INDUSTRY TALK

with MGM

Identification of Long Stroke Chambers in the Field

This is a guide to help identify a long stroke chamber on a commercial vehicle with air brakes. It brings clarity to what inspectors look for during a roadside inspection. Knowing the correct identification of a long stroke chamber ensures proper brake adjustment. This pertains to Out-of-Service Criteria for S-Cam and Air Disc brake chambers in North America. Long stroke chambers manufactured for use in North America generally comply with a practice instituted by the Society of Automotive Engineers (SAE). Currently long stroke chambers have four different identification methods; two are required. Some long stroke brake chambers are still in use that do not comply with J1817 identification methods, and may have alternative markings. (Source for this guide: CVSA 2014-02)

There are four acceptable methods listed below for identifying long stroke chambers in accordance with SAE J1817 and J2899 standards.

1. Many long stroke brake chambers have identification and service data stamped, cast or embossed onto the metal parts of a brake chamber. Others are provided with an adhesive data label. The data provided often identifies the type of brake chamber and may also include the rated stroke. For example, the letter “L” and “LS” following the size (12 through 30) are often (but not always) used to identify long stroke chambers. Other alpha-numeric codes are also used to identify chamber type. (IMAGE 1)

TYPE 24L3 is stamped here.

IMAGE 1

Special note for type 20 and 24 lonq stroke chambers: There are two sizes of these long stroke chambers. As shown in the long stroke clamp-type brake chamber data reference in the North American Standard Out-of-Service Criteria (OOSC), the rated stroke of these chambers could be 2.5 inches or 3 inches. Whenever the square embossment is 0.5 inch high, it indicates a long stroke chamber with a rated stroke of 3 inches, having a brake adjustment limit of 2.5 inches.

1. Identification and service data provided by the chamber manufacturer that shows a rated stroke consistent with the long stroke data reference table in the North American Standard Out-of-Service Criteria (OOSC) is an acceptable identifier of a long stroke chamber.

1. Service instructions are embossed on the tags showing rated brake stroke. These tags are trapezoidal with the information engraved of the tag and are attached to the chamber. (IMAGE 2) **NOTE: The color of the trapezoid does not indicate the rated stroke.**

2. All 3.00 inch actuators must have square ports. (IMAGE 3)

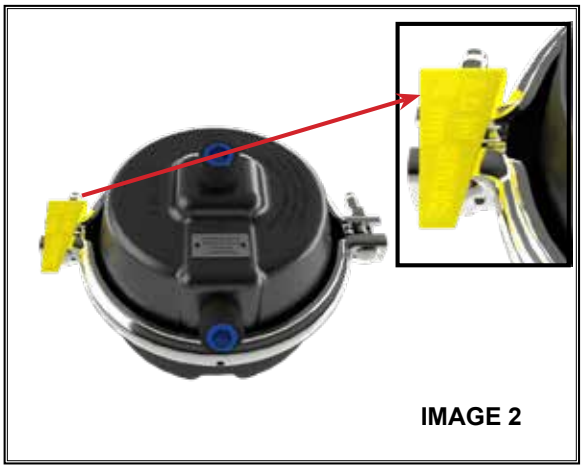

IMAGE 2

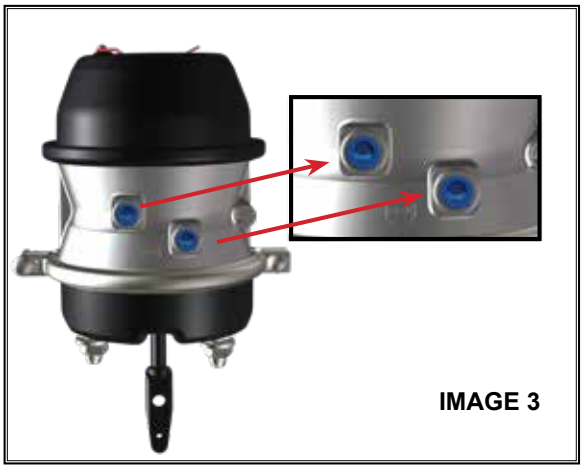

IMAGE 3

3. Introduced in 2013 was the newest method, stroke markings. This is rated stroke and not adjustment limit. Rated stroke is generally one half inch longer than brake stroke adjustment limit. Inspectors need to be careful to set apart the two values. SAE J2899 was developed and this recommended practice was approved to provide an alternative way of determining the size and allowable stroke of a brake chamber. This method would reduce the likelihood of an inspector passing a vehicle that should be out-of-service. (See chart and Image 4)

Brake Adjustment Limit for Air Brake Chambers						
2014-02 - Identification of Long Stroke Brake Chambers or Brake Adjustment Limit Markings						
Rated Stroke Marking	Rated Stroke on Brake Chamber			Brake Adjustment Limit		
A	1.50”	1 1/2”	38 mm	1.25”	11/4”	32 mm
B	1.75”	1 3/4”	44 mm	1.38”	13/8”	35 mm
C	2.00”	2”	51 mm	1.50”	11/2”	38 mm
D	2.25”	2 1/4”	57 mm	1.75”	13/4”	44 mm
E	2.50”	2 1/2”	64 mm	2.00”	2”	51 mm
F	3.00”	3”	76 mm	2.50”	2 1/2”	64 mm
G	3.25”	3 1/4”	83 mm	2.62”	2 5/8”	67 mm
H	3.50”	31/2”	89 mm	2.75”	2 3/4”	70 mm
x.xx	Other					

IMAGE 4

Many chambers will use all four methods. Only two of the four methods are required. It is possible for some of these methods to be blurred or missing. Knowing the correct identification of a long stroke chamber ensures proper brake adjustment. The four methods listed above comply with a practice instituted by the Society of Automotive Engineers (SAE J1817 and J2899 standards) for long stroke brakes manufactured for use in North America.

Source: CVSA 2014-02