SURFACE VEHICLE RECOMMENDED PRACTICE

J1180™ FEB2026

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Superseding J1180 FEB2019

Telescopic Boom Length Indicating System

RATIONALE

Minor editorial corrections.

1. SCOPE

This SAE Recommended Practice applies to mobile cranes when used in lifting crane service that are equipped with boom length indicating devices.

1.1 Purpose

The purpose of this recommended practice is to establish the minimum performance requirements of systems that measure and display to the operator, or other responsible persons, the boom length at which a load is being lifted by cranes with variable-length, telescopic booms.

2. REFERENCES

There are no referenced publications specified herein.

3. DEFINITIONS

3.1 BOOM LENGTH

Boom length is the straight line through the centerline of the boom pivot pin to the centerline of the boom point load hoist sheave pin, measured along the longitudinal axis of the boom.

3.2 BOOM LENGTH INDICATING SYSTEM

A boom length indicating device applied to a crane that measures and displays the length of a variable-length, telescopic boom.

4. MINIMUM PERFORMANCE REQUIREMENTS

4.1 Accuracy

The tolerance range for the indicated length shall be ±2% of the actual boom length.

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4.2 Temperature Effect

Specified accuracy shall be maintained over ambient temperature variations of -30 to 50 °C (-22 to 122 °F) without external adjustment.

4.3 Readout

4.3.1 The device readout should be in units of measure that are compatible with the appropriate load rating chart for the crane. Minimum resolution shall permit the clear indication of values within the accuracy requirements of the system, under all conditions of operation.

4.3.2 The device readout shall be located so that the operator or other responsible persons can obtain readings from their normal operating position and its location shall not create an operational hazard.

4.4 Set Points

Boom length indicating systems may be equipped with manually adjustable working range set points having a visual or audible warning signal. When so equipped, visual signals shall be clearly visible, and audible signals must be clearly distinguishable above the noise of engines and machinery.

4.5 Operation Check

The system shall have a means for the operator or other responsible persons to determine that it is operative prior to use.

4.6 Testing

The boom length indicating system shall be performance tested by the installer initially and by the user at recommended intervals or at any time there is an indication of inaccuracy. (See accuracy requirements in 4.1 and testing procedure in Section 6.)

5. GENERAL REQUIREMENTS

5.1 Installation and Maintenance

Installation and maintenance of the length indicating device and maintenance of the crane should be in accordance with the manufacturer’s recommendations to assure system accuracy.

5.2 Labeling

Labels shall be conspicuously placed on the device readout or in the operator’s cab or both, giving the following information:

5.2.1 Units of measure.

5.2.2 Maximum capacity of the boom length indicating system.

5.2.3 Operating range of the indicating system for which the accuracy requirement of 4.1 is met.

5.2.4 Basic operating instructions and precautions.

5.2.5 Manufacturer’s name, address, and device model number.

5.2.6 Statement of compliance with SAE J1180.

5.3 Manual

An operation, installation, and service manual(s) shall be provided by the manufacturer and shall be available to the operator or other responsible persons at all times.

Documents
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Full document details: SAE J1180 FEB2026 Telescopic Boom Length Indicating System