



400 Commonwealth Drive, Warrendale, PA 15096-0001

# SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J1953

REV.  
SEP2001

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

**1. Scope**—This SAE Recommended Practice shall cover mechanical- and electrical-readjust stroke indicators for air-brake actuators.

This device shall indicate the foundation brake(s) may require adjustment or service when inspected per vehicle manufacturer's procedures. A measurement shall be made to determine actual stroke measurement for any system not factory calibrated.

Stroke indication accuracy of an air-brake actuator can be assured only when all of its components are supplied by the original brake actuator manufacturer.

**1.1 Purpose**—This document establishes design guidelines for air-brake actuator stroke indicators.

**2. References**

**2.1 Applicable Publication**—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 J1292—Automobile, Truck, Truck-Tractor, Trailer, and Motor-Coach Wiring

SAE J1455—Joint SAE/TMC Recommended Environmental Practices for Electronic Equipment Design (Heavy-Duty Trucks)

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

SAE J1817—Long-Stroke Air-Brake Actuator Marking

**3. Requirements**

**3.1 Stroke Indicator—Mechanical Design Guidelines**

3.1.1 The stroke indication shall occur at +0 to 3.8 mm (+0.00 to 0.15 in) of the recommended readjustment stroke in Table 1 of SAE J1817.

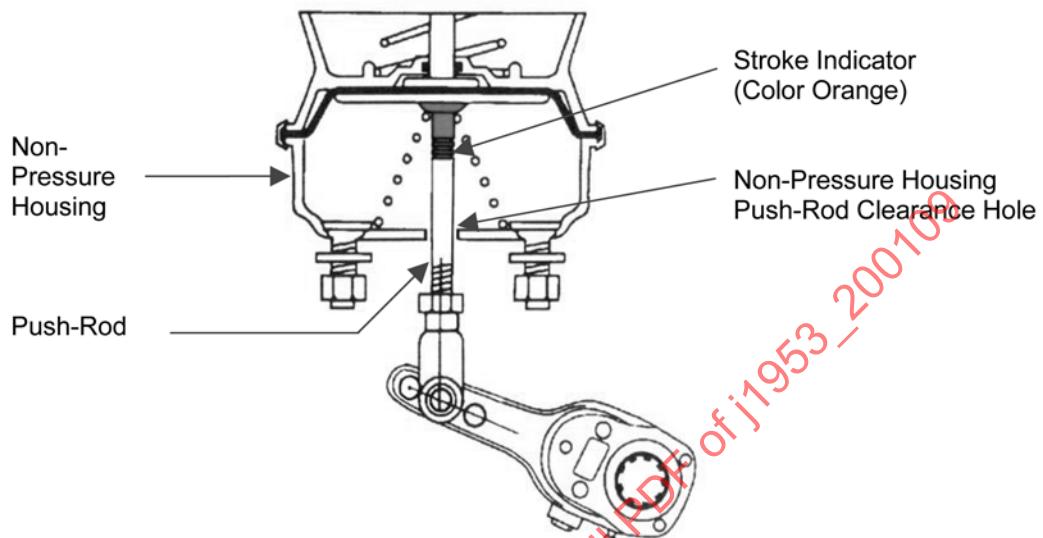
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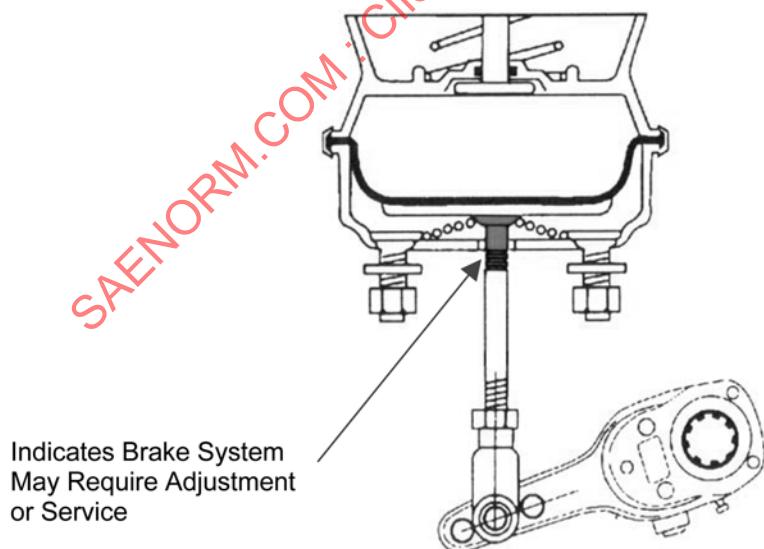
3.1.2 The stroke indication shall be orange. See Figure 1.

### BRAKES “OFF” – NOT APPLIED



### PUSH-ROD AT ZERO STROKE

### IMPROPERLY ADJUSTED BRAKES “ON” - APPLIED (Maximum recommended readjustment stroke has been exceeded)



### PUSH-ROD AT ACTUATED STROKE

FIGURE 1—PUSHROD AT ZERO AND ACTUATED STROKE

### 3.2 Stroke Indicator—Electrical Design Guidelines

- 3.2.1 The readjust stroke indication shall occur at +0 to 3.8 mm (+0.00 to 0.15 in) of the recommended readjustment stroke in Table 1 of SAE J1817.
- 3.2.2 Electrical system installation shall conform to SAE J1292, if applicable.
- 3.2.3 Electrical systems shall have a system function test capacity.
- 3.2.4 Any system that provides a driver-warning device in a distracting manner shall be provided with manual override which shall automatically reset each time the vehicle is shutdown or restarted.

### 3.3 Test Procedure

- 3.3.1 MECHANICAL DESIGN—Test per SAE J1469.
- 3.3.2 ELECTRICAL DESIGN—Test per SAE J1455.

### 4. Notes

- 4.1 **Marginal Indicia**—The change bar (I) located in the left margin is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

PREPARED BY THE SAE TRUCK AND BUS BRAKE ACTUATOR SUBCOMMITTEE  
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