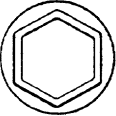
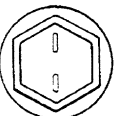
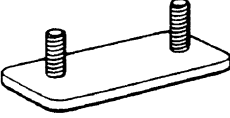


# **STANDARD BOLT TORQUE SPECIFICATIONS**

# STANDARD BOLT TORQUE SPECIFICATIONS

## HOW TO DETERMINE BOLT STRENGTH

|                                            | Mark                                                                                                                                                                        | Class |             | Mark                                                                                               | Class |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------|----------------------------------------------------------------------------------------------------|-------|
| Hexagon head bolt                          |  Bolt head No.<br>4— 4T<br>5— 5T<br>6— 6T<br>7— 7T<br>8— 8T<br>9— 9T<br>10— 10T<br>11— 11T |       | Stud bolt   |  No mark<br>4T  |       |
| Hexagon flange bolt w/ washer hexagon bolt |  No mark<br>4T                                                                            |       |             |  Grooved<br>6T |       |
| Hexagon head bolt                          |  Two protruding lines<br>5T                                                              |       |             |                                                                                                    |       |
| Hexagon flange bolt w/ washer hexagon bolt |  Two protruding lines<br>6T                                                              |       | Welded bolt |  4T           |       |
| Hexagon head bolt                          |  Three protruding lines<br>7T                                                            |       |             |                                                                                                    |       |
| Hexagon head bolt                          |  Four protruding lines<br>8T                                                             |       |             |                                                                                                    |       |

## SPECIFIED TORQUE FOR STANDARD BOLTS

| Class | Diameter<br>mm | Pitch<br>mm | Specified torque  |           |      |                     |           |      |
|-------|----------------|-------------|-------------------|-----------|------|---------------------|-----------|------|
|       |                |             | Hexagon head bolt |           |      | Hexagon flange bolt |           |      |
|       |                |             | kg-cm             | ft-lb     | N-m  | kg-cm               | ft-lb     | N-m  |
| 4T    | 6              | 1           | 55                | 48 in.-lb | 5    | 60                  | 52 in.-lb | 6    |
|       | 8              | 1.25        | 130               | 9         | 12.5 | 145                 | 10        | 14   |
|       | 10             | 1.25        | 260               | 19        | 26   | 290                 | 21        | 29   |
|       | 12             | 1.25        | 480               | 35        | 47   | 540                 | 39        | 53   |
|       | 14             | 1.5         | 760               | 55        | 74   | 850                 | 61        | 84   |
|       | 16             | 1.5         | 1,150             | 83        | 115  | —                   | —         | —    |
| 5T    | 6              | 1           | 65                | 56 in.-lb | 6.5  | 75                  | 65 in.-lb | 7.5  |
|       | 8              | 1.25        | 160               | 12        | 15.5 | 175                 | 13        | 17.5 |
|       | 10             | 1.25        | 330               | 24        | 32   | 360                 | 26        | 36   |
|       | 12             | 1.25        | 600               | 43        | 59   | 670                 | 48        | 65   |
|       | 14             | 1.5         | 930               | 67        | 91   | 1,050               | 76        | 100  |
|       | 16             | 1.5         | 1,400             | 101       | 140  | —                   | —         | —    |
| 6T    | 6              | 1           | 80                | 69 in.-lb | 8    | 90                  | 78 in.-lb | 9    |
|       | 8              | 1.25        | 195               | 14        | 19   | 210                 | 15        | 21   |
|       | 10             | 1.25        | 400               | 29        | 39   | 440                 | 32        | 44   |
|       | 12             | 1.25        | 730               | 53        | 71   | 810                 | 59        | 80   |
|       | 14             | 1.5         | 1,100             | 80        | 110  | 1,250               | 90        | 125  |
|       | 16             | 1.5         | 1,750             | 127       | 170  | —                   | —         | —    |
| 7T    | 6              | 1           | 110               | 8         | 10.5 | 120                 | 9         | 12   |
|       | 8              | 1.25        | 260               | 19        | 25   | 290                 | 21        | 28   |
|       | 10             | 1.25        | 530               | 38        | 52   | 590                 | 43        | 58   |
|       | 12             | 1.25        | 970               | 70        | 95   | 1,050               | 76        | 105  |
|       | 14             | 1.5         | 1,500             | 108       | 145  | 1,700               | 123       | 165  |
|       | 16             | 1.5         | 2,300             | 166       | 230  | —                   | —         | —    |
| 8T    | 8              | 1.25        | 300               | 22        | 29   | 330                 | 24        | 33   |
|       | 10             | 1.25        | 620               | 45        | 61   | 690                 | 50        | 68   |
|       | 12             | 1.25        | 1,100             | 80        | 110  | 1,250               | 90        | 120  |
| 9T    | 8              | 1.25        | 340               | 25        | 34   | 380                 | 27        | 37   |
|       | 10             | 1.25        | 710               | 51        | 70   | 790                 | 57        | 78   |
|       | 12             | 1.25        | 1,300             | 94        | 125  | 1,450               | 105       | 140  |
| 10T   | 8              | 1.25        | 390               | 28        | 38   | 430                 | 31        | 42   |
|       | 10             | 1.25        | 800               | 58        | 78   | 890                 | 64        | 88   |
|       | 12             | 1.25        | 1,450             | 105       | 140  | 1,600               | 116       | 155  |
| 11T   | 8              | 1.25        | 430               | 31        | 42   | 480                 | 35        | 47   |
|       | 10             | 1.25        | 890               | 64        | 87   | 990                 | 72        | 97   |
|       | 12             | 1.25        | 1,600             | 116       | 155  | 1,800               | 130       | 175  |