

# STANDARD BOLT TORQUE SPECIFICATIONS

Page

STANDARD BOLT TORQUE SPECIFICATIONS .... B-2

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## HOW TO DETERMINE BOLT STRENGTH

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

## SPECIFIED TORQUE FOR STANDARD BOLTS

| Class | Diameter<br>mm | Pitch 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 | 5.4 | 60                  | 52 in.-lb | 5.9 |
|       | 8              | 1.25     | 130               | 9         | 13  | 145                 | 10        | 14  |
|       | 10             | 1.25     | 260               | 19        | 25  | 290                 | 21        | 28  |
|       | 12             | 1.25     | 480               | 35        | 47  | 540                 | 39        | 53  |
|       | 14             | 1.5      | 760               | 55        | 75  | 850                 | 61        | 83  |
|       | 16             | 1.5      | 1,150             | 83        | 113 | —                   |           |     |
| 5T    | 6              | 1        | 65                | 56 in.-lb | 6.4 | —                   |           |     |
|       | 8              | 1.25     | 160               | 12        | 16  | —                   |           |     |
|       | 10             | 1.25     | 330               | 24        | 32  | —                   |           |     |
|       | 12             | 1.25     | 600               | 43        | 59  | —                   |           |     |
|       | 14             | 1.5      | 930               | 67        | 91  | —                   |           |     |
|       | 16             | 1.5      | 1,400             | 101       | 137 | —                   |           |     |
| 6T    | 6              | 1        | 80                | 69 in.-lb | 7.8 | 90                  | 78 in.-lb | 8.8 |
|       | 8              | 1.25     | 195               | 14        | 19  | 215                 | 16        | 21  |
|       | 10             | 1.25     | 400               | 29        | 39  | 440                 | 32        | 43  |
|       | 12             | 1.25     | 730               | 53        | 72  | 810                 | 59        | 79  |
|       | 14             | 1.5      | —                 |           |     | 1,250               | 90        | 123 |
| 7T    | 6              | 1        | 110               | 8         | 11  | 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        | 103 |
|       | 14             | 1.5      | 1,500             | 108       | 147 | 1,700               | 123       | 167 |
|       | 16             | 1.5      | 2,300             | 166       | 226 | —                   |           |     |