REAFFIRMED 2003

SMPTE STANDARD

ANSI/SMPTE 24M-1996
Revision of
ANSI/SMPTE 24M-1991

for Television Recording — 1-in Reels

1 Scope

This standard specifies the configuration and dimensions for reels intended for 1-in magnetic tape for television recording on helical-scan video recorders, as specified in ANSI/SMPTE 25M.

2 Reel construction

The method for fastening or the fasteners used to hold the flanges to the hub shall not cause protrusions beyond the hub mounting surface. The reel shall be symmetrical about the axis of rotation. Irregularities of configuration, such as flange openings, shall conform to this requirement.

3 Dimensions

The dimensions shall be as shown in the figures and tables. The dimensions apply to reels normalized at 23°C ± 1°C and at 50% ± 2% relative humidity.

4 Flange clearance

With the reel mounted in the test apparatus, a width gauge of 25.500 mm + 0.010 mm – 0.000 mm (1.0039 in + 0.0004 in – 0.0000 in) shall be mounted so the gauge centerline is 15.37 mm (0.605 in) from the hub mounting surface and at 90° relative to the hub winding surface. The reel shall be rotated and the width gauges moved between the flanges from the flange rim to the hub surface. The width gauge shall not touch the flange during this operation. When the reel is turned over so that the other side of the hub is the reel mounting surface, it shall also pass tape path clearance check.

American National Standard

Approved
May 28, 1996

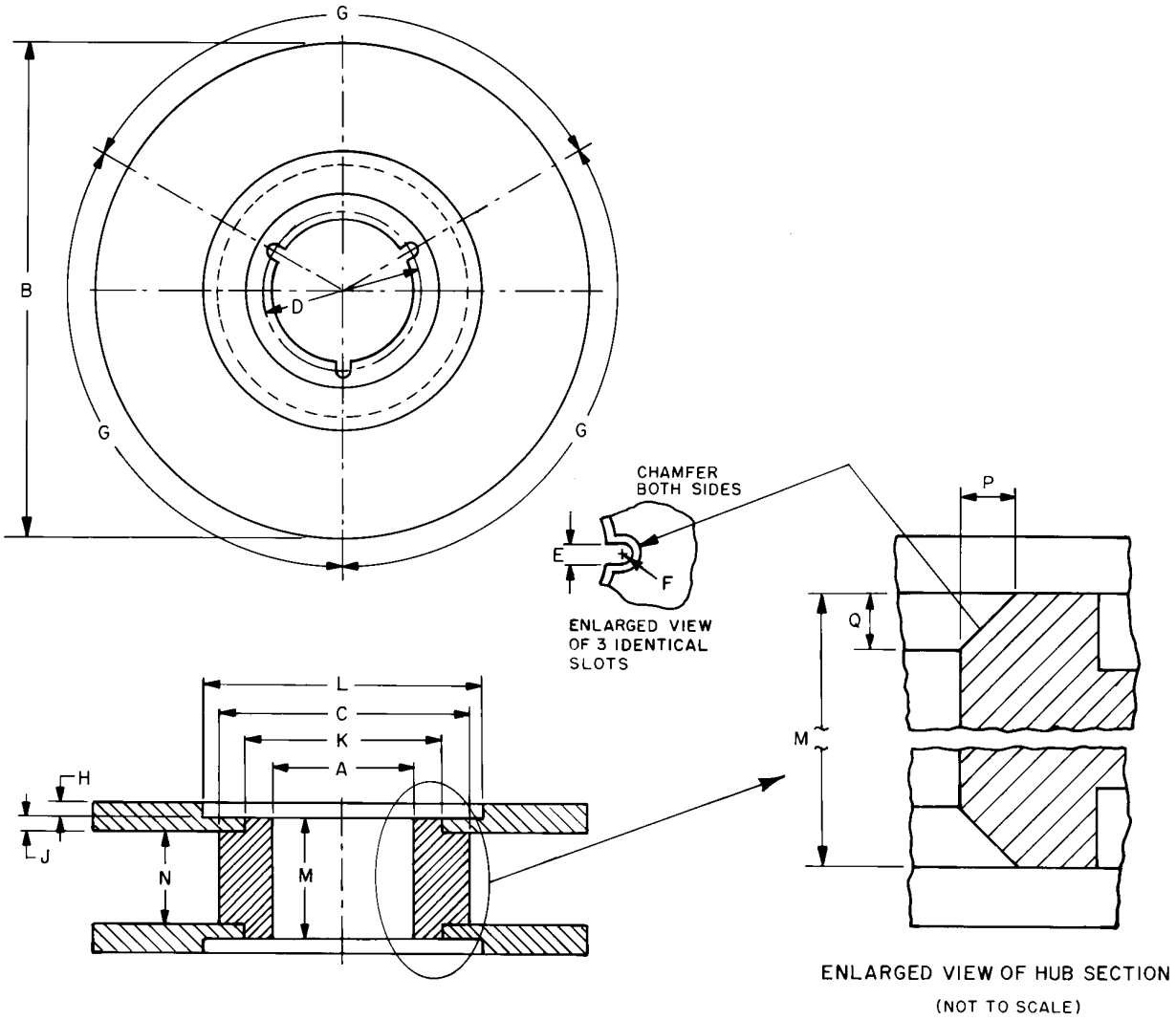

Figure 1 – Reel for 1-in magnetic tape

Table 1 – Reel dimensions

Dimensions	Millimeters	Inches
A	76.20 $^{+\ 0.10}_{-\ 0.00}$ Dia	3.000 $^{+\ 0.004}_{-\ 0.000}$ Dia
B[1)]	See table 2	See table 2
C	114.30 ± 0.25 Dia	4.500 ± 0.010 Dia
D	82.55 ± 0.05 Dia	3.250 ± 0.002 Dia
E	5.56 $^{+\ 0.15}_{-\ 0.00}$	0.219 $^{+\ 0.006}_{-\ 0.000}$
F	2.77 R ref	0.109 R ref
G	120° ± 0.1°	120° ± 0.1°
H	0.64 max	0.025 max
J	2.39 max	0.094 max
K[2)]	91.44 min	3.600 min
L[1) 2)]	152.40 min	6.000 min
M	30.78 ± 0.08	1.212 ± 0.003
N	25.91 ± 0.05	1.020 ± 0.002
P	0.76 max	0.030 max
Q	0.76 max	0.030 max

NOTES

[1)] Outside surfaces of reel flanges between diameters L and B shall not extend more than 0.64 mm (0.025 in) beyond the surfaces defined by the actual dimension M.

[2)] Outside surfaces of reel flanges between diameters K and L shall not extend beyond the surfaces defined by the actual dimension M.

Table 2 – Dimension B, flange diameters

Millimeters	Inches
165.10 ± 0.25	6.500 ± 0.010
203.20 ± 0.25	8.000 ± 0.010
228.60 ± 0.25	9.000 ± 0.010
266.70 ± 0.25	10.500 ± 0.010
292.10 ± 0.25	11.500 ± 0.010
298.50 ± 0.25	11.752 ± 0.010
304.80 ± 0.25	12.000 ± 0.010
317.50 ± 0.25	12.500 ± 0.010
355.60 ± 0.25	14.000 ± 0.010

NOTES

1 Reel shall meet tape clearance requirements when mounted on either side.

2 Tape path clearance takes precedence over any tolerance buildup. See clause 4 for measurement technique.

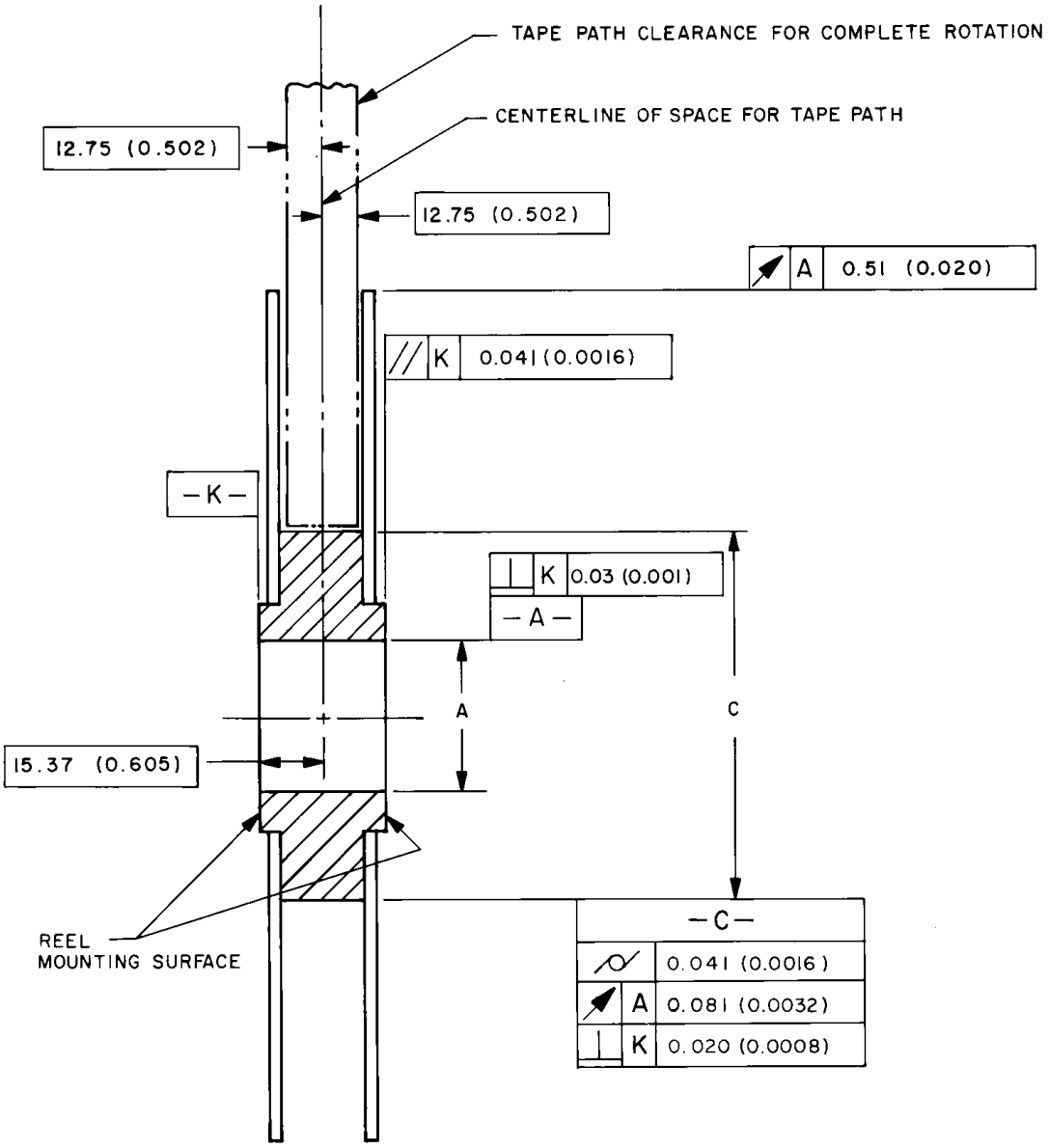

Figure 2 – Clearance

Annex A (informative)
Reel identification

It is recommended that reels be identified in a manner making it readily apparent that they contain video tape in order to prevent inadvertent use of other types of tape having a similar appearance.

Annex B (informative)
Bibliography

ANSI/SMPTE 25M-1995, Video Recording — 1-in Magnetic Recording Tape