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INSTALLATION INSTRUCTIONS FOR FIELD ASSEMBLY OF TAPER THREADED GRIP-TWIST® ULTIMATE POSITION COUPLERS (CALTRANS)

FABRICATOR IS RESPONSIBLE FOR PROVIDING THESE INSTRUCTIONS TO THE PLACER AND/OR CONTRACTOR.

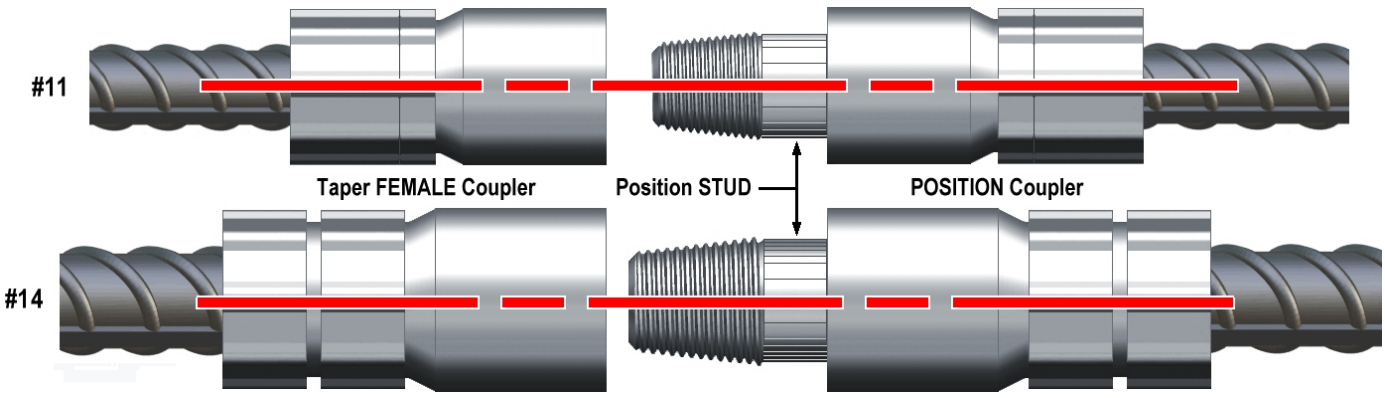
Taper Threaded Grip-Twist® Ultimate Position couplers are shipped with color-coded plastic caps and plugs to protect the threads. These should be kept in place until time of assembly. If missing, obtain the correct caps and/or plugs from the manufacturer. If thread damage is discovered, it must be corrected before assembly to avoid premature binding. Minor damage can be fixed using a thread file, or a thread cleaning tool. DO NOT TRY TO ASSEMBLE DAMAGED THREADS. All Position couplers and Female couplers are marked with the intended rebar size. Take care to install the correct size Position coupler into the corresponding size Female coupler. DO NOT USE WITH REBAR THAT IS LARGER OR SMALLER THAN THE INTENDED BAR SIZE. STORE POSITION COUPLERS IN A CLEAN, DRY PLACE UNTIL READY TO INSTALL.

CAUTION: If installing in stages, make sure the couplers placed first are completely swaged, and that the threads are protected. Check to ensure thread plugs are installed in all Female couplers, or thread caps are installed on the male threads of all Position Studs, prior to pouring concrete around or over the placed couplers. If the Position coupler is placed first, further ensure the knurl on the Position Stud, as well as the parallel threads in the Position Female coupler are protected. DO NOT PLACE REINFORCING BAR IF SWAGING IS NOT CORRECT, AND DO NOT POUR CONCRETE IF THREADS ARE NOT PROTECTED.

1) Remove the protective cap from the Position Stud and the protective plug from the Female coupler and check both external (Position Stud) and internal (Female) threads for cleanliness. Clean off any debris and/or foreign matter. **DO NOT USE CORROSIVE ACIDS**. Any thread damage must be corrected as noted above prior to installation.

2) Locate the Position Stud and Female coupler, and line them up as straight as possible. See **FIGURE 1** for pre-assembled connection. DO NOT ALIGN THE REBAR. Align the COUPLERS so that the threads will screw together without binding.

FIGURE 1: PRE-ASSEMBLED CONNECTION

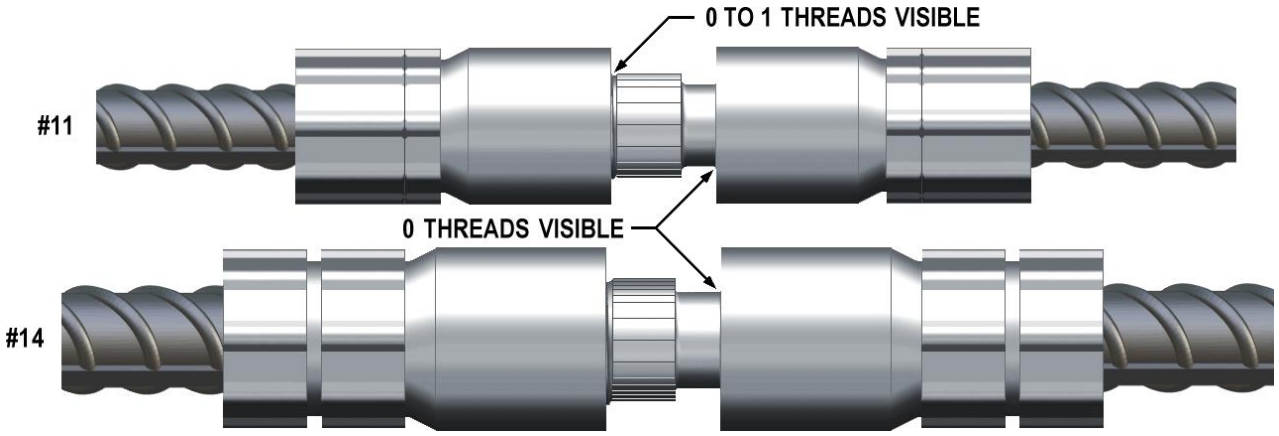


3) After the initial thread location, move the free bar towards the fixed bar so the Position Stud sits inside the Female coupler. Rotate the Position Stud clockwise making sure the two coupler halves remain aligned. If you feel the threads starting to prematurely bind, DO NOT FORCE THEM. Shake the free end of the rebar while turning the Stud. Continue to rotate (approximately 4 – 5 rotations) until FULLY ENGAGED and SNUG. After assembly, there should be NO parallel threads visible on the Position Stud inside the Position Female. If threads are visible, the Position Stud must be disconnected from the Female coupler, spun all the way back into the Position Female, and the bar ends brought closer together before reassembling. See **FIGURE 2** for assembled connection.

NOTE: If the Position Stud threads do not properly engage during assembly, stop immediately. Disassemble the connection to determine the problem. Possible causes of mis-assembly may be mis-matched thread sizes, contaminated threads (i.e. concrete, dirt, etc.) or damaged threads. Re-assemble only after the problem has been identified and corrected.

Please direct all assembly questions to BarSplice Products, Inc.

FIGURE 2: ASSEMBLED CONNECTION



4) A chain wrench or pipe wrench can be used to snug and tighten the Position Stud in the Female coupler as needed. Always consider your own **personal safety**. Make sure you are securely positioned and that you will not slip or fall during installation. Use only good quality wrenches that will not round-out.

   NOTE: Long lengths of rebar, especially large diameter bars, are heavy. To overcome rebar weight, it may be necessary to use an extension bar. As necessary, use the following wrench lengths as a guide: Size #11 (36 mm) = 18 - 24" (45-60 cm) length; or Size #14 (43 mm) = 24-36" (60-90 cm) length. DO NOT WIRE TIE BARS UNTIL AFTER FULL ASSEMBLY.

5) After assembly, inspect for complete swaging of the couplers and proper thread engagement. For taper threads, some variation in the number of exposed threads is natural due to the thread tolerance and run-out. In general, it is typical to see 0 to 1 complete taper thread(s), with NO parallel threads visible after full assembly, per **FIGURE 2**. If needed, fully assembled taper threads can be double-checked using a chain wrench or pipe wrench as described above, to ensure the couplers are snug. **IT IS NOT NECESSARY TO USE A TORQUE WRENCH OR APPLY A HIGH TORQUE VALUE.**

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