ASME B18.8.1-2014
[Revision of ASME B18.8.1-1994 (R2010)]
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Clevis Pins and Cotter Pins (Inch Series)

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

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The American Society of Mechanical Engineers
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CONTENTS

Foreword iv
Committee Roster vi
Correspondence With the B18 Committee vii

1 Introduction 1

2 General Data — Clevis Pins 1

3 General Data — Cotter Pins 2

Figure
1 Cotter Pin Length Gage 3

Tables
1 Clevis Pin Dimensions 4
2 Clevis Pin Lengths 5
3 Length Tolerance 5
4 Dimensions of Cotter Pins 6
5 Preferred Sizes and Lengths of Extended Prong Type Cotter Pins 7
6 Preferred Sizes and Lengths of Hammer Lock Type Cotter Pins 7

FOREWORD

The need for a Standard covering machine pins was recognized by industry as far back as March 1926, when the Sectional Committee on the Standardization of Machine Pins was organized under the auspices of the American Standards Association (ASA) (later the United States of America Standards Institute, and as of October 6, 1969, the American National Standards Institute, Inc. [ANSI]), with the Society of Automotive Engineers (SAE International) and the American Society of Mechanical Engineers (ASME) as joint sponsors.

For the next year or two, an effort was made via correspondence to develop a basis on which a standard for straight, taper, split, and dowel pins might be established. This correspondence developed a distinct difference of opinion on the part of the manufacturers and users of taper machine pins, which fact seemed to discourage the members of the committee from attempting standardization on any of the types of pins within its scope. The sponsor organizations made frequent efforts to revive this project through letters and the distribution of technical literature on this general subject, without avail. In December 1941, in its periodic review of standards projects for which the Society was sponsor, the ASME Standardization Committee decided that there was little hope for reviving this project and voted, subject to acceptance by the sponsors, to suggest to the ASA the transfer of this project to Sectional Committee B5 on the Standardization of Small Tools and Machine Tool Elements. The sponsors agreed and on July 7, 1942, the ASA sanctioned this action and Sectional Committee B43 was discharged and the project was officially transferred to Section Committee B5.

At its meeting in December 1942, Sectional Committee B5 voted to enlarge its scope to include machine pins. Technical Committee No. 23 was subsequently established and charged with the responsibility for technical content of standards covering machine pins. This group held its first meeting on November 30, 1943, at which time a Subgroup on Correlation and Recommendations was appointed and it was voted to include clevis pins in addition to the other pin types already under consideration. Several drafts were prepared by the subgroup, distributed for critical comment to users, manufacturers, and general interests, and revised and resubmitted for comments. This action finally resulted in acceptance by Technical Committee 23 of a draft dated November 1945, which was duplicated in printer's proof form, under a date of October 1946, and distributed to the members of Sectional Committee B5 for letter ballot approval. Subsequent to the approval of the Sectional Committee, the proposal was next approved by the sponsor bodies, and presented to the ASA for approval as an American Standard. This designation was granted on July 7, 1947.

Following the issuance of the Standard, it became apparent that the table on cotter pins needed revision. Accordingly, in 1953, a proposed revision was submitted to the Sectional Committee. After attaining Sectional Committee and sponsor approval, this revision was approved by the ASA on July 9, 1954.

In 2013, a major U.S. manufacturer of cotter pins brought to the attention of the B18.8 Subcommittee that there were several issues in this Standard for cotter pins that needed modification. None of the modifications change the pin's function or quality.

The first change is to open the tolerance on the total shank diameter, *A*, in Table 1 to make cotter pins easier to produce and to bring this tolerance in line with the other feature tolerances. The second modification is to increase the tolerance on gage hole diameter in Table 3 for holes of $\frac{3}{16}$-in. nominal diameter and up to be more consistent with the ratio of gage hole to nominal diameter of the nominal hole sizes below $\frac{3}{16}$ in. The third change is to modify the gap wording in para. 3.4.2 to include 3 ranges and increase the gap on $\frac{3}{8}$-in. and larger nominal diameters. Finally, in para. 3.5.3, the ductility wording "... being bent back upon itself once with no..." has no indication of a bent radius. A bent radius in relation to the pin nominal size has been added and expressed as a given diameter of pin to wrap the legs around 180 deg (i.e., $\frac{1}{8}$-in. nominal to be bent back 180 deg around a 118-in. diameter gage pin).