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Calibration Specification for Camshaft Measuring Instruments

凸轮轴测量仪校准规范

(English Translation)

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Appendix A. Calibration Uncertainty Evaluation Example of Lift Measurement Error (7)

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Appendix B Reference Legend for Standard Eccentric Shaft and Special Mandrel (11)

Introduction

This specification is based on JJF 1071-2010 "Rules for the Compilation of National Metrology and Calibration Specifications", JJF 1001-2011 "Tong Compile with Metrology Terms and Definitions and JJF 1059.1-2012 "Evaluation and Expression of Measurement Uncertainty".

This specification is released for the first time.

Calibration specification for camshaft measuring instrument

1 Scope

This specification applies to the calibration of vertical and horizontal camshaft measuring instruments with a center distance of no more than 600mm.

2 Reference documents this specification refers to the following documents.

JJG57 optical and digital indexing head JJF 1561 Gear Measurement Center Calibration Specification for dated reference documents, only the dated version applies to this specification; for undated references the latest version (including all amendments) is applicable to this specification.

3 Terms and definitions

3.1 Lift of the camshaft the amount of change in the working radius of the camshaft in the reference direction during the rotation of the camshaft around the axis.

3.2 Cam phase angle phaseangleofthecamshaft the angle between the specified point on the cam profile and the base circle axis relative to the reference plane.

Note: The designated point can be the starting point or the highest point of the lift. The reference plane can be the center plane of the positioning keyway or the reference cam flat.

3.3 sensitivepoint

When the camshaft rotates around the axis, the point where the lift change speed is the largest is called the sensitive point.

4 overview

Camshaft is the main component in engine and oil pump. The camshaft measuring instrument can measure the lift and phase angle of the camshaft and other geometric parameters. The camshaft measuring instrument is mainly divided into automatic type and manual type according to the movement form of the instrument. automatic the type is mainly vertical structure [Figure 1 (a)], a small amount is horizontal structure [Figure 1 (b)]; manual type is usually used Horizontal structure, including optical mechanical type, grating

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digital type, etc.

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