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INSTALLATION INSTRUCTIONS FOR ZAP SCREWLOK T-Lok Headed Devices ON GRADE 60 REBAR [U.S. METRIC GRADE 420]

STORE ZAP T-LOK'S IN A CLEAN, DRY PLACE UNTIL READY TO INSTALL.

STEP 1:

Measure and mark the reinforcing bar for the minimum insertion length (I) * before inserting the bar into the Zap T-Lok per Figure 3, Figure 4 and Chart 1.

* If the Zap T-LOK is assembled in the alternative (reverse) orientation as shown in Figure 5, then the minimum insertion length (I) is equal to the overall length (L).

STEP 2:

Slide the rebar into the **ZAP T-LOK** to at least the insertion length (I) per Figure 1. Do not under-insert, as shown in Figure 2.

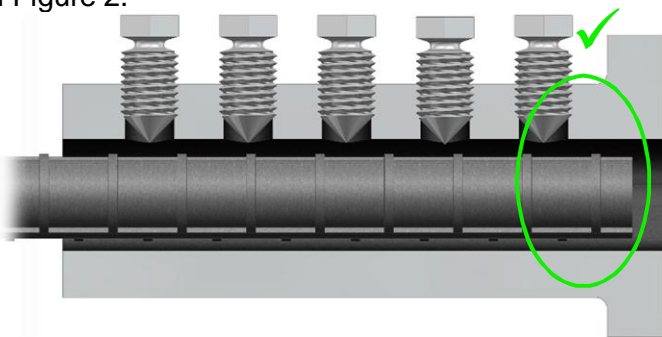


Figure 1. **Correct** Rebar Insertion Depth

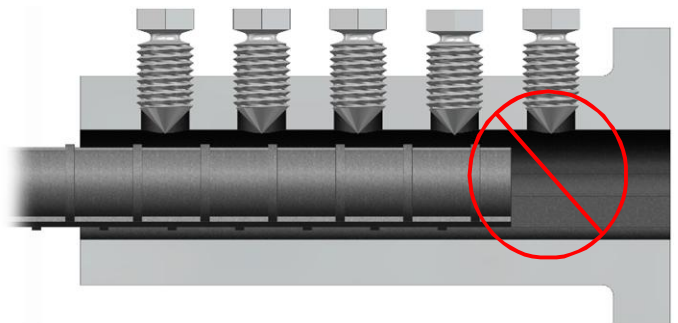


Figure 2. **Incorrect** Rebar Insertion Depth

STEP 3:

Using an **impact wrench** and a **socket "S"** per Chart 1, tighten the twist-off screws starting **at the end** of the device and working your way **down one row toward the HEAD** on the device. Tighten each screw until the head of the screw **twists off**. See CHART 1 for approximate twist-off torque 'T'. After all the screw heads have been twisted off on the first row, repeat the procedure down the second row (if applicable), starting at the end and working your way toward the HEAD of the device.

DO NOT USE THESE CONNECTORS IN CONJUNCTION WITH REBAR WHICH IS LARGER OR SMALLER THAN THE INTENDED BAR SIZE.

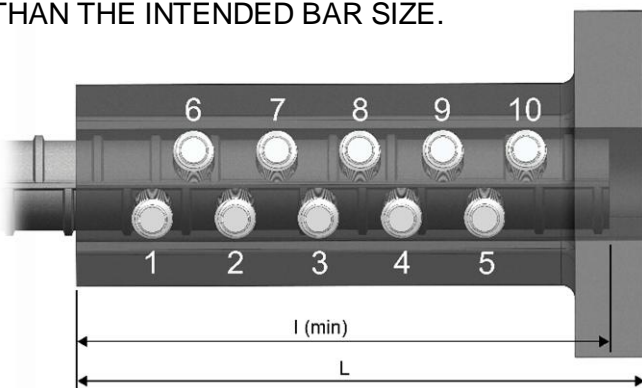


Figure 3. Tightening Order for **Double** Row of Screws
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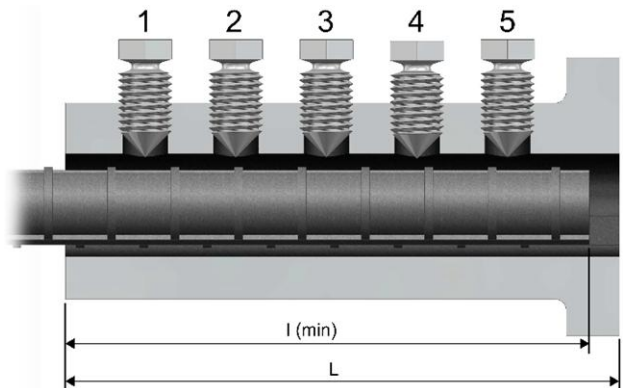


Figure 4. Tightening Order for **Single** Row of Screws
Zap Screwlok T-Lok Instructions Rev.F 12/17/2013

*** Alternative assembly in accordance with ACI 318, Section 3.5.9 and ASTM A970 Annex A1.**

All figures are for illustration purposes only. See **CHART 1** for number of screws and twist-off torque.

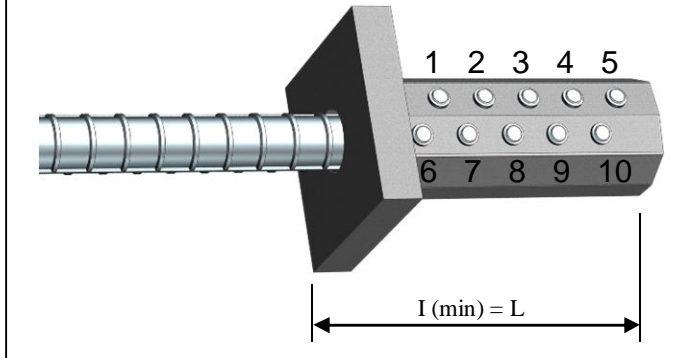


Figure 5. Tightening Order for Alternative Assembly

KEEP ZAP T-LOK'S CLEAN AND KEEP THREADS RUST FREE, PER FIGURE 6. STORE COUPLERS IN A CLEAN, DRY PLACE UNTIL READY TO INSTALL. RUST IN THE THREADS PRIOR TO ASSEMBLY, PER FIGURE 7, IS UNACCEPTABLE BECAUSE IT COULD RESULT IN LOWER PERFORMANCE OF THE HEADED DEVICE.



Figure 6. Clean **Acceptable** Coupler



Figure 7. **Unacceptable** Rust in Coupler Threads

CHART 1

REBAR SIZE US [metric]	APPROXIMATE ZAP T-LOK LENGTH "L" (in.)	REBAR INSERTION LENGTH "I" (in.) *	NUMBER OF SCREWS PER ZAP T-LOK	SOCKET SIZE "S"	AVERAGE SCREW TWIST-OFF TORQUE "T" (ft-lb)	MINIMUM IMPACT WRENCH TORQUE RATING (ft-lb)
#4 [13]	5	4 ½	4	½	60	250
#5 [16]	5	4 ½	4	½	60	250
#6 [19]	6 ½	5 ¾	4	⅝	105	500
#7 [22]	6 ½	5 ¾	4	⅝	105	500
#8 [25]	8 ⅜	7 ½	5	¾	215	750
#9 [29]	8 ⅜	7 ½	5	¾	215	750
#10 [32]	8 ½	7 ½	9	¾	215	750
#11 [36]	8 ½	7 ½	9	¾	215	750
#14 [43]	10 ¼	9	10	¾	350	1000

▼ Example of suitable impact wrench is Ingersoll Rand, IR 261

CAUTIONS AND SUGGESTIONS

1. For **best performance** and **ease of installation**, Barsplice recommends the use of a $\frac{3}{4}$ inch drive pneumatic **impact wrench** ▼ and suitable socket. Make sure the impact wrench is rated to achieve at least the minimum impact wrench torque specified in **CHART 1** to avoid stalling. The **air supply** line should have a minimum diameter of **$\frac{1}{2}$ inch**. The air compressor should be large enough to provide **100 psi** (7 bar) gauge pressure & deliver 45 cfm of air flow.
2. **Do not use** an open-ended wrench or an adjustable wrench because of the risk of rounding-out the hexagon head prior to reaching the torque needed to break off the head.
3. Prior to assembly, straighten excessively bent rebar ends so that proper wedge contact is made between rebar and device. If necessary, grind off large shear lips that prevent proper insertion of rebar into headed device. **DO NOT USE THIS PRODUCT ON CURVED REBARS.**
4. Replace missing screws immediately with BPI special screws only. **DO NOT ALLOW THREADED HOLES TO RUST.**
5. If bars are corroded, removal of rust/corrosion must be performed to the same degree as that required to bond with concrete prior to installing the Zap T-Lok. Testing of old or severely corroded bars is recommended to ensure the integrity of the adjoining bars and compliance to design requirements. Performance statements of Zap T-Lok headed devices are based upon the use of ASTM **A 615/A 706**, Grade 60 rebar.
6. The Zap T-Lok is suitable for use on UNCOATED, EPOXY COATED and GALVANIZED REBARS. This product may be field coated with an epoxy patch kit or cold galvanizing compound AFTER assembly of Zap T-Lok to reinforcing bar. **DO NOT ATTEMPT TO HOT-DIP GALVANIZE THIS PRODUCT IN ANY WAY. DO NOT ALLOW ABRASIVE BLAST MATERIAL TO COME INTO CONTACT WITH UNASSEMBLED THREADS.**
7. In all cases, consider your own **personal safety**. Make sure you are securely positioned and that you will not slip or fall during installation.

Please direct all assembly questions to BarSplice Products, Inc.