SAE International™ SURFACE VEHICLE STANDARD

SAE J756

CAN-CELLED APR2005

Issued 1929-02
Cancelled 2005-04

Superseding J756 AUG1987

Marine Propeller-Shaft Couplings

1. ***Scope***—This SAE Standard covers propeller shaft couplings for use with propeller shafts up to 3 inches outside diameter.

1.1 Purpose—To provide design guidance that results in dimensional interchangeability of marine propeller-shaft couplings within the scope of this standard.

1.2 Rationale—The original purpose of SAE J756 was to provide a framework for interchangeable shaft couplings that mate to the output flange of marine transmissions. When the J756 standard was first proposed, there were several marine transmission manufacturers, each with unique output flange configurations. SAE J756 listed all of the available output flange configurations in the hope that, over time, manufacturers would standardize on the available coupling sizes. Unfortunately, marine gear manufacturers never chose to standardize. Over the years there have been a major consolidation of marine transmission manufacturers, but there's been no attempt to standardize or reduce the number of output flange configurations.

J756 was written prior to SI Metric dimensioning standards. In its current form, the standard does not conform to SAE's requirements for SI dimensioning.

Therefore, it's recommended that SAE J756 be canceled.

2. ***References***

2.1 Applicable Publications

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J755 JUN80—Marine Propeller-Shaft Ends and Hubs

3. ***General***—Includes couplings with an internal pilot diameter (Type I) with tapered or straight bores, and external pilot diameter (Type II) couplings with straight bores.

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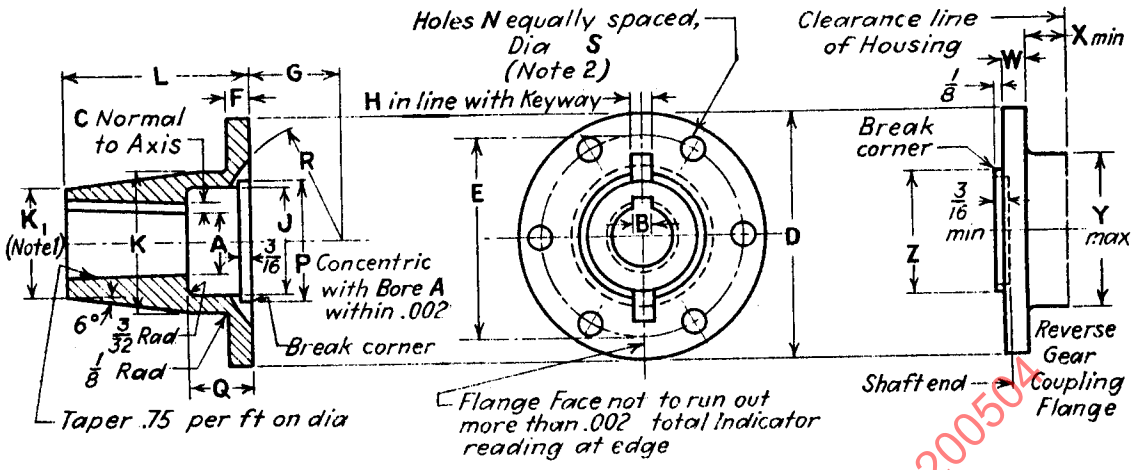

FIGURE 1—TYPE I PROPELLER-SHAFT COUPLING, INTERNAL PILOT, TAPER BORE, SAE FLANGE NOS. 1, 2, 3, AND 4

NOTE 1—Hub outside taper is optional.

NOTE 2—No. 1 flange coupling bolt is to be 3/8—24 X 1-1/4 with plain nut and lockwasher.

No. 2 flange coupling bolt is to be 7/16—20 X 1-1/2 with plain nut and lockwasher.

No. 3 flange coupling bolt is to be 1/2—20 X 1-3/4 with plain nut and lockwasher.

No. 4 flange coupling bolt is to be 5/8—18 X 2 with plain nut and lockwasher.

NOTE 3—Table 4 for taper bore dimensions A, B, and C.

NOTE 4—All dimensions are in inches unless otherwise stated (1 in = 25.4 mm; 1 ft = 304.8 mm).

TABLE 1A—PROPELLER-SHAFT COUPLINGS, TYPE I, INTERNAL PILOT—TAPER BORE(1)

SAE Flange No.	Shaft Dia Max	D	E	F	G	H	J	K	K_1	L	N
1	1-1/8	4	3-1/4	3/8	1-7/16	5/16	1-3/4	2-1/4	1.856	2-7/8	4
2	1-1/2	4-3/4	3-7/8	15/32	1-3/4	5/16	2-1/4	2-3/4	2.252	3-5/8	6
3	2	5-3/4	4-3/4	9/16	3-3/16	3/8	2-3/4	3-1/2	2.844	4-5/8	6
4	3	7-1/4	6	5/8	3	3/8	3-1/2	4-1/2	4.500	6-1/2	6

1. For intermediate size, see Basic Data in SAE Standard, Marine Propeller-Shaft Ends and Hubs—SAE J755.

TABLE 1B—PROPELLER-SHAFT COUPLINGS, TYPE I, INTERNAL PILOT—TAPER BORE(1)

SAE Flange No.	Shaft Dia Max	P (Pilot) Max	P (Pilot) Min	Q	R	S	W	X	Y	Z (Pilot) Max	Z (Pilot) Min
1	1-1/8	2.002	2.000	1	2	25/64	3/8	5/8	2-1/4	2.000	1.998
2	1-1/2	2.502	2.500	1-1/4	2-1/2	29/64	15/32	11/16	2-3/4	2.500	2.498
3	2	3.002	3.000	1-1/2	4	33/64	9/16	3/4	3-1/2	3.000	2.998
4	3	3.752	3.750	2	4	41/64	5/8	15/16	4-1/2	3.750	3.748

1. For intermediate size, see Basic Data in SAE Standard, Marine Propeller-Shaft Ends and Hubs—SAE J755.

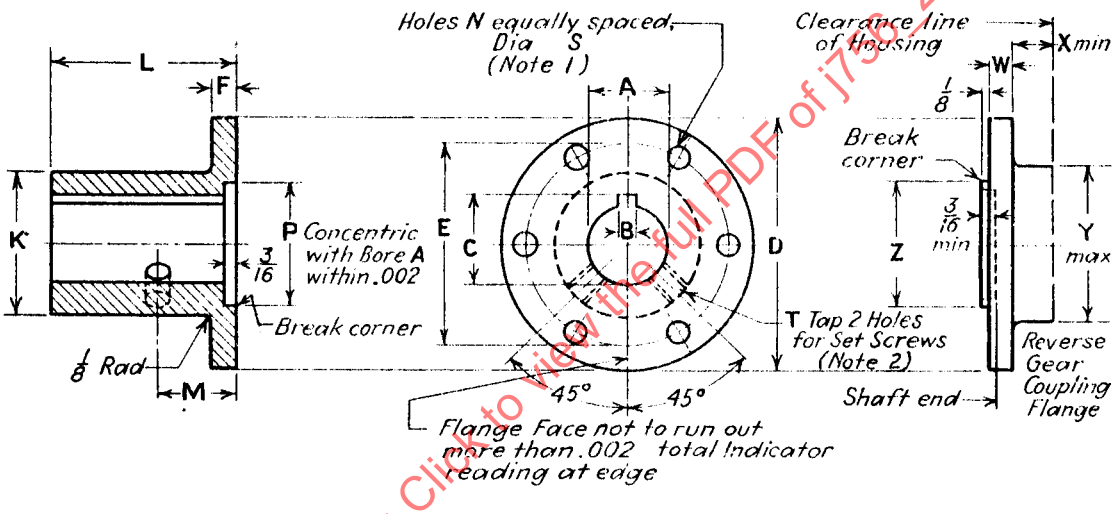

FIGURE 2—TYPE I PROPELLER-SHAFT COUPLING, INTERNAL PILOT, STRAIGHT BORE, SAE FLANGE NO. 1S 2S, 3S, and 4S

NOTE 1—No. 1S flange coupling bolt is to be 3/8--24 X 1-1/4 with plain nut and lockwasher.

No. 2S flange coupling bolt is to be 7/16--20 X 1-1/2 with plain nut and lockwasher.

No. 3S flange coupling bolt is to be 1/2--20 X 1-3/4 with plain nut and lockwasher.

No. 4S flange coupling bolt is to be 5/8--18 X 2 with plain nut and lockwasher.

NOTE 2—Either cone or dog point setscrews with spotting of shaft is recommended.

NOTE 3—Table 5 for straight bore dimensions A, B, and C.

NOTE 4—All dimensions are in inches unless otherwise stated (1 in = 25.4 mm).

TABLE 2A—PROPELLER-SHAFT COUPLINGS, TYPE I, INTERNAL PILOT—STRAIGHT BORE (1)

SAE Flange No.	Shaft Dia Max	D	E	F	K	L	M	N	S
1S	1-1/8	4	3-1/4	3/8	2-1/4	2-7/8	1-1/4	4	25/64
2S	1-1/2	4-3/4	3-7/8	15/32	2-3/4	3-5/8	1-5/8	6	29/64
3S	2	5-3/4	4-3/4	9/16	3-1/2	4-5/8	1-7/8	6	33/64
4S	3	7-1/4	6	5/8	4-1/2	6-1/2	2-5/8	6	41/64

1. For intermediate size, see Basic Data in SAE Standard, Marine Propeller-Shaft Ends and Hubs—SAE J755.

TABLE 2B—PROPELLER-SHAFT COUPLINGS, TYPE I, INTERNAL PILOT—STRAIGHT BORE(1)

SAE Flange No.	Shaft Dia Max	p (Pilot) Max	P (Pilot) Min	T	W	X	Y	Z (Pilot) Max	Z (Pilot) Min
1S	1-1/8	2.002	2.000	3/8 - 16	3/8	5/8	2-1/4	2.000	1.998
2S	1-1/2	2.502	2.500	7/16 - 14	15/32	11/16	2-3/4	2.500	2.498
3S	2	3.002	3.000	1/2 - 13	9/16	3/4	3-1/2	3.000	2.998
4S	3	3.752	3.750	5/8 - 11	5/8	15/16	4-1/2	3.750	3.748

1. For intermediate size, see Basic Data in SAE Standard, Marine Propeller-Shaft Ends and Hubs—SAE J755.

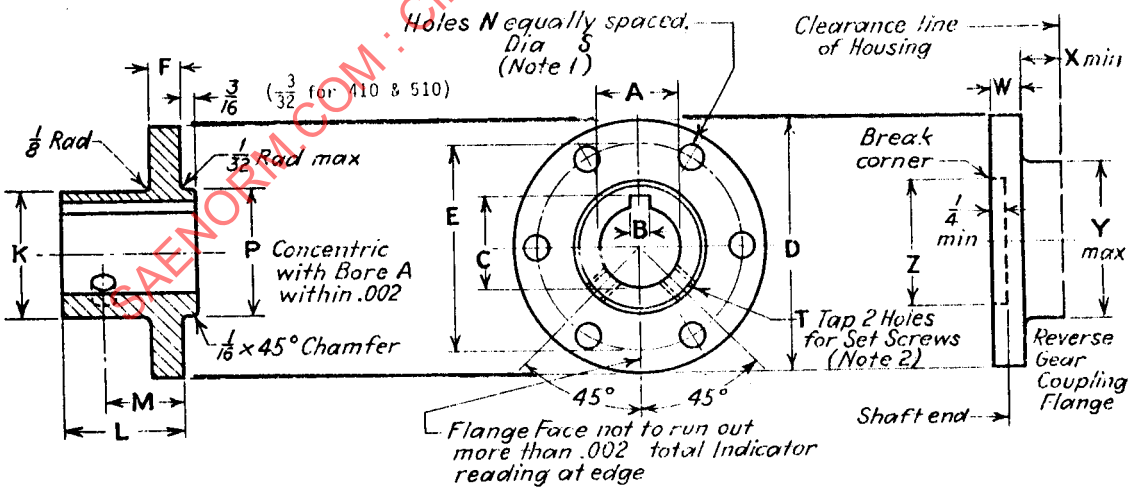

FIGURE 3—TYPE II PROPELLER-SHAFT COUPLING, EXTERNAL PILOT, STRAIGHT BORE, SAE FLANGE NO. 400, 410, 500, 510, 600, AND 725

NOTE 1—No. 400 flange coupling bolt is to be 3/8--24 X 1-1/2 with plain nut and lockwasher.

No. 500 flange coupling bolt is to be 7/16--20 X 1-5/8 with plain nut and lockwasher.

No. 600 flange coupling bolt is to be 1/2--20 X 1-7/8 with plain nut and lockwasher.

No. 725 flange coupling bolt is to be 5/8--18 X 2-1/4 with plain nut and lockwasher.

No. 410 and 510 flange coupling bolts to be selected based upon "F" and "W" flange thickness actually used. Select "X" and "Y" flange dimensions to clear these fasteners.

NOTE 2—Either cone or dog point setscrews with spotting of shaft is recommended.

NOTE 3—Table 5 for straight bore dimensions A, B, and C.

NOTE 4—All dimensions are in inches unless otherwise stated (1 in = 25.4 mm; 1 ft = 304.8 mm).

TABLE 3A—PROPELLER-SHAFT COUPLINGS, TYPE II, EXTERNAL PILOT—STRAIGHT BORE

SAE Flange No.	Shaft Dia Max	D	E	F	K	L	M	N	S
400	1-1/4	4	3-1/4	1/2	2	1-7/8	1-1/4	4	25/64
410	1-1/2	4	3-1/4	5/16 - 3/8	2-1/4	2-5/32	1-9/32	4	25/64
500	1-3/4	5	4-1/8	9/16	2-3/4	2-5/8	1-5/8	4	29/64
510	2-1/4	5	4-1/4	3/8 - 1/2	3-5/32	2-5/32	1-9/32	4	29/64
600	2-1/4	6	5	5/8	3-1/2	3-3/8	1-7/8	6	33/64
725	3	7-1/4	6	3/4	4-1/2	4-1/2	2-5/8	6	41/64

TABLE 3B—PROPELLER-SHAFT COUPLINGS, TYPE II, EXTERNAL PILOT—STRAIGHT BORE

SAE Flange No.	Shaft Dia Max	P (Pilot) Max	P (Pilot) Min	T	W	X	Y	Z (Pilot) Max	Z (Pilot) Min
400	1-1/4	2.000	1.998	3/8 - 16	1/2	5/8	2	2.002	2.000
410	1-1/2	2.499	2.497	3/8 - 16	5/16 - 3/8	Note 1	Note 1	2.501	2.499
500	1-3/4	2.500	2.498	7/16 - 14	9/16	11/16	2-3/4	2.502	2.500
510	2-1/4	2.499	2.497	3/8 - 16	3/8 - 1/2	Note 1	Note 1	2.501	2.499
600	2-1/4	3.250	3.248	1/2 - 13	5/8	3/4	3-1/2	3.252	3.250
725	3	4.250	4.248	5/8 - 11	3/4	15/16	4-1/2	4.252	4.250