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ANSI B92.1 – 1970 INTERCHANGABILITY

Splines made to ANSI B92-1-1970 will generally be interchangeable with spline made to older standards. However the exceptions are listed below:

External Splines & Internal Splines

These will mate with older internal splines as follows:

Exceptions:

- A. The external major diameter, unless chamfered or reduced, may interfere with the internal form diameter on flat root side fit splines. Internal splines made to the 1957 and 1960 standards had the same dimensions as shown for the major diameter fit splines in this standard.
- B. For 15 teeth or less, the minor diameter of the internal spline, unless chamfered, will interfere with the form diameter of the external spline.
- C. For 9 teeth or less, the minor diameter of the internal spline, unless chamfered, will interfere with the external form diameter.
- D. The internal minor diameter, unless chamfered, will interfere with the external form diameter.
- E. The internal minor diameter, unless chamfered, will interfere with the external form diameter.
- F. For 10 teeth or less, the minimum chamfer on the major diameter of the external splines may not clear the internal form diameter.

Depending upon the pitch of the spline, the minimum character on the major diameter may not clear the internal form diameter.

Spline	m	y
2.5/5 & 3/6	.18N + 14	.35N + 20
4/8 & 5/10	.15N + 13	.23N + 18
6/12 & 8/16	.15N + 11	.20N + 15
10/20 & 12/24	.10N + 11	.17N + 14
16/31 & 20/40	.07N + 11	.12N + 13
24/48 & thru 48/96	.07N + 11	.12N + 11
64/128 & 80/160	.06N + 9	.10N + 10
128/256	.05N + 9	.08N + 9

Formulas for machining and variation allowances for space width and tooth thickness - class 5

Year	Major Dia. Fit	Flat Root Fit	Fillet Root Side Fit
External Splines			
1946	Yes	No (A)	No (A)
1950a	Yes (B)	Yes (B)	Yes (C)
1950b	Yes(B)	No (A)	Yes (C)
1957SAE	Yes	No (A)	Yes (C)
1960	Yes	No (A)	Yes (C)
Internal Splines			
1946	No (D)a	No (E)	No (D)
1950	Yes (F)	Yes	Yes (C)
1957SAE	Yes (G)	Yes	Yes
1960	Yes (G)	Yes	Yes

For other tolerances classes:

Class 4 = 0.71 x Tabulated value Class 5 = 0.00 x Tabulated value

Class 6 = 1.40 x Tabulated value Class 7 = 2.00 x Tabulated value