

## CONTRACTOR QUALITY CONTROL ANCHOR BOLT PRETENSION RECORD

		STRUCTURE TYPE
CONTRACTOR	STRUCTURE NUMBER	ROUTE/STATION (RT/LT)
LOCATION		JOB NUMBER
COMPLETED BY		DATE

SPECIFICATIONS								
<p>The contractor must comply with subsections 810.03.N and 908.14 of the <i>2020 Standard Specifications for Construction</i> (as modified by 20SS-001A - Errata), frequently used special provisions 20SP-810(B) <i>Permanent Traffic Signs and Supports Revisions</i> and 20SP-908(A) <i>Miscellaneous Metal Products Revisions</i>. This contractor quality control record is required when anchor bolts are pretensioned following MDOT Turn-of-Nut (TON) process specified in 20SP-908(A).</p>								
SELECT MATERIAL REQUIREMENTS (See contract documents for all material specifications)								
Anchor Bolt Specification, Grade, and Supplemental Requirements:	American Society for Testing and Materials (ASTM) F1554 Grade 55 S1, S3, & S4							
Structure Type:	Other:							
Anchor Bolt Diameter:	<table style="display: inline-table; border: none;"> <tr> <td style="padding: 0 10px;"><math>\frac{3}{4}</math>"</td> <td style="padding: 0 10px;">1"</td> <td style="padding: 0 10px;">1<math>\frac{1}{4}</math>"</td> <td style="padding: 0 10px;">1<math>\frac{1}{2}</math>"</td> <td style="padding: 0 10px;">1<math>\frac{3}{4}</math>"</td> <td style="padding: 0 10px;">2"</td> <td style="padding: 0 10px;">Other:</td> </tr> </table>	$\frac{3}{4}$ "	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "	2"	Other:
$\frac{3}{4}$ "	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "	2"	Other:		
Foundation Diameter:								

### TURN-OF-NUT (TON) PRETENSIONING INSPECTION CHECKLIST

1. Were position marks placed for each anchor bolt after snug-tight?	Yes	No
2. TON Pass 1: Were the top nuts rotated in a star pattern (see Figure 2) 1/12?	Yes	No
3. TON Pass 2:		
a. Were the top nuts rotated in a star pattern (see Figure 2) an additional 1/12 of a turn?	Yes	No
b. Are all top nuts rotated at least 1/6 of a turn past snug-tight and within tolerance?	Yes	No
4. Are the initials and date of the contractor's personnel operating the wrenches placed on the upright column in permanent marker?	Yes	No
5. Torque Verification Test:		
a. What was the torque value (lbf-ft) used?		
b. Did any top nuts move? If "Yes" is checked, notify the Engineer in writing immediately.	Yes	No

CONTRACTOR QUALITY CONTROL	DATE
MDOT REPRESENTATIVE	DATE

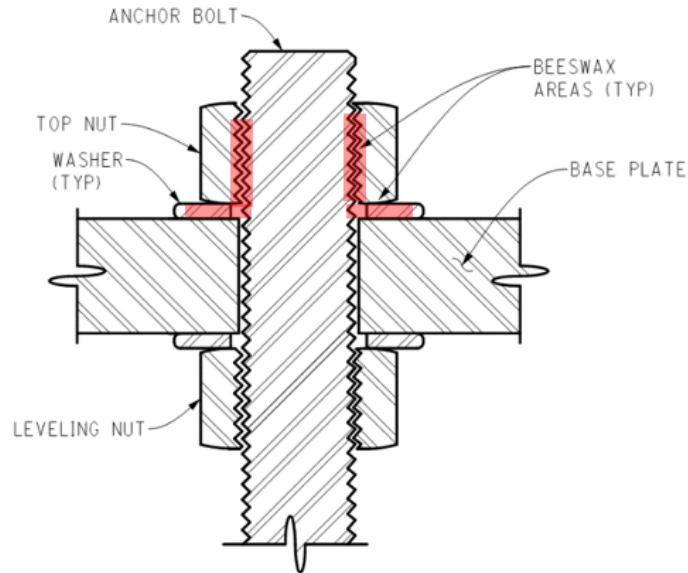


Figure 1. Lubrication areas for TON pretensioned anchor bolts and nuts are highlighted in red.

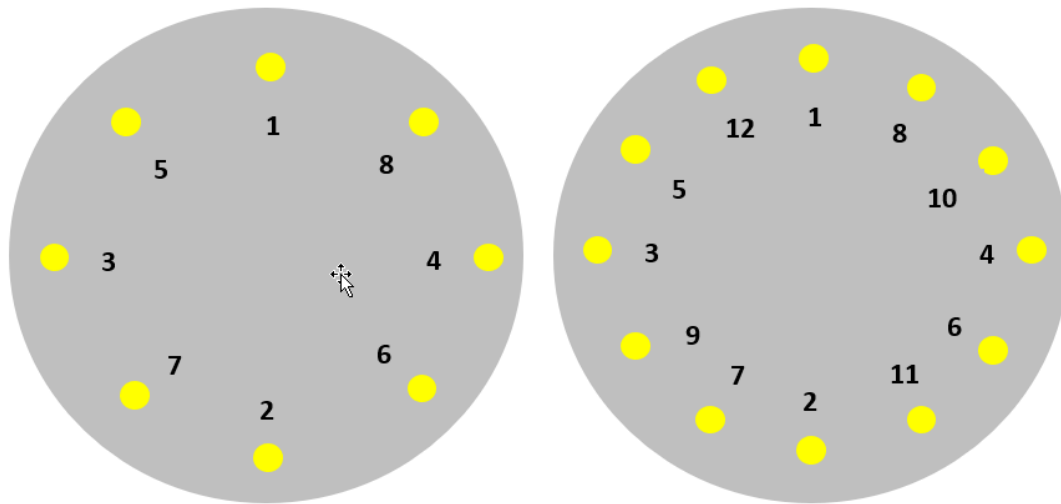


Figure 2: Example of star tightening patterns for 8 and 12 anchor bolt layouts. Foundations with a differing number of anchor bolts to follow similar star tightening pattern in which the nuts on opposite or near-opposite sides of the anchor bolt circle are successively tightened in a pattern resembling a star.

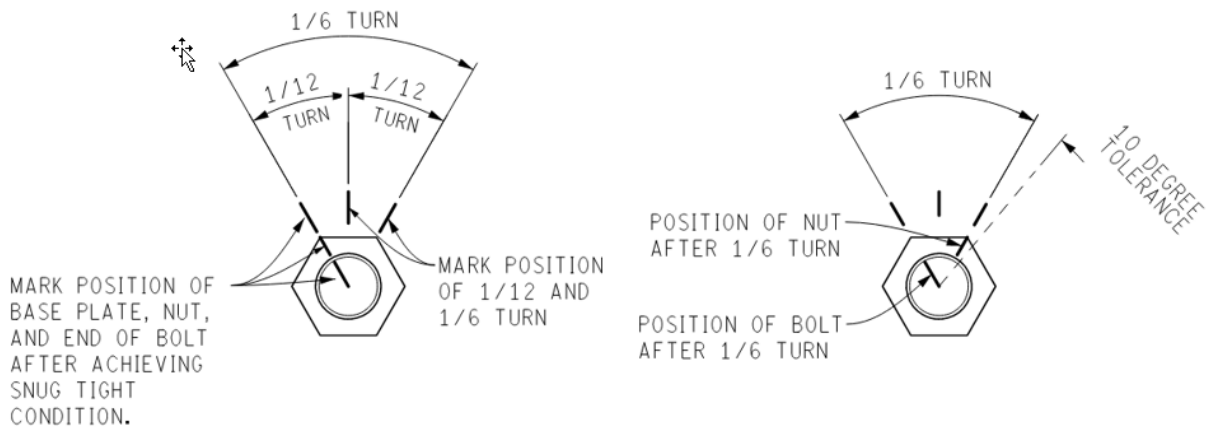


Figure 3. Example of TON match marking for 1/6 turn depicting initial 1/12 turn followed by subsequent 1/12 turn (1/6 turn total). Maximum +10 -degree/-0 -degree tolerance mark is also shown.