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British Standard Specification for

**Mechanical balancing of rotating machinery:
shaft and fitment key convention**

British Standards Institution

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National foreword

This British Standard has been prepared under the direction of the General Mechanical Engineering Standards Policy Committee. It is identical with ISO 8821 : 1989 'Balancing — Shaft and fitment key convention', which was prepared by Technical Committee ISO/TC 108 of the International Organization for Standardization (ISO) and in the development of which the United Kingdom played an active part.

The present practice within the UK is to use the full-key convention. It is suggested that the recommendation for the implementation of the half-key convention given in Annex A of this British Standard is followed to establish the half-key convention by 1 January 1990.

Cross-references

International standard	Corresponding British Standard
ISO 1925 : 1981	BS 3851 : 1982 Glossary of terms used in the mechanical balancing of rotating machinery (Identical)

A related British Standard to ISO 773 and ISO 775, to which references are made in the text, is BS 4235 'Specification for metric keys and keyways' Part 1 : 1972 'Parallel and taper keys'.

The following is the introduction to ISO 8821 : 1989.

There are currently three methods or 'conventions' for balancing shafts or rotors and their fitments coupled together with keys:

- full-key convention;
- half-key convention;
- no-key convention.

It is often impossible or economically unreasonable to balance rotors and fitments after they have been assembled; they are, therefore, balanced separately. An appropriate balance tolerance is applied to each so that, when rotor and fitment are coupled together with the appropriate key, the assembly will meet the required balance tolerance and vibration severity level. However, if a different key convention has been used when balancing the shaft or rotor than the one used for balancing the fitment, it is quite likely that the assembly will have balancing errors exceeding the permissible residual unbalance.

This International Standard is intended to unify the key conventions used throughout the world. When consistently used, it will result in compatibility of shafts or rotors and fitments so that they can be balanced by different suppliers and, after being assembled, will meet balance and/or vibration tolerance levels for that assembly.

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