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Specification for

Machine tool components —

Part 9: Levelling screws, nuts and seating plates

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The organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard.

- Association of Scientific Technical and Managerial Staffs
- Ball and Roller Bearing Manufacturers Association
- Machine Tool Industry Research Association
- National Federation of Engineers' Tool Manufacturers
- University of Manchester Institute of Science and Technology
- Individual experts

This British Standard, having been prepared under the direction of the Mechanical Engineering Industry Standards Committee, was published under the authority of the Executive Board on 30 April 1976

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Contents

	Page
Co-operating organizations	Inside front cover
Foreword	ii
1 Scope	1
2 References	1
3 Material	1
4 Dimensions	1
5 Finish	1
6 Designation	1
7 Marking	1
Appendix A Recommendations for the grouting of foundation bolts used in conjunction with levelling screw/holding down bolts	4
Figure 1 — Levelling screw assembly	2
Figure 2 — Levelling screw, locknut and seating plate	2
Figure 3 — Examples of installed levelling screw assemblies	5
Table 1 — Dimensions of levelling screws, locknuts and seating plates	3
Publications referred to	Inside back cover

Foreword

This British Standard has been prepared under the authority of the Mechanical Engineering Industry Standards Committee.

It is based on a draft prepared by the Machine Tool Trades Association and is one of a series which deals with machine tool components.

During the preparation of this standard a number of different methods of levelling and holding down machine tools were reviewed. It became apparent that their design had been based on differing principles, some for example incorporated principles which would increase the bed stiffness, others were based on the design of a particular machine, and others for cheapness or ease of installation.

This standard relates to a type of combined levelling screw/holding down bolt which is principally designed for use on machine tools where precision levelling is required and where an improvement in bed stiffness is highly desirable. Examples of the type of machine for which the foundation equipment has been principally designed would be: milling/boring machines, long bed lathes, large or long bed milling machines, machining centres and vertical boring mills.

Research work on foundation design and methods of attaching machines to foundations carried out by the Machine Tool Industry Research Association has shown that significant improvements in bed stiffness can be achieved with the use of coaxial levelling screw/holding down bolts when used with properly designed machine flanges and foundations.

The combined levelling screw/holding down bolts covered by this standard eliminate those bending stresses put on the machine base or flange by the more common arrangement of separate levelling screws and foundation bolts. It should be noted that some extra care may be required in the preparation of the foundation and the accuracy of the positioning of bolts when combined bolts are used. However to give guidance on grouting in the foundation bolts, some recommendations have been included as Appendix A. See also CP 2012 "Code of practice for foundations for machinery".

To increase the adaptability of the screws a number of alternative features have been included. However, in the interests of standardization, these should be treated as second choice items and would be subject to agreement between the user and the manufacturer.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 6, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.