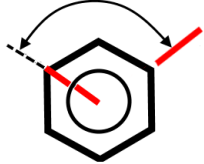


**Purpose:** Submit this form to ensure proper installation under the standard specifications for sign bridges and overhead sign supports. Requires "Yes" answers to steps 1 thru 7.

PROCEDURE	QUESTION	YES or NO
<b>Step 1:</b> Verify F1554 anchor bolt grade is as specified for the project. Verify nuts are ASTM A563 heavy hex and washers are F436.	Were the correct grade of anchor rod, nut and washer used?	
<b>Step 2:</b> Verify anchor rods are clean and not damaged and plumb – not more than 1:40 slope or 1/4" in 10" (if rods are out of plumb or damaged contact project engineer).	Was the anchor rod clean and undamaged and slope $\leq$ 1:40 or 1/4" in 10"?	
<b>Step 3:</b> Lubricate anchor rods with MnDOT specified bridge grease (within 24 hours of tensioning) and turn nut down to foundation. Lubricate bearing surfaces of leveling nut and top nut prior to tightening.	Was MnDOT specified bridge grease applied and did leveling nut run down freely?	
<b>Step 4:</b> Level leveling nuts – make sure nuts are less than one anchor rod diameter from the foundation but no less than 1-1/4" for OH Signs.	Were the leveling nuts installed $\leq$ 1 anchor rod diameter from the foundation?	
<b>Step 5:</b> Install structure with an F436 washer below and above base plate and snug top nuts. When snugging use snugging torque or maximum open end wrench length on both the top nut and leveling nut following the star pattern. Two cycles of snugging shall be performed prior to Step 6.	Was snugging (2 cycles) performed properly?	
<b>Step 6:</b> Perform turn of nut tightening. Mark the nuts and adjacent base plate and turn the minimum required turn per appendix, but do not exceed the verification torque.	Was turn of the nut performed properly?	
<b>Step 7:</b> Confirm verification torque was achieved per AASHTO LTS-1., or continue to turn nut until verification torque is achieved.	Was verification torque per Appendix A confirmed?	
<b>Step 8:</b> 48 hours after initial tightening, apply re-tightening torque. The re-tightening torque is 110% of verification torque ( $1.1 \cdot T_v$ ).	Was re-tightening torque applied correctly?	

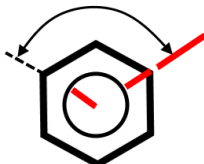
**REFERENCE MARK EXAMPLE**

**After Snugging**



After snugging, the nut and rod are marked in the same location. The baseplate is marked at the desired rotation angle

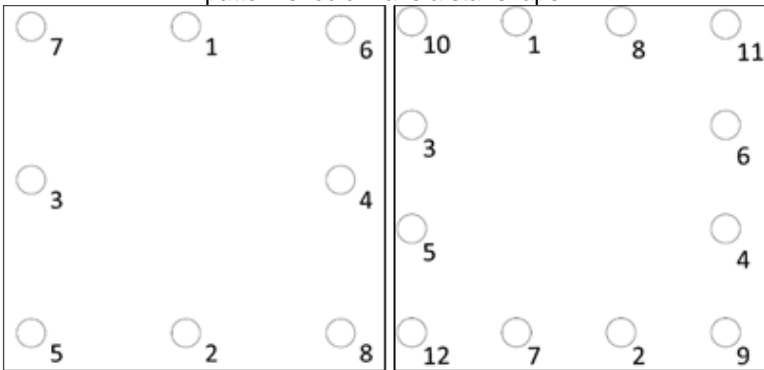
**After Turn of Nut**



After turn of nut tightening, the nut has been tightened in two steps and the mark on the nut now matches the mark on the baseplate. The mark on the rod should stay in the same place

**STAR PATTERN EXAMPLES**

The patterns below demonstrate an example order in which anchor rods could be tightened. In general, anchor rods immediately next to each other should not be tightened one after another and the final tightening pattern should make a star shape.



### Administrative Information

Make, Model and Serial Number of Torque or Hydraulic Wrench		
Wrench Calibration Date (m/d/yyyy) (Calibration Date MUST be Within 1 Year)	Structure ID Number	Project ID
Contractor Name		
Date (m/d/yyyy)	Contractors Representative (QC) Name	Contractors Representative (QC) Signature <b>X</b>
Date (m/d/yyyy)	Minnesota Department of Transportation Representative (QA) Name	MnDOT Representative (QA) Signature <b>X</b>
Comments		