

JAPANESE INDUSTRIAL STANDARD

Translated and Published by Japanese Standards Association

 $JIS \ B \ 7533^{:2015}$

(JMA/JSA)

Dial test indicators (lever type)

ICS 17.040.30

Reference number: JIS B 7533: 2015 (E)

B 7533: 2015

Date of Establishment: 1966-02-01

Date of Revision: 2015-06-22

Date of Public Notice in Official Gazette: 2015-06-22

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Basic Engineering

JIS B 7533: 2015, First English edition published in 2016-04

Translated and published by: Japanese Standards Association Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents, the original JIS is to be the final authority.

© JSA 2016

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan IH/HN

Contents

	Page
Intro	luction
1	Scope
2	Normative references · · · · · · · · · · · · · · · · · · ·
3	Terms and definitions ······2
4	Design characteristics ····································
4.1	General · · · · · · 3
4.2	Type3
4.3	Nomenclature ······4
4.4	Shapes and dimensions of stem and dovetail segment ······ 4
4.5	Scale and primary pointer5
4.6	Secondary pointer 6
4.7	Revolution direction of primary pointer 6 Stylus 6
4.8 4.9	Zero adjustment · · · · · · · · · · · · · · · · · · ·
4.9	Design characteristics by manufacturer (or supplier) ····································
4.11	Design characteristics by manufacturer (of supplier)
5	Characteristics
5.1	Maximum permissible error and maximum permissible limit ···············8 Measuring forces ········9
5.2	
6	Proving of conformance with specification ·····9
6.1	General · · · · · 9
6.2	Measurement method ····················10
6.3	Evaluation for characteristics
6.4	Transferring zero method by data processing ·······10
6.5	Standard temperature ······10
7	Marking10
Anne	x A (normative) Measurement method ······11
Anne	x B (normative) Evaluation method ······13
Anne	x C (informative) Example of diagram of errors of indication ······14
Anne	x D (informative) Transferring zero method (evaluation method for characteristics by data processing)15
Anne	Example of indication on the specifications of design and characteristics18
Anne	x F (informative) Notes on use ······19

B 7533: 2015

Annex G (informative)	GPS matrix ·····21
Annex JA (informative)	Comparison table between JIS and corresponding
	International Standard ······23

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for revision of Japanese Industrial Standard submitted by Japan Precision Measuring Instruments Manufacturers Association (JMA)/ Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently JIS B 7533:1990 is replaced with this Standard.

This **JIS** document is protected by the Copyright Law.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

Dial test indicators (lever type)

JIS B 7533: 2015

Introduction

This Japanese Industrial Standard has been prepared based on the first edition of **ISO 9493** published in 2010 with some modifications of the technical contents to ensure suitability for actual production and use.

The portions given sidelines or dotted underlines are the matters in which the contents of the corresponding International Standard have been modified. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies the design specification and characteristics of dial test indicators.

NOTE: The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 9493: 2010 Geometrical product specifications (GPS) — Dimensional measuring equipment: Dial test indicators (lever type) — Design and metrological characteristics (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standard (including amendments) indicated below shall be applied.

- JIS B 0641-1 Geometrical Product Specifications (GPS) Inspection by measurement of workpieces and measuring equipment Part 1: Decision rules for proving conformance or nonconformance with specifications
 - NOTE: Corresponding International Standard: ISO 14253-1 Geometrical Product Specifications (GPS) Inspection by measurement of workpieces and measuring equipment Part 1: Decision rules for proving conformance or non-conformance with specifications (IDT)
- JIS B 0642 Geometrical product specifications (GPS)— General concepts and requirements for GPS measuring equipment
- NOTE: Corresponding International Standard: ISO 14978 Geometrical product specifications (GPS) General concepts and requirements for GPS measuring equipment (MOD)