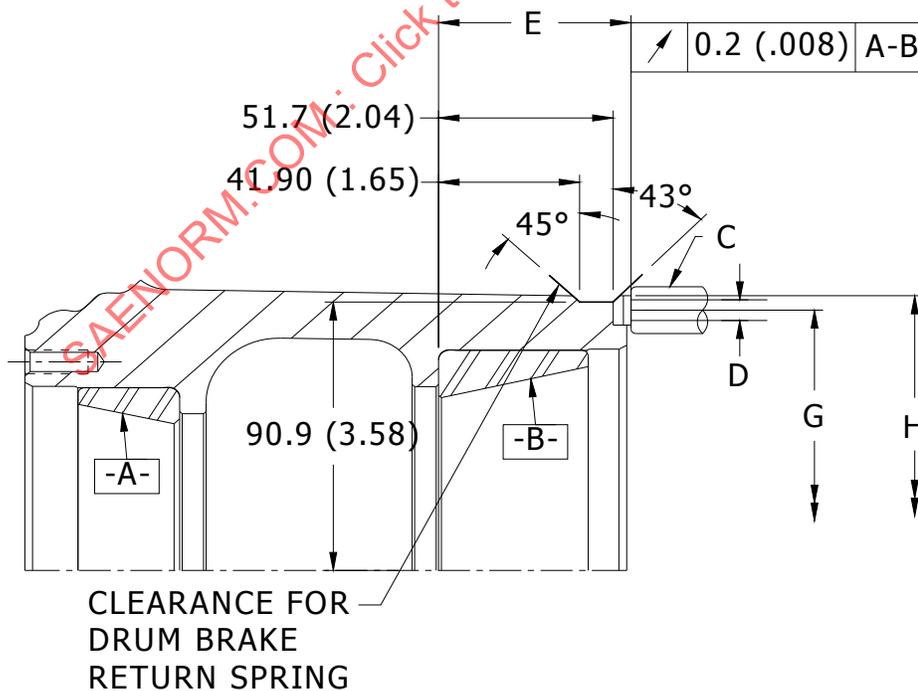


FIGURE 2 - FL DRUM BRAKE APPLICATION

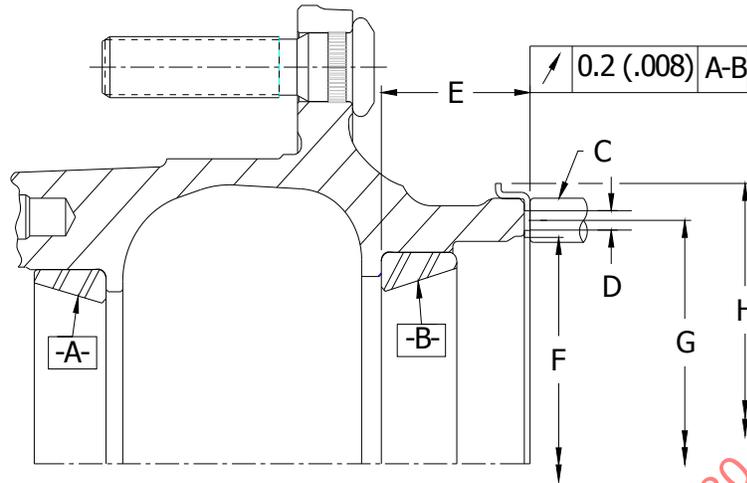


FIGURE 3 - L, R, U, W, N, AND P DRUM BRAKE APPLICATIONS

TABLE 1 - DRUM BRAKE APPLICATIONS

SAE Axle Designation	Reference Figure	Dimension E (1) +/- .76 (.030)	Dimension F	Dimension G	Dimension H
FF	1	38.9 (1.53)	N/A for figure 1	164.0 (6.46)	178.6 (7.03)
FL	2	57.2 (2.25)	N/A for figure 2	176.0 (6.93)	186.2 (7.33)
L	3	59.2 (2.33)	147.6 (5.81)	177.8 (7.00)	192.0 (7.56)
R	3	59.2 (2.33)	163.3 (6.43)	175.3 (6.90)	196.1 (7.72)
U	3	64.5 (2.54)	190.5 (7.50)	208.5 (8.21)	218.9 (8.62)
W	3	73.7 (2.90)	197.1 (7.76)	209.6 (8.25)	218.6 (8.61)
N	3	59.4 (2.34)	159.0 (6.26)	172.0 (6.77)	192.0 (7.56)
P	3	55.9 (2.20)	159.0 (6.26)	172.0 (6.77)	192.0 (7.56)

NOTE: (1) HUB AND RING DESIGN TO ALLOW FOR SENSOR CONTACT WITH ABS RING TEETH WITHOUT INTERFERENCE

5. DIMENSIONS FOR DISC BRAKE APPLICATIONS

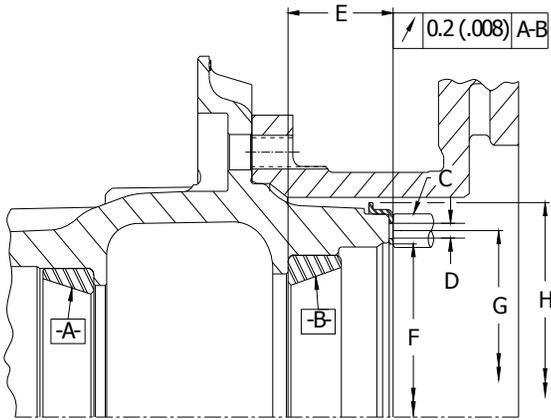


FIGURE 4 - R, N, & P DISC BRAKE APPLICATION
U ROTOR

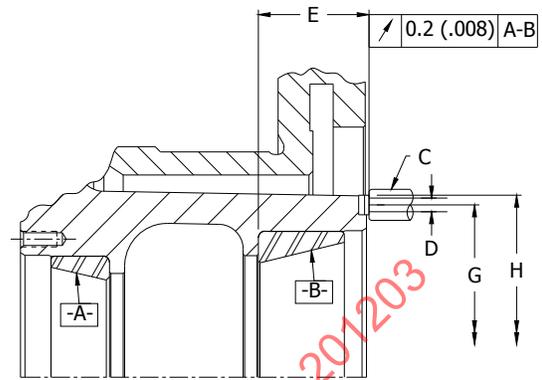


FIGURE 5 - FF, FH, & FL DISC BRAKE APPLICATION
U ROTOR

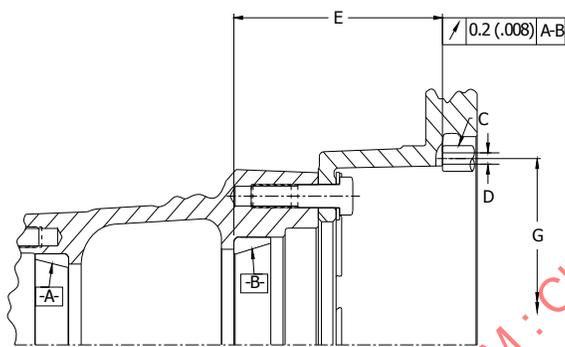


FIGURE 6 - L & R DISC BRAKE APPLICATION
HAT ROTOR

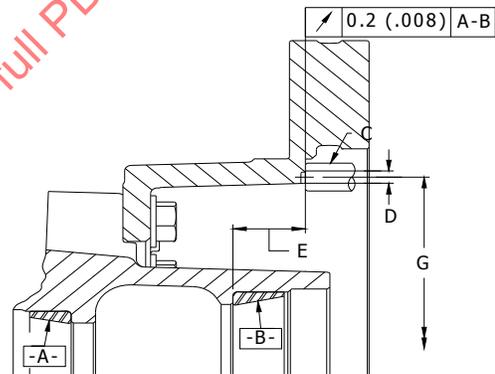


FIGURE 7 - FC, FF, & FL DISC BRAKE APPLICATION
HAT ROTOR

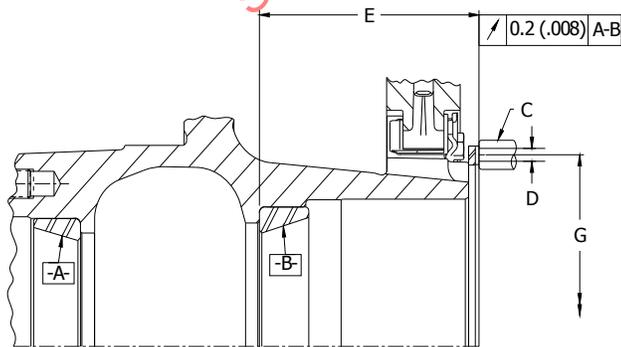


FIGURE 8 - R, N, & P DISC BRAKE APPLICATION
FLAT ROTOR

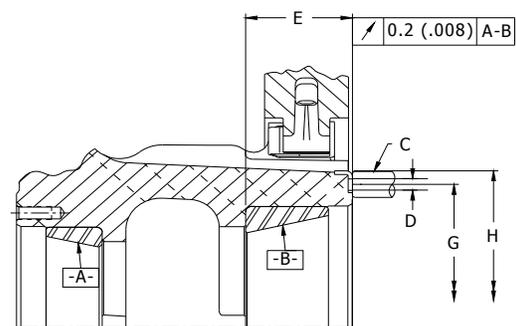


FIGURE 9 - FF & FL DISC BRAKE APPLICATION
FLAT ROTOR

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