



SURFACE VEHICLE RECOMMENDED PRACTICE	J2899™	JUL2022
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Superseding J2899 JUN2017		
Brake Adjustment Limit for Air Brake Actuators		

RATIONALE

This document has been revised to update Figure 2 for clarity.

1. SCOPE

This SAE Recommended Practice applies to S-CAM, wedge, and disc air brake actuators where the stroke can be measured without disassembly from the brake.

1.1 Purpose

This document defines the air brake actuator rated stroke markings and its conversion to the air brake actuator rated stroke and brake adjustment limit.

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 J1469 Air Brake Actuator Test Procedure, Truck-Tractor, Bus, and Trailers

SAE J1817 Long-Stroke Air-Brake Actuator Marking

SAE J1953 Brake-Stroke Indicator Design Guideline for Cam or Disc Air-Brake Actuators

3. DEFINITIONS

References to "actuator" will mean "air brake actuator" if not specified.

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4. RATED STROKE MARKINGS

Rated stroke markings identify the rated stroke and brake adjustment limit for an air brake actuator in a standardized format.

4.1 Location

Rated stroke markings are to be located on the pressure housing base for service chamber brakes as shown in Figure 1. For spring brakes, the markings are to be located either on the spring housing base as shown in Figure 1 or on the spring brake center section as shown in Figure 2. All units are to be marked per column "Rated Stroke Marking" as shown in Figure 3.

4.2 Visibility

The rated stroke marking is to be permanently stamped or embossed on the housing or on a corrosion resistant tag permanently affixed or bonded to the housing. The font height of the stroke marking is to be at least 3/8 inch (10 mm) tall and at least three times the size of any other characters located on the same tag or within a 1/2 inch (12 mm) from the stroke marking if located directly on the housing. The stamped impression/embossed character are to be a minimum of 0.012 inch (0.31 mm) deep/high and visually confirmed it can be located and read if painted over with up to 0.008 inch (0.2 mm) of paint. It must also be readable after completing the SAE J1469, Section 14, salt spray test procedure.

4.3 Marking Definition

The corresponding rated stroke marking character matching the actuator rated stroke is shown in Figure 3.

If the actuator has a different rated stroke than shown in Figure 3, then the rated stroke marking will be a two-decimal number representing the brake adjustment limit based on 80% of the rated stroke rounded to the nearest 1/8 inch (3 mm) increment.

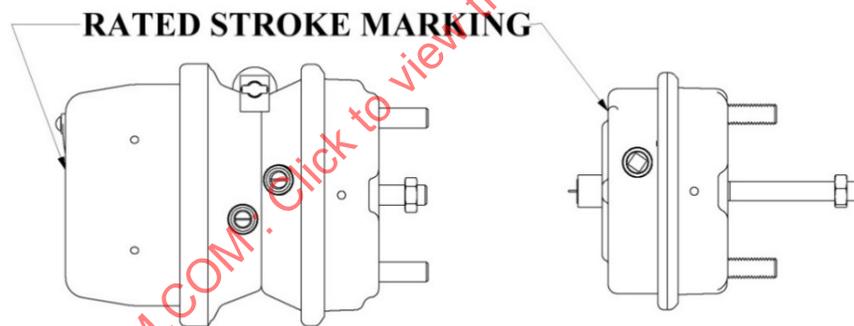


Figure 1

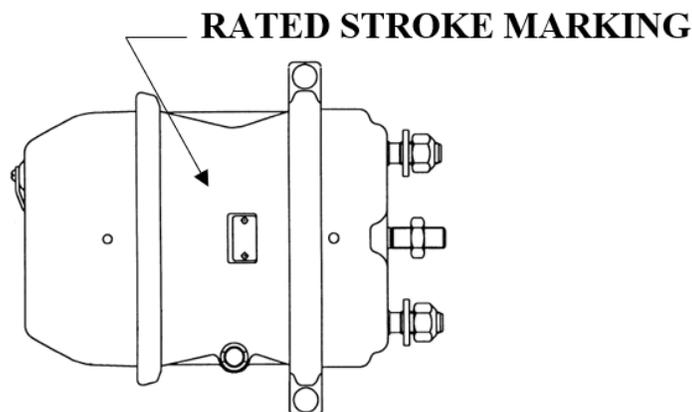


Figure 2

Rated Stroke Marking	Actuator Rated Stroke	Brake Adjustment Limit
A	1.50 inches (38 mm)	1.25 inches (32 mm)
B	1.75 inches (44 mm)	1.38 inches (35 mm)
C	2.00 inches (51 mm)	1.50 inches (38 mm)
D	2.25 inches (57 mm)	1.75 inches (44 mm)
E	2.50 inches (64 mm)	2.00 inches (51 mm)
F	3.00 inches (76 mm)	2.50 inches (64 mm)
G	3.25 inches (83 mm)	2.62 inches (67 mm)
H	3.50 inches (89 mm)	2.75 inches (70 mm)
X.XX	Other	X.XX inch

Figure 3

5. AIR BRAKE ACTUATOR CLAMP BAND DIAMETER

- 5.1 Relationship between actuator clamp band outside diameter to air brake actuator size is shown in Figure 4. See Figure 5 for graphical definition of the service clamp band outside diameter. This diameter excludes the clamp fastener and is measured on a surface at least 1 inch (25 mm) away from the clamp fastener. On actuators without clamps, the outside diameter is the maximum diameter on the housing at the location shown in Figure 5.

Standard Type S-CAM Actuators	Applies to Specialty Type S-CAM Actuators*	Standard Rated Stroke	S-CAM Actuator Clamp Band Outside Diameter ± 0.20 inch (± 5 mm)
6	5- 7	1.50 inches (38 mm)	4.63 inches (117 mm)
9	8-10	1.75 inches (44 mm)	5.38 inches (137 mm)
12	11-13	1.75 inches (44 mm)	5.81 inches (148 mm)
16	14-17	2.25 inches (57 mm)	6.50 inches (165 mm)
20	18-21	2.25 inches (57 mm)	6.91 inches (176 mm)
24	22-26	2.50 inches (64 mm)	7.34 inches (186 mm)
30	27-32	2.50 inches (64 mm)	8.22 inches (209 mm)
36	33-37	3.00 inches (76 mm)	9.13 inches (232 mm)

Figure 4

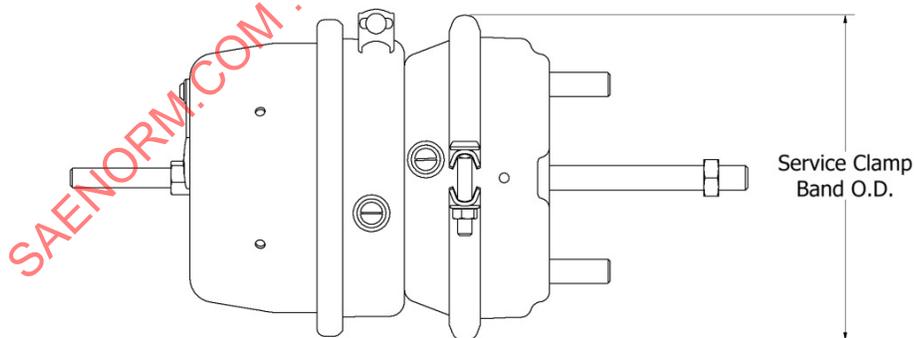


Figure 5 - Service chamber clamp band OD