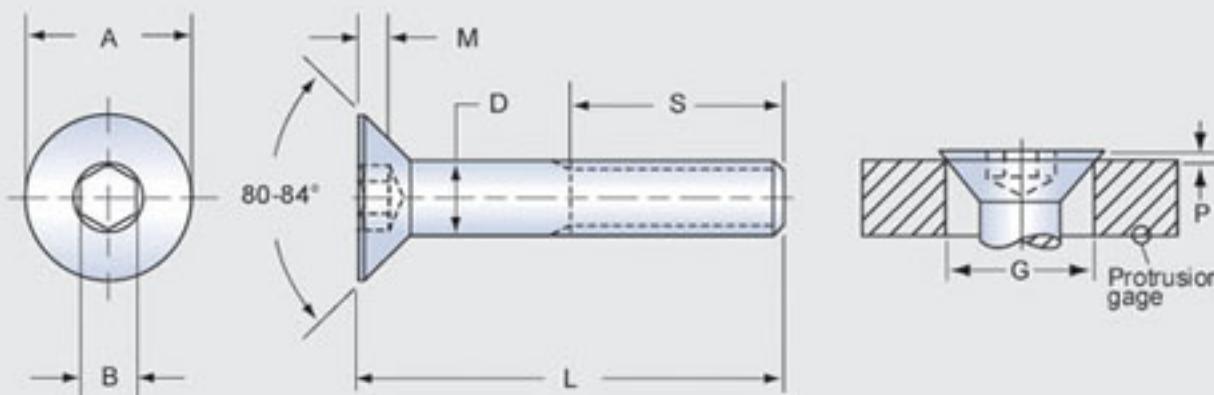


## ASME B18.3 : Hexagon Socket Flat Countersunk Head Cap Screws



Dimensions (inch)

| Nom Size | A             | D               | B<br>nom. | M<br>min. | G             |
|----------|---------------|-----------------|-----------|-----------|---------------|
| #0       | 0.117 - 0.138 | 0.0568 - 0.0600 | 0.035     | 0.025     | 0.077 - 0.078 |
| #1       | 0.143 - 0.168 | 0.0695 - 0.0730 | 0.050     | 0.031     | 0.100 - 0.101 |
| #2       | 0.168 - 0.197 | 0.0822 - 0.0860 | 0.050     | 0.038     | 0.123 - 0.124 |
| #3       | 0.193 - 0.226 | 0.0949 - 0.0990 | 1/16      | 0.062     | 0.147 - 0.148 |
| #4       | 0.218 - 0.255 | 0.1075 - 0.1120 | 1/16      | 0.062     | 0.171 - 0.172 |
| #5       | 0.240 - 0.281 | 0.1202 - 0.1250 | 5/64      | 0.078     | 0.195 - 0.196 |
| #6       | 0.263 - 0.307 | 0.1329 - 0.1380 | 5/64      | 0.078     | 0.219 - 0.220 |
| #8       | 0.311 - 0.359 | 0.1585 - 0.1640 | 3/32      | 0.094     | 0.266 - 0.267 |
| #10      | 0.359 - 0.411 | 0.1840 - 0.1900 | 1/8       | 0.125     | 0.312 - 0.313 |
| 1/4      | 0.480 - 0.531 | 0.2435 - 0.2500 | 5/32      | 0.156     | 0.423 - 0.424 |
| 5/16     | 0.600 - 0.656 | 0.3053 - 0.3125 | 3/16      | 0.188     | 0.538 - 0.539 |
| 3/8      | 0.720 - 0.781 | 0.3678 - 0.3750 | 7/32      | 0.219     | 0.652 - 0.653 |
| 7/16     | 0.781 - 0.844 | 0.4294 - 0.4375 | 1/4       | 0.250     | 0.689 - 0.690 |
| 1/2      | 0.872 - 0.938 | 0.4919 - 0.5000 | 5/16      | 0.312     | 0.738 - 0.739 |
| 5/8      | 1.112 - 1.188 | 0.6163 - 0.6250 | 3/8       | 0.375     | 0.961 - 0.962 |
| 3/4      | 1.355 - 1.438 | 0.7406 - 0.7500 | 1/2       | 0.500     | 1.185 - 1.186 |
| 7/8      | 1.604 - 1.688 | 0.8647 - 0.8750 | 9/16      | 0.562     | 1.410 - 1.411 |
| 1"       | 1.841 - 1.938 | 0.9886 - 1.0000 | 5/8       | 0.625     | 1.634 - 1.635 |
| 1-1/8    | 2.079 - 2.188 | 1.1086 - 1.1250 | 3/4       | 0.750     | 1.858 - 1.859 |
| 1-1/4    | 2.316 - 2.438 | 1.2336 - 1.2500 | 7/8       | 0.875     | 2.082 - 2.083 |
| 1-3/8    | 2.553 - 2.688 | 1.3568 - 1.3750 | 7/8       | 0.875     | 2.305 - 2.306 |
| 1-1/2    | 2.791 - 2.938 | 1.4818 - 1.5000 | 1"        | 1.000     | 2.529 - 2.530 |

## Notes :

1. Thread Class : 3A UNRC and UNRF Series for screw size #0 through 1";  
2A UNRC and UNRF Series for screw size over 1".
2. Length Tolerance : See Table 1, Page 24.
3. R. S. Torque=Recommended Seating Torque.
4. Working Temperature : -50°C ~ + 300°C.

- Dimensions
- Mechanical Properties
- Application Data

ASME B18.3 : Hexagon Socket Flat Countersunk Head Cap Screws

Dimensions (inch)

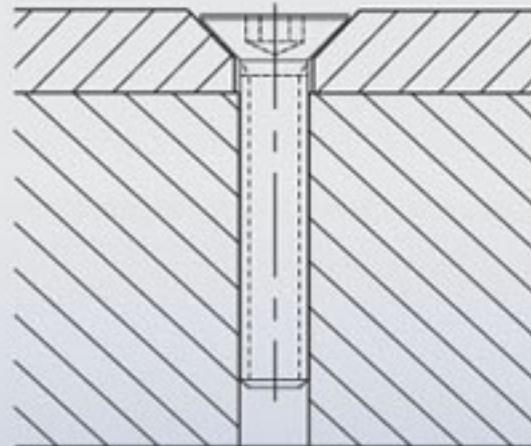
| Nom Size | P             | S min. | R. S. Torque (in-lb) |
|----------|---------------|--------|----------------------|
| #0       | 0.026 - 0.036 | 0.50   | 1.42                 |
| #1       | 0.028 - 0.040 | 0.62   | 2.52                 |
| #2       | 0.031 - 0.043 | 0.62   | 4.18                 |
| #3       | 0.033 - 0.046 | 0.62   | 6.33                 |
| #4       | 0.036 - 0.049 | 0.75   | 8.88                 |
| #5       | 0.037 - 0.051 | 0.75   | 13.1                 |
| #6       | 0.037 - 0.052 | 0.75   | 16.5                 |
| #8       | 0.039 - 0.055 | 0.88   | 30.1                 |
| #10      | 0.041 - 0.058 | 0.88   | 43.7                 |
| 1/4      | 0.043 - 0.064 | 1.00   | 104                  |
| 5/16     | 0.047 - 0.070 | 1.12   | 215                  |
| 3/8      | 0.050 - 0.076 | 1.25   | 382                  |
| 7/16     | 0.063 - 0.092 | 1.38   | 611                  |
| 1/2      | 0.087 - 0.119 | 1.50   | 931                  |
| 5/8      | 0.096 - 0.135 | 1.75   | 1722                 |
| 3/4      | 0.105 - 0.150 | 2.00   | 3054                 |
| 7/8      | 0.118 - 0.165 | 2.25   | 4928                 |
| 1"       | 0.130 - 0.181 | 2.50   | 7388                 |
| 1-1/8    | 0.140 - 0.196 | 2.81   | 10464                |
| 1-1/4    | 0.150 - 0.212 | 3.12   | 14766                |
| 1-3/8    | 0.162 - 0.228 | 3.44   | 19360                |
| 1-1/2    | 0.173 - 0.243 | 3.75   | 25692                |

#### Mechanical Properties

|  |              |              |
|--|--------------|--------------|
| Nom. Size, D                                     | D ≤ 1/2      | D > 1/2      |
| Hardness ( HRC )                                 | 39-44        | 37-44        |
| Tensile Strength ( psi )                         | 145,000 min. | 135,000 min. |
| Decarburization and Carburization (See Page 34 ) | E = 3/4H1    | E = 3/4H1    |

#### ▪ Typical Application Fixture

Flat socket head cap screws are designed for use in applications where the head cannot protrude above the mating parts. They are set in countersunk holes and the top of the head is flush with the surface of the assembly.



#### ▪ Protrusion Height Gauge

