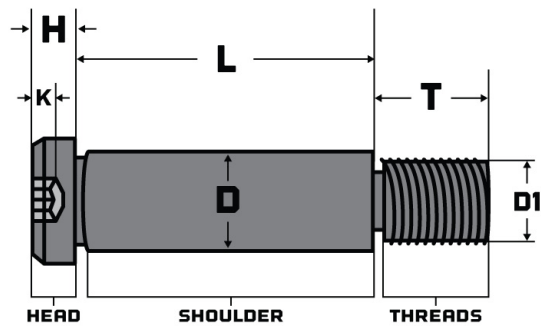
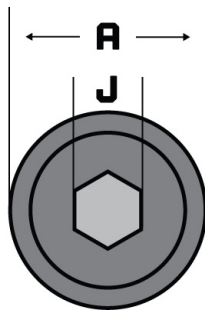




HEXAGON SOCKET HEAD SHOULDER BOLTS - INCH SERIES

1.0 DIMENSIONS: ASME B18.3



| Diameter | D | | A | | H | | J | K | D1 | | T |
|----------|-------------------|---------|---------------|--------|-------------|---------|----------|----------------|----------------|------------------|---------------|
| | Shoulder Diameter | | Head Diameter | | Head Height | | Key Size | Key Engagement | Thread Details | | Thread Length |
| | Max | Min | Max | Min | Max | Min | Nom | Min | Thread Size | Threads Per Inch | Basic |
| 1/8" | 0.1230" | 0.1210" | 0.250" | 0.235" | 0.1250" | 0.1150" | 5/64" | 0.067" | #4 | 40 | 0.157" |
| 3/16" | 0.1850" | 0.1830" | 0.312" | 0.296" | 0.156" | 0.146" | 3/32" | 0.079" | #8 | 32 | 0.189" |
| 1/4" | 0.2480" | 0.2460" | 0.375" | 0.357" | 0.188" | 0.177" | 1/8" | 0.094" | #10 | 24 | 0.375" |
| 5/16" | 0.3105" | 0.3085" | 0.438" | 0.419" | 0.219" | 0.209" | 5/32" | 0.117" | 1/4" | 20 | 0.438" |
| 3/8" | 0.3730" | 0.3710" | 0.562" | 0.543" | 0.250" | 0.240" | 3/16" | 0.141" | 5/16" | 18 | 0.500" |
| 1/2" | 0.4980" | 0.4960" | 0.750" | 0.729" | 0.312" | 0.302" | 1/4" | 0.188" | 3/8" | 16 | 0.625" |
| 5/8" | 0.6230" | 0.6210" | 0.875" | 0.853" | 0.375" | 0.365" | 5/16" | 0.234" | 1/2" | 13 | 0.750" |
| 3/4" | 0.7480" | 0.7460" | 1.000" | 0.977" | 0.500" | 0.490" | 3/8" | 0.281" | 5/8" | 11 | 0.875" |
| 1" | 0.9980" | 0.9960" | 1.312" | 1.287" | 0.625" | 0.610" | 1/2" | 0.375" | 3/4" | 10 | 1.000" |
| 1-1/4" | 1.2480" | 1.2460" | 1.750" | 1.723" | 0.750" | 0.735" | 5/8" | 0.469" | 7/8" | 9 | 1.125" |

Notes:

a) D: Diameter of the shoulder. L: Length of the shoulder.

b) Length of the shoulder (L) is only from under the head to the end of the shoulder. It does not include the thread length. Length (L) tolerance is ± 0.005 for all lengths.

c) Thread Length (T) tolerance will be -0.020 " for shoulder sizes up to $3/8$ " inclusive and -0.030 " for shoulder sizes larger than $3/8$ ". The thread length (T) remains constant for a given shoulder diameter.

Disclaimer: The above is a compilation of data, from various industry standards. Conquest Fasteners has taken every effort to present the data accurately. However Conquest Fasteners cannot be held liable for any claim traceable to any errors typographical or otherwise contained herein.



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INCH SERIES

Notes Continued:

d) Shoulder bolts are specified only by the diameter of the shoulder (D) and the length of the shoulder (L). Thread size will always be smaller than the shoulder diameter. Thread size may be specified in the description as an additional information. Examples of shoulder bolt descriptions: 5/8 x 2-1/2 shoulder bolt or 5/8-(1/2-13) x 2-1/2 shoulder bolt. Both specify the same shoulder bolt with shoulder diameter (D) of 5/8" and shoulder length (L) of 2-1/2" and with a thread size of 1/2-13 (UNC). Sometimes thread size is not specified in the shoulder bolt descriptions.

e) All shoulder bolts are provided with coarse threads only.

f) Thread Class of Fit: 3A

2.0 Mechanical Properties:

Steel: ASME B18.3. There is no separate standard for mechanical properties for shoulder bolts. Mechanical properties are also covered in the dimensional standard ASME B18.3. Hardness 32-43 HRC. Shoulder bolts, because of the product configuration, are not subjected to tensile testing. Hardness & Decarburization / Carburization are the only requisite mechanical properties to be met by the shoulder bolts.

Stainless Steel: ASME B18.3 does not specify stainless steel shoulder bolts. Mechanical properties of stainless steel shoulder bolts are as per manufacturer's standard only. Specification: Type: 18-8. Condition: CW1. Minimum hardness will be 59 HRA or 96 HRB.

The shoulder bolts will only have manufacturer's marking on the head.