RP 50-1995
Revision of RP 50-1985

SMPTE RECOMMENDED PRACTICE

Dimensions for 8-mm Type S Motion-Picture Projector Reel Spindles

1 Scope

This practice specifies the dimensions for 8-mm type S motion-picture projector reel spindles.

2 Purpose

ANSI/SMPTE 160M describes the reels most likely to be used on 8-mm type S spindles which are the primary items of interchange which must fit onto various projectors. The intent of this practice is to ensure that the primary reel specifications have been adequately considered and will be applied during projector design.

3 Dimensions

The dimensions shall be as given in figure 1 and table 1. The dimensional values stated first (metric) are primary and those stated second (inch) are conversions in accordance with ISO practice.

NOTES

1 Use of spindles in 8-mm projection equipment is not necessarily restricted to reels having a vertical plane of rotation. Because horizontally-oriented reels are possible, it is not necessary that the spindle protrude completely through the projection reel. Therefore, a reference dimension is supplied primarily for use with vertical reels. When horizontal reels are considered, the minimum spindle length shall be governed by the minimum lug protrusion, dimension B.

2 If the manufacturer desires to round, taper, or point the end of the spindle, this may be done at his discretion with any value needed for aesthetic or other design considerations. Hence, dimension E is optional.

3 The shape and amount, if any, of the extension of the drive lug beyond dimension B is optional with the manufacturer, provided that it does not exceed dimensions C and D.

4 A minimum spindle shoulder diameter is provided by dimension G. Good design practice would place any reel-locking device of the spindle outboard of the width of the projection reel at the spindle hole, possibly forcing the reel against the shoulder. The maximum for dimension G is intentionally less than the minimum diameter of the corresponding surface of the reel to allow for runout tolerances of both the spindle and reel and for a loose fit of the reel on the spindle.

5 A radius is permitted on the drive lug equivalent to half its width in order to allow manufacturers to use a variety of construction methods or materials. The dimension D specified is for a drive lug with no radius (i.e., flat). Any radius (R_1) utilized by the manufacturer may be added to dimension D so the maximum overall span of the spindle plus lug becomes $D + R_1$.

6 The use of three driving lugs spaced approximately 120° around the spindle is not restricted by this document. However, the width and height tolerances of the lug have not been adequately accounted for if such a design is incorporated. If the manufacturer chooses to utilize this approach, he is referred to ANSI/SMPTE 160M to ensure adequate fit.

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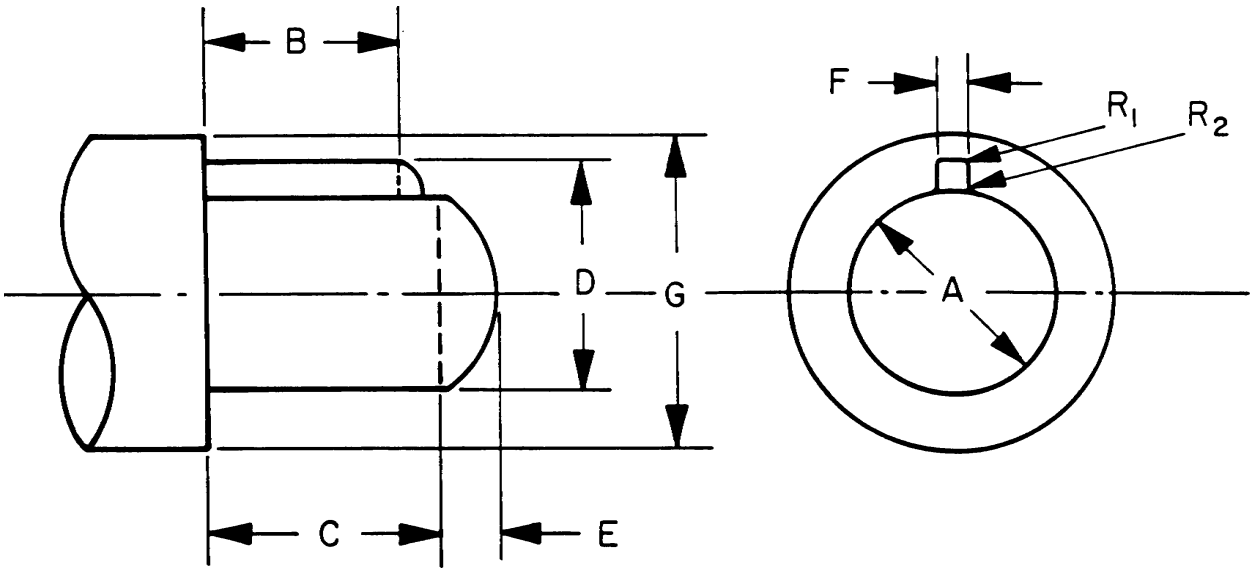

Figure 1 – Projector reel spindles

Table 1 – Specifications

Dimensions	Millimeters [1)]	Inches
A	12.70 + 0.00 – 0.25	0.500 + 0.000 – 0.010
B	4.0 min	0.16 min
C	14.0 ref	0.55 ref
D	14.2 + 1.5 – 0.0	0.56 + 0.06 – 0.00
E	optional	optional
F	1.40 max	0.055 max
G	16.00 min 24.50 max	0.630 min 0.965 max
R_1	0.7 max	0.03 max
R_2	0.20 max	0.008 max

[1)] Millimeter dimensions are primary.

Annex A (informative)
Bibliography

ANSI/SMPTE 160M-1990, Motion-Picture Equipment (8-mm Type S) — Projection Reels — 100- to 312-mm Diameter