



## SOKO® Range Tightening Torque Grade ASTM A574

# UNC Recommended Tightening Torque

|        | Socket Head<br>1960 Series                                                        |                           | Low<br>Head                                                                       |                           | Countersunk<br>Head                                                               |                           | Button<br>Head                                                                     |                           | Socket Set<br>Screw (Grub)                                                          |                           | Shoulder<br>Screw                                                                   |                           |
|--------|-----------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------|---------------------------|
|        |  |                           |  |                           |  |                           |  |                           |  |                           |  |                           |
| Size   | Plain<br>(Lb-Ft)                                                                  | Zinc<br>Plated<br>(Lb-Ft) | Plain<br>(Lb-Ft)                                                                  | Zinc<br>Plated<br>(Lb-Ft) | Plain<br>(Lb-Ft)                                                                  | Zinc<br>Plated<br>(Lb-Ft) | Plain<br>(Lb-Ft)                                                                   | Zinc<br>Plated<br>(Lb-Ft) | Plain<br>(Lb-Ft)                                                                    | Zinc<br>Plated<br>(Lb-Ft) | Plain<br>(Lb-Ft)                                                                    | Zinc<br>Plated<br>(Lb-Ft) |
| #0     |                                                                                   |                           |                                                                                   |                           |                                                                                   |                           |                                                                                    |                           | 0.08                                                                                | 0.06                      |                                                                                     |                           |
| #1     | 0.37                                                                              | 0.26                      |                                                                                   |                           | 0.21                                                                              | 0.15                      | 0.21                                                                               | 0.15                      | 0.15                                                                                | 0.10                      |                                                                                     |                           |
| #2     | 0.62                                                                              | 0.44                      |                                                                                   |                           | 0.37                                                                              | 0.26                      | 0.37                                                                               | 0.26                      | 0.15                                                                                | 0.10                      |                                                                                     |                           |
| #3     | 0.92                                                                              | 0.64                      |                                                                                   |                           | 0.58                                                                              | 0.41                      | 0.58                                                                               | 0.41                      | 0.42                                                                                | 0.29                      |                                                                                     |                           |
| #4     | 1.3                                                                               | 0.93                      | 0.42                                                                              | 0.29                      | 0.67                                                                              | 0.47                      | 0.67                                                                               | 0.47                      | 0.42                                                                                | 0.29                      |                                                                                     |                           |
| #5     | 2.0                                                                               | 1.4                       | 0.79                                                                              | 0.55                      | 1.0                                                                               | 0.70                      | 1.0                                                                                | 0.70                      | 0.83                                                                                | 0.58                      |                                                                                     |                           |
| #6     | 2.5                                                                               | 1.7                       | 0.79                                                                              | 0.55                      | 1.2                                                                               | 0.87                      | 1.3                                                                                | 0.93                      | 0.83                                                                                | 0.58                      |                                                                                     |                           |
| #8     | 4.6                                                                               | 3.2                       | 1.6                                                                               | 1.1                       | 2.5                                                                               | 1.7                       | 2.5                                                                                | 1.7                       | 1.7                                                                                 | 1.2                       |                                                                                     |                           |
| #10    | 6.6                                                                               | 4.6                       | 2.8                                                                               | 2.0                       | 3.3                                                                               | 2.3                       | 3.7                                                                                | 2.6                       | 3.0                                                                                 | 2.1                       |                                                                                     |                           |
| 1/4"   | 17.0                                                                              | 11.9                      | 6.5                                                                               | 4.5                       | 8.3                                                                               | 5.8                       | 8.3                                                                                | 5.8                       | 7.2                                                                                 | 5.1                       | 4.2                                                                                 | 2.9                       |
| 5/16"  | 35.0                                                                              | 24.5                      | 13.0                                                                              | 9.1                       | 16.7                                                                              | 11.7                      | 16.7                                                                               | 11.7                      | 13.7                                                                                | 9.6                       | 10.4                                                                                | 7.3                       |
| 3/8"   | 62.0                                                                              | 43.4                      | 22.7                                                                              | 15.9                      | 29.2                                                                              | 20.4                      | 29.2                                                                               | 20.4                      | 24.2                                                                                | 16.9                      | 22.1                                                                                | 15.5                      |
| 7/16"  | 100.0                                                                             | 70.0                      | 35.7                                                                              | 25.0                      | 46.7                                                                              | 32.7                      | 46.7                                                                               | 32.7                      | 35.8                                                                                | 25.1                      |                                                                                     |                           |
| 1/2"   | 150.0                                                                             | 105.0                     | 51.2                                                                              | 35.9                      | 70.8                                                                              | 49.6                      | 70.8                                                                               | 49.6                      | 51.7                                                                                | 36.2                      | 39.2                                                                                | 27.4                      |
| 9/16"  | 211.0                                                                             | 147.7                     |                                                                                   |                           | 100.0                                                                             | 70.0                      | 100.0                                                                              | 70.0                      | 51.7                                                                                | 36.2                      |                                                                                     |                           |
| 5/8"   | 283.0                                                                             | 198.1                     | 109.6                                                                             | 76.7                      | 141.7                                                                             | 99.2                      | 141.7                                                                              | 99.2                      | 102.1                                                                               | 71.5                      | 95.8                                                                                | 67.1                      |
| 3/4"   | 500.0                                                                             | 350.0                     |                                                                                   |                           | 250.0                                                                             | 175.0                     | 250.0                                                                              | 175.0                     | 200.0                                                                               | 140.0                     | 166.7                                                                               | 116.7                     |
| 7/8"   | 688.0                                                                             | 481.6                     |                                                                                   |                           | 416.7                                                                             | 291.7                     | 416.7                                                                              | 291.7                     | 300.0                                                                               | 210.0                     |                                                                                     |                           |
| 1"     | 1040.0                                                                            | 728.0                     |                                                                                   |                           | 666.7                                                                             | 466.7                     | 666.7                                                                              | 466.7                     | 416.7                                                                               | 291.7                     |                                                                                     |                           |
| 1 1/4" | 2080.0                                                                            | 1456.0                    |                                                                                   |                           | 1133.3                                                                            | 793.3                     | 1133.3                                                                             | 793.3                     | 800.0                                                                               | 560.0                     |                                                                                     |                           |
| 1 1/2" | 3625.0                                                                            | 2537.5                    |                                                                                   |                           |                                                                                   |                           |                                                                                    |                           | 9433.3                                                                              | 6603.3                    |                                                                                     |                           |

### Note:

The tightening torque values given in the above table serve only as a guide. A k factor of 0.2 has been used for threads with plain finish, burr-free with a light oil coating. A k factor of 0.14 has been used for zinc plated. Note that these figures are based on the first tightening of single assemblies in isolation.

Please refer to our engineering team for more detailed systems of determining the correct tension in fasteners rather than just using the above guide, which is very general in nature. It does not account for the many variables that affect friction in real-world applications and hence tension in the fastener.

Bolt Tension | Anti-Vibration | Product Reliability | Traceability

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