

AMERICAN NATIONAL STANDARD

Spindle Noses and Tool Shanks for Horizontal Boring Machines

ANSI B5.40 - 1977

(REVISION OF B5.40-1968)

SECRETARIAT

SOCIETY OF AUTOMOTIVE ENGINEERS
SOCIETY OF MANUFACTURING ENGINEERS
NATIONAL MACHINE TOOL BUILDERS' ASSOCIATION
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

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FOREWORD

The first committee organized to consider standard spindle nose construction for horizontal boring machines was one appointed by the National Machine Tool Builders' Association. This was in the year of 1947. In August of 1948, the ASA was petitioned by this committee to assume responsibility for further work; and in January, 1949, Sectional Committee B5 set up Technical Committee 29 for this purpose. Mr. K. F. Gallimore of Giddings & Lewis was appointed chairman. Producer companies were represented by Mr. Charles De Vlieg of the De Vlieg Machine Company, Mr. John M. Walter of the G. A. Gray Company, and Mr. H. N. Stephan of Lucas Machine Tool Company, all of whom had worked with Mr. Gallimore on the NMTBA committee. At the same time Mr. C. R. Phiffer of General Electric, Mr. F. E. Walton of General Motors Corporation, and a representative from the Bureau of Ships were added to the committee to represent users.

Mr. Gallimore turned over the chairmanship to Mr. R. M. Woytych of Giddings & Lewis in September, 1950. The committee, during this time and until the end of 1953, was unable to resolve the problem of holding tools in the milling machine taper series because of the number of "quick change" devices developed by producers at this time, although agreement was obtained in setting up the milling machine taper as standard, excluding the self-holding tapers as represented by the Morse and 3/4 inch per foot tapers.

The NMTBA was successful in reviving interest in the committee work, and Mr. E. L. McFerren of Giddings & Lewis was appointed chairman of TC 29 in February, 1954. In meetings held in 1955, this committee attempted standardization following current practice using the self-holding tapers as well as the milling machine tapers and invited other producer companies to send representatives. These included Morton Manufacturing Company, Ohio Machine Company, The Bullard Company, Kempsmith Machine Company, and Ingersoll Milling Machine Company, in addition to the regular members of TC 29.

In October, 1956, the chairmanship passed to Mr. W. L. McCann of Giddings & Lewis, and the membership was revised during 1958 as follows: Mr. Carl Pearson of General Motors replaced Mr. F. E. Walton, Mr. R. A. Jerue of De Vlieg Machine Company replaced Mr. Charles De Vlieg, Mr. D. I. Alkire of Aluminum Company of America replaced Mr. W. J. Pearson of Bethlehem Steel Company, and Mr. W. E. Meinke of Lucas replaced Mr. H. N. Stephan. After several meetings held in 1958 and 1959, this committee was successful in setting up the present standard. Acceptance by committee members was made by June, 1960.

After review of the first draft of the standard, the committee met February 7, 1967 and added an optional simultaneous fit between tool shank and spindle nose. This construction has obtained considerable use where more rigidity of the tool shank is desired compared to that obtained by contact of taper only.

Following approval by the sponsor organizations the proposal was approved by the American Standards Association on August 8, 1962.

In June 1966 the committee met and proposed that the standard be changed so that the dimensional data conform to the USA Standard Decimal Inch, USAS B87.1-1965. Following approval of the changes by the Technical Committee the proposed revision was approved by the USA Standards Committee (formerly, Sectional Committee) and the sponsors. It was approved by the USA Standards Institute on April 5, 1968.

Mr. E. E. Johnson of Giddings & Lewis was appointed Chairman of the committee in March 1967 replacing Mr. W. L. McCann.

Mr. S. E. Klabunde of Giddings & Lewis was appointed chairman of the committee in November, 1974 replacing Mr. E. E. Johnson.

During 1975, the committee membership was revised. Mr. Richard Carroll of Lucas replaced Mr. J. H. Stephan of Lucas. Mr. Peter J. Cassaro of Ingersoll replaced Mr. K. B. Kaiser of Ingersoll. Mr. A. Grau, Jr. of ALCOA replaced Mr. David I. Alkire of ALCOA. Mr. J. R. Ruff of the Navy replaced Mr. J. N. Cornette of the Navy.

In May 1976, the committee proposed a revised version of the standard. The revisions involved a metric standard for Type D steep tapers and several minor revisions.

The revision was approved by American National Standards Committee B5 and by ANSI as an American National Standard on January 20, 1977.