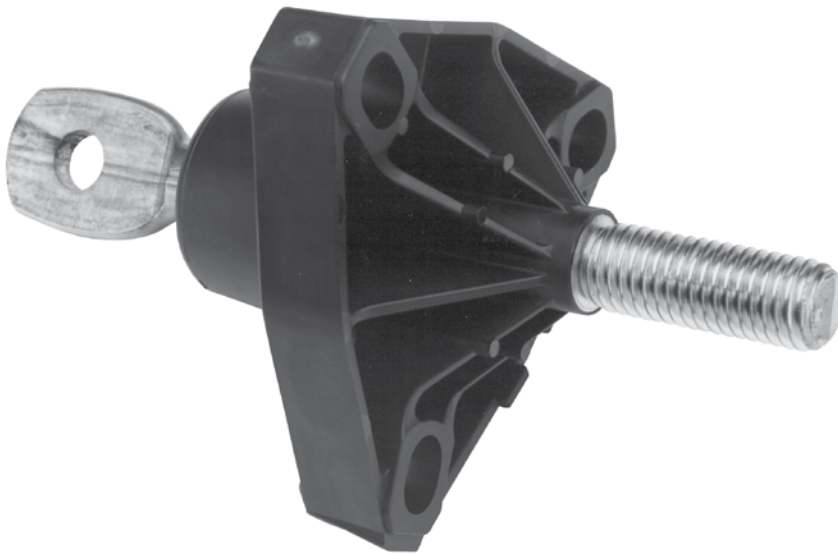


600 A – 1400 A 1.2 kV class plastic (HTN) molded tri-clamp secondary bushings



General

Eaton's Cooper Power™ series secondary bushings are designed for external mounting on distribution transformers filled with transformer oil, Envirotemp™ FR3™ fluid, or an approved equivalent and are available with either spade or stud connections. They are designed for use indoors or inside cubicles of fluid-filled transformers or switchgear.

Internal spade/externally threaded stud secondary tri-clamp bushings are available with 5/8" and 1" diameter copper studs. An internally threaded stud option is also available. The 5/8" and 1" bushings come standard with 1 3/4" of usable external threads. The 1" bushing is also available with up to 3" externally usable thread lengths. Industry standard mounting configuration and compatibility with most available connectors allow use in a wide range of applications.

These secondary bushings are molded with Zytel® high temperature nylon (HTN). The Zytel® HTN high reliability fulfills the required application needs for temperature stability, strength, toughness, low moisture absorption and retention of viable mechanical and electrical properties in humid high-temperature environments. The gasket surfaces provide controlled compression and containment of the highly resilient Buna-N rubber gasket.

Installation

Clamping studs must be welded around the 1-7/8" hole to accommodate the clamp. The gasket is installed over the bushing shank onto the bushing gasket surface. The bushing assembly is installed through the tank hole and is placed over the studs against the shoulder flange of the bushing. A plated lockwasher and nut are installed on each stud and tightened to the recommended torque. Refer to *Service Information S800-16-1 1.2 kV Class Secondary Bushing Installation Instructions* for details.

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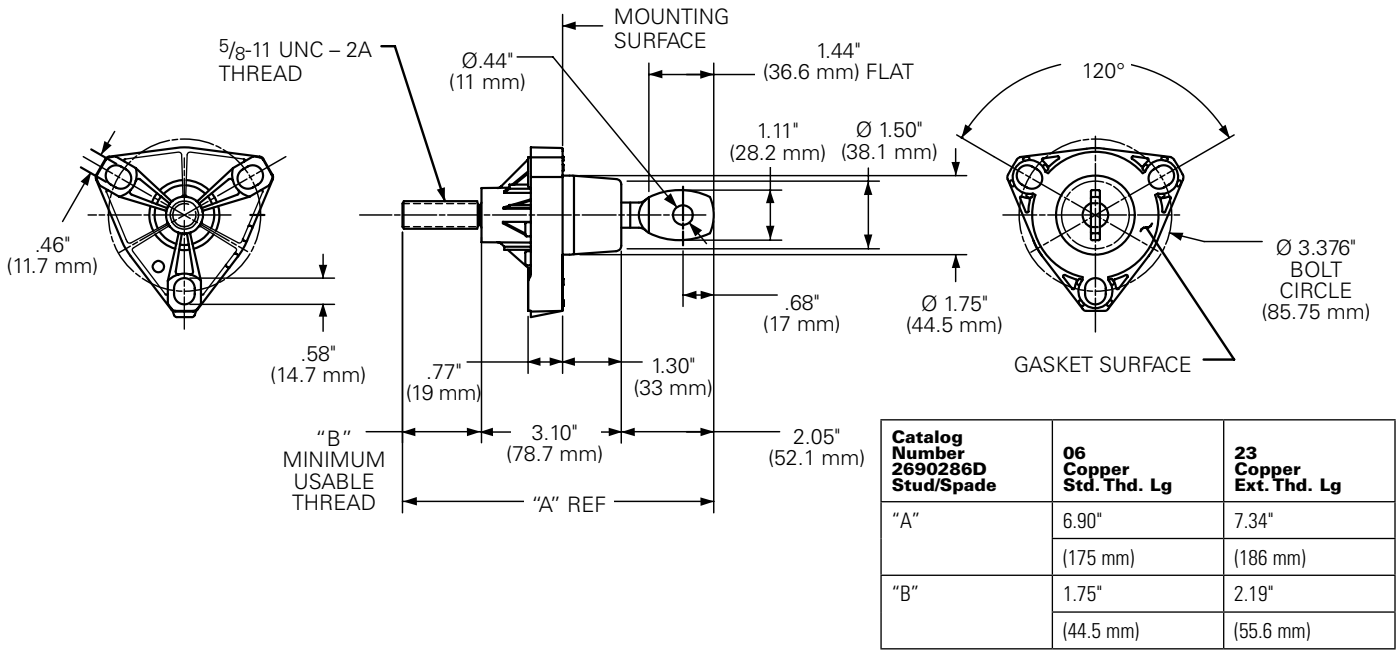
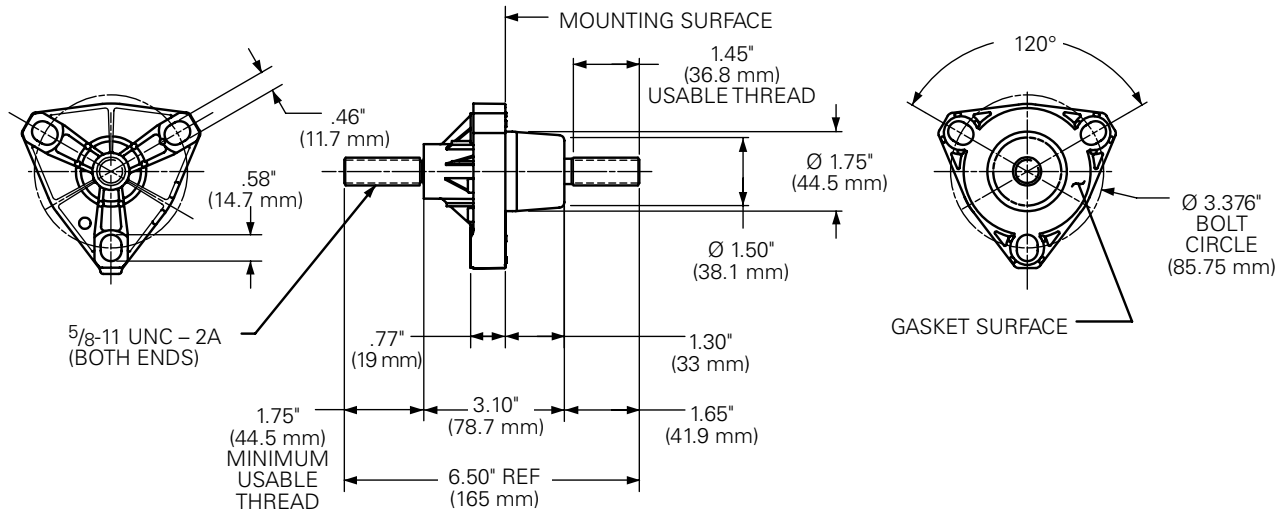


Figure 1. 5/8" - 11 spade internal - copper (with 1.75" usable external thread).

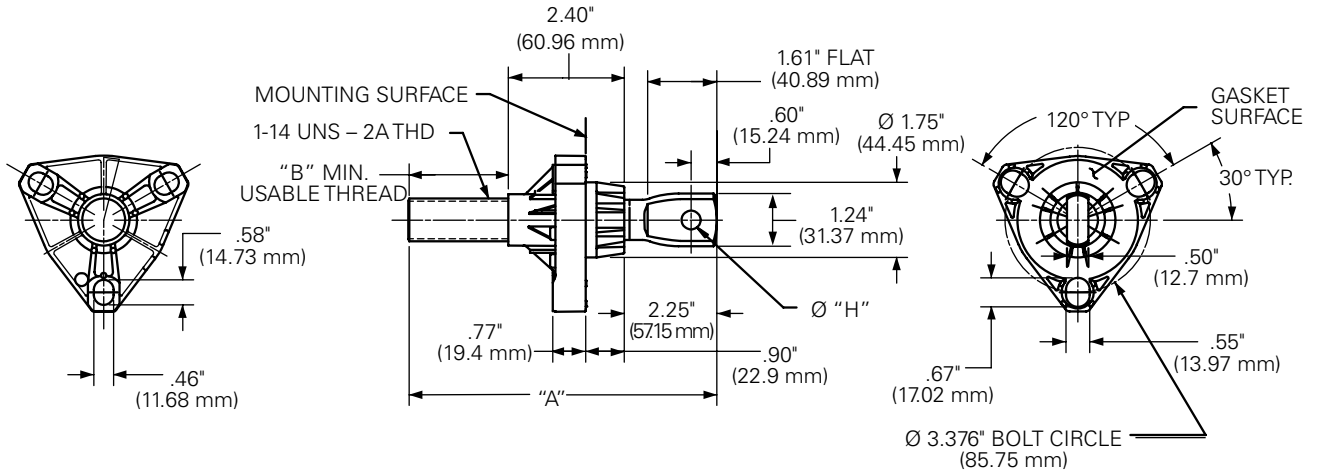
Note: Dimensions given are for reference only.



Catalog Number	2690286D01
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Figure 2. 5/8" - 11 double thread - copper (with 1.75" usable external thread).

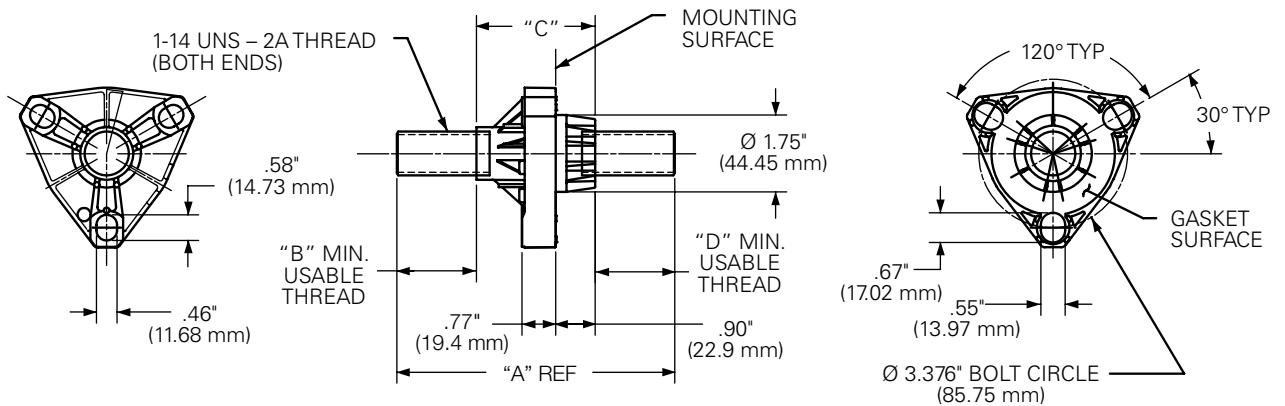
Note: Dimensions given are for reference only.



Catalog No. 2690286D Stud/Spade	07 Copper Std. Thd. Lg	08 Copper Ext. Thd. Lg	10 Copper Std. Thd. Lg	24 Copper Ext. Thd. Lg
"A"	6.75" (171.45 mm)	7.25" (184.15 mm)	6.75" (171.45 mm)	8.00" (203.2 mm)
"B"	2.10" (55.34 mm)	2.60" (66.04 mm)	2.10" (55.34 mm)	3.05" (77.47 mm)
"H"	Ø .437 (11.10 mm)	Ø .437 (11.10 mm)	Ø .53 (13.46 mm)	Ø .437 (11.10 mm)

Figure 3. 1" – 14 spade internal – copper (with 1.75" usable external thread).

Note: 2.25" usable external thread is optional for 1" – 14 spade internal.



Catalog No. 2690286D Stud/Stud	09 Copper Std. Thd. Lg
"A"	6.50" (165.10 mm)
"B"	2.05" (52.07 mm)
"C"	2.40" (60.96 mm)
"D"	2.05" (52.07 mm)

Figure 3. 1" – 14 double thread – copper (with 1.75" usable external thread).

Note: Dimensions given are for reference only.

Table 1. Voltage Ratings and Characteristics

Description	kV
Standard Voltage Class	1.2
AC 60 Hz 1 Minute Withstand	10
BIL and Full Wave Crest	30

Table 2. Current Ratings and Characteristics

Description	Amperes Continuous
5/8 inch Copper Stud	600 A rms
1 inch Copper Stud	1400 A rms

Current ratings and characteristics are in accordance with ANSI/IEEE Std C57.12.00™-1987 standard.

Ordering information

To order a Secondary Bushing, specify the item desired from Figures 1 – 4.

Table 3. Secondary Bushings

Figure	Description	Catalog Number
2	5/8 inch-11 w/1.75 inch External Threaded Stud and 1.4 inch Internal Threaded Stud, Copper-600 A	2690286D01
1	5/8 inch-11 w/1.75 inch External Threaded Stud and Internal Spade w/0.44 inch Dia. Hole, Copper-600 A	2690286D06
3	1 inch-14 w/1.75 inch External Threaded Stud and Internal Spade w/0.44 inch Dia. Hole, Copper-1400 A	2690286D07
3	1 inch-14 w/2.25 inch External Threaded Stud and Internal Spade w/0.44 inch Dia. Hole, Copper-1400 A	2690286D08
4	1 inch-14 w/1.75 inch External Threaded Stud and Internal Threaded Stud, Copper-1400 A	2690286D09
3	1 inch-14 w/1.75 inch External Threaded Stud and Internal Spade w/0.53 inch Dia. Hole, Copper-1400 A	2690286D10
1	5/8 inch-11 w/2.13 inch External Threaded Stud and Internal Spade w/0.44 inch Dia. Hole, Copper-600 A	2690286D23
3	1 inch-14 w/3.05 inch External Threaded Stud and Internal Spade w/0.44 inch Dia. Hole, Copper-1400 A	2690286D24

Note: Gasket part number, 0537980C20, is INCLUDED with bushing.

Table 4. Recommended Internal (Oil Side) Connections for 1 Hole Internal Spade

Nominal Current Rating (Amperes)	Maximum Current (Amperes)	Number of Holes	Sides of Spade
600	420	1	1
	600	1	2
1400	835	1	1
	1400	1	2

Notes:

1. Ratings are the maximum current level that can be used with a particular configuration.
2. Ratings are based on maintaining a bushing temperature rise that is no more than 15 °C above 85 °C top oil temperature (20 °C ambient) when the bushings are conducting rated current (ANSI/IEEE Std C57.12.00™-1987 standard, Section 5.11).
3. Ratings are based on maintaining a bushing absolute temperature below the level that would damage the insulation system or seal integrity (with top oil temperature in the range of 113 – 114 °C absolute) when the bushing is conducting 150% peak load for 24 hours and 191% peak load for 2 hours. (IEEE Std C57.92™-1981 standard, Table 3 {d}).

(All temperature references are in degrees Celsius.)

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 Publication No. CA800017EN

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For Eaton's Cooper Power series tri-clamp secondary bushing product information call 1-877-277-4636 or visit: www.eaton.com/cooperpowerseries.

