Measuring the Radius of Curvature of Convex Mirrors -SAE J1246 MAY82

SAE Recommended Practice
Approved May 1982

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PREPRINT

MEASURING THE RADIUS OF CURVATURE OF CONVEX MIRRORS—SAE J1246 MAY82

SAE Recommended Practice

Report of the Body Engineering Committee, Rear Vision Subcommittee, approved May 1982. Rationale statement available.

1. Scope—This SAE Recommended Practice is intended for use in measuring the radius of curvature of a convex mirror.

2. Apparatus—The apparatus shall consist of a linear spherometer (Fig. 1) with two fixed posts of equal height and ends so constructed that only point contact is made with the mirror. These posts shall be placed 1.500 ± 0.001 in (38.1 ± 0.02 mm) apart. The center probe shall be placed mid-way between the fixed posts on the line running through the contact points of these posts and shall also make only point contact with the mirror. The center probe shall be capable of vertical movement and shall be attached to a gauge which can display the linear displacement of the probe in units not greater than 0.0001 in (0.002 mm).

Optionally, a third fixed post may be placed 0.750 in (19.05 mm) rearward of the center moveable post (Fig. 1) to provide stability and facilitate easier measurement.

3. Procedure

3.1 Radius of Curvature at One Location—The apparatus shall be placed on a flat surface such as an optical flat accurate to at least 3×10^{-5} in (76×10^{-5} mm) over a 2 in (51 mm) diameter and the gauge

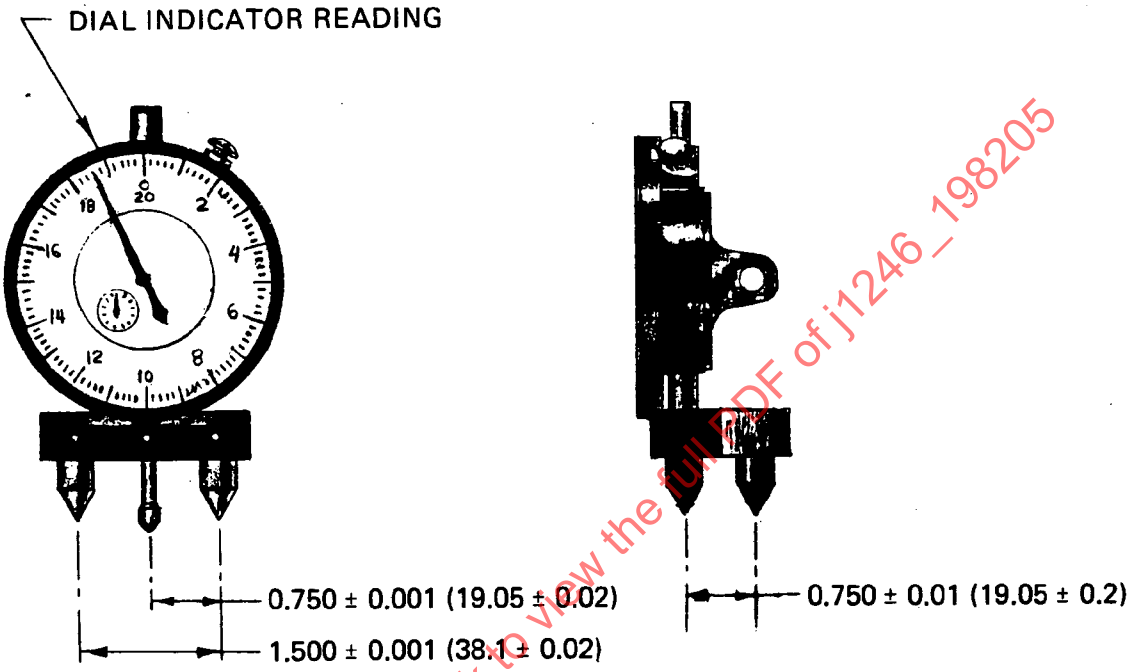

FIG. 1—MEASURING APPARATUS

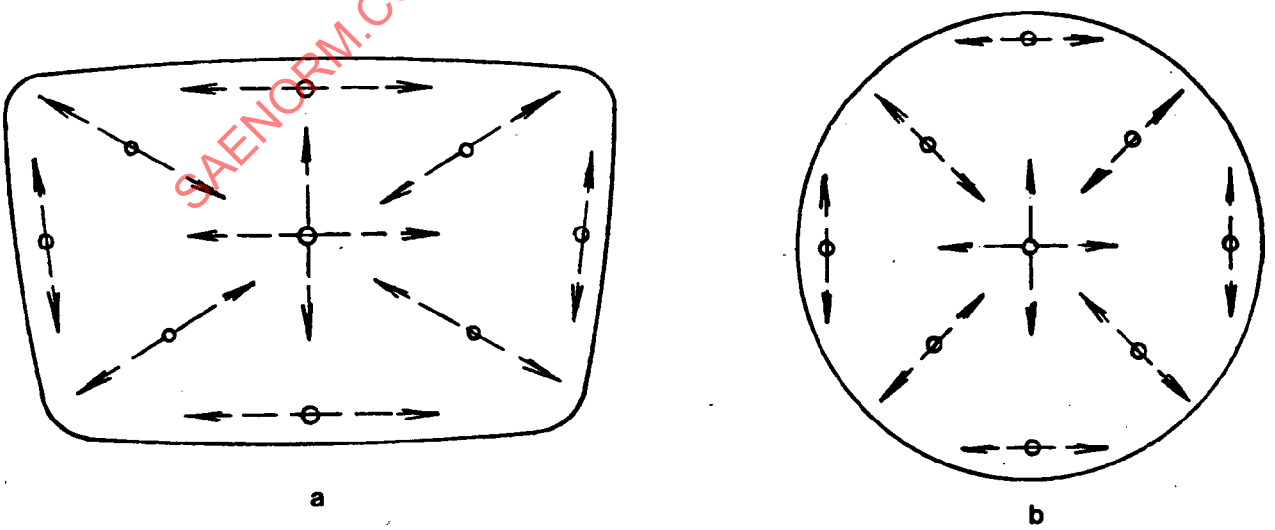

FIG. 2—MEASUREMENT LOCATIONS