

# METRIC CONVERSIONS

# C.1

| MILLIMETERS TO INCHES<br>(MM X 0.03937 = INCHES) |       |    |       |    |       |     |       | INCHES TO MILLIMETERS<br>(INCHES X 25.40 = MM) |        |                                 |        |                                 |       |                                 |        |
|--|-------|----|-------|----|-------|-----|-------|--|--------|---------------------------------|--------|---------------------------------|-------|---------------------------------|--------|
| mm   | in.   | mm | in.   | mm | in.   | mm  | in.   | in.  | mm     | in.                             | mm     | in.                             | mm    | in.                             | mm     |
| .1   | .0039 | 25 | .9842 | 58 | 2.283 | 91  | 3.582 | .001   | .025   | .6                              | 15.240 | 1 <sup>15</sup> / <sub>16</sub> | 49.21 | 3 <sup>5</sup> / <sub>16</sub>  | 84.14  |
| .2   | .0078 | 26 | 1.024 | 59 | 2.323 | 92  | 3.622 | .002   | .051   | <sup>5</sup> / <sub>8</sub>     | 15.875 | 2                               | 50.80 | 3 <sup>3</sup> / <sub>8</sub>   | 85.72  |
| .3   | .0118 | 27 | 1.063 | 60 | 2.362 | 93  | 3.661 | .003   | .076   | <sup>11</sup> / <sub>16</sub>   | 17.462 | 2 <sup>1</sup> / <sub>16</sub>  | 52.39 | 3.4                             | 86.36  |
| .4   | .0157 | 28 | 1.102 | 61 | 2.401 | 94  | 3.701 | .004   | .102   | .7                              | 17.780 | 2.1                             | 53.34 | 3 <sup>7</sup> / <sub>16</sub>  | 87.31  |
| .5   | .0197 | 29 | 1.142 | 62 | 2.441 | 95  | 3.740 | .005   | .127   | <sup>3</sup> / <sub>4</sub>     | 19.050 | 2 <sup>1</sup> / <sub>8</sub>   | 53.97 | 3 <sup>1</sup> / <sub>2</sub>   | 88.90  |
| .6   | .0236 | 30 | 1.181 | 63 | 2.480 | 96  | 3.779 | .006   | .152   | .8                              | 20.320 | 2 <sup>3</sup> / <sub>16</sub>  | 55.56 | 3 <sup>9</sup> / <sub>16</sub>  | 90.49  |
| .7   | .0275 | 31 | 1.220 | 64 | 2.519 | 97  | 3.819 | .007   | .178   | <sup>13</sup> / <sub>16</sub>   | 20.638 | 2.2                             | 55.88 | 3.6                             | 91.44  |
| .8   | .0315 | 32 | 1.260 | 65 | 2.559 | 98  | 3.858 | .008   | .203   | <sup>7</sup> / <sub>8</sub>     | 22.225 | 2 <sup>1</sup> / <sub>4</sub>   | 57.15 | 3 <sup>5</sup> / <sub>8</sub>   | 92.07  |
| .9   | .0354 | 33 | 1.299 | 66 | 2.598 | 99  | 3.897 | .009   | .229   | .9                              | 22.860 | 2.3                             | 58.42 | 3 <sup>11</sup> / <sub>16</sub> | 93.66  |
| 1  | .0394 | 34 | 1.338 | 67 | 2.638 | 100 | 3.937 | .010   | .254   | <sup>15</sup> / <sub>16</sub>   | 23.812 | 2 <sup>5</sup> / <sub>16</sub>  | 58.74 | 3.7                             | 93.98  |
| 2  | .0787 | 35 | 1.378 | 68 | 2.677 | 101 | 3.976 | <sup>1</sup> / <sub>64</sub>                   | .397   | 1                               | 25.40  | 2 <sup>3</sup> / <sub>8</sub>   | 60.32 | 3 <sup>3</sup> / <sub>4</sub>   | 95.25  |
| 3  | .1181 | 36 | 1.417 | 69 | 2.716 | 102 | 4.016 | .020   | .508   | 1 <sup>1</sup> / <sub>16</sub>  | 26.99  | 2.4                             | 60.96 | 3.8                             | 96.52  |
| 4  | .1575 | 37 | 1.456 | 70 | 2.756 | 103 | 4.055 | .030   | .762   | 1.1                             | 27.94  | 2 <sup>7</sup> / <sub>16</sub>  | 61.91 | 3 <sup>13</sup> / <sub>16</sub> | 96.84  |
| 5  | .1968 | 38 | 1.496 | 71 | 2.795 | 104 | 4.094 | <sup>1</sup> / <sub>32</sub>                   | .794   | 1 <sup>1</sup> / <sub>8</sub>   | 28.57  | 2 <sup>1</sup> / <sub>2</sub>   | 63.50 | 3 <sup>7</sup> / <sub>8</sub>   | 98.42  |
| 6  | .2362 | 39 | 1.535 | 72 | 2.834 | 105 | 4.134 | .040   | 1.016  | 1 <sup>3</sup> / <sub>16</sub>  | 30.16  | 2 <sup>9</sup> / <sub>16</sub>  | 65.09 | 3.9                             | 99.06  |
| 7  | .2756 | 40 | 1.575 | 73 | 2.874 | 106 | 4.173 | .050   | 1.270  | 1.2                             | 30.48  | 2.6                             | 66.04 | 3 <sup>15</sup> / <sub>16</sub> | 100.01 |
| 8  | .3149 | 41 | 1.614 | 74 | 2.913 | 107 | 4.212 | .060   | 1.524  | 1 <sup>1</sup> / <sub>4</sub>   | 31.75  | 2 <sup>5</sup> / <sub>8</sub>   | 66.67 | 4                               | 101.6  |
| 9  | .3543 | 42 | 1.653 | 75 | 2.953 | 108 | 4.252 | <sup>1</sup> / <sub>16</sub>                   | 1.588  | 1.3                             | 33.02  | 2 <sup>11</sup> / <sub>16</sub> | 68.26 | 4 <sup>1</sup> / <sub>16</sub>  | 102.19 |
| 10   | .3937 | 43 | 1.693 | 76 | 2.992 | 109 | 4.291 | .070   | 1.778  | 1 <sup>5</sup> / <sub>16</sub>  | 33.34  | 2.7                             | 68.58 | 4.1                             | 104.14 |
| 11   | .4331 | 44 | 1.732 | 77 | 3.031 | 110 | 4.331 | .080   | 2.032  | 1 <sup>3</sup> / <sub>8</sub>   | 34.92  | 2 <sup>3</sup> / <sub>4</sub>   | 69.85 | 4 <sup>1</sup> / <sub>8</sub>   | 104.77 |
| 12   | .4724 | 45 | 1.772 | 78 | 3.071 | 111 | 4.370 | .090   | 2.286  | 1.4                             | 35.56  | 2.8                             | 71.12 | 4 <sup>3</sup> / <sub>16</sub>  | 106.36 |
| 13   | .5118 | 46 | 1.811 | 79 | 3.110 | 112 | 4.409 | .1   | 2.540  | 1 <sup>7</sup> / <sub>16</sub>  | 36.51  | 2 <sup>13</sup> / <sub>16</sub> | 71.44 | 4.2                             | 106.68 |
| 14   | .5512 | 47 | 1.850 | 80 | 3.149 | 113 | 4.449 | <sup>1</sup> / <sub>8</sub>                    | 3.175  | 1 <sup>1</sup> / <sub>2</sub>   | 38.10  | 2 <sup>7</sup> / <sub>8</sub>   | 73.02 | 4 <sup>1</sup> / <sub>4</sub>   | 107.95 |
| 15   | .5905 | 48 | 1.890 | 81 | 3.189 | 114 | 4.488 | <sup>3</sup> / <sub>16</sub>                   | 4.762  | 1 <sup>9</sup> / <sub>16</sub>  | 39.69  | 2.9                             | 73.66 | 4.3                             | 109.22 |
| 16   | .6299 | 49 | 1.929 | 82 | 3.228 | 115 | 4.527 | .2   | 5.080  | 1.6                             | 40.64  | 2 <sup>15</sup> / <sub>16</sub> | 74.61 | 4 <sup>5</sup> / <sub>16</sub>  | 109.54 |
| 17   | .6693 | 50 | 1.968 | 83 | 3.268 | 116 | 4.567 | <sup>1</sup> / <sub>4</sub>                    | 6.350  | 1 <sup>5</sup> / <sub>8</sub>   | 41.27  | 3                               | 76.20 | 4 <sup>3</sup> / <sub>8</sub>   | 111.12 |
| 18   | .7086 | 51 | 2.008 | 84 | 3.307 | 117 | 4.606 | .3   | 7.620  | 1 <sup>11</sup> / <sub>16</sub> | 42.86  | 3 <sup>1</sup> / <sub>16</sub>  | 77.79 | 4.4                             | 111.76 |
| 19   | .7480 | 52 | 2.047 | 85 | 3.346 | 118 | 4.645 | <sup>5</sup> / <sub>16</sub>                   | 7.938  | 1.7                             | 43.18  | 3.1                             | 78.74 | 4 <sup>7</sup> / <sub>16</sub>  | 112.71 |
| 20   | .7874 | 53 | 2.086 | 86 | 3.386 | 119 | 4.685 | <sup>3</sup> / <sub>8</sub>                    | 9.525  | 1 <sup>3</sup> / <sub>4</sub>   | 44.45  | 3 <sup>1</sup> / <sub>8</sub>   | 79.37 | 4 <sup>1</sup> / <sub>2</sub>   | 114.30 |
| 21   | .8268 | 54 | 2.126 | 87 | 3.425 | 120 | 4.724 | .4   | 10.160 | 1.8                             | 45.72  | 3 <sup>3</sup> / <sub>16</sub>  | 80.96 | 4 <sup>9</sup> / <sub>16</sub>  | 115.89 |
| 22   | .8661 | 55 | 2.165 | 88 | 3.464 | 121 | 4.764 | <sup>7</sup> / <sub>16</sub>                   | 11.112 | 1 <sup>13</sup> / <sub>16</sub> | 46.04  | 3.2                             | 81.28 | 4.6                             | 116.84 |
| 23   | .9055 | 56 | 2.205 | 89 | 3.504 | 122 | 4.803 | <sup>1</sup> / <sub>2</sub>                    | 12.700 | 1 <sup>7</sup> / <sub>8</sub>   | 47.62  | 3 <sup>1</sup> / <sub>4</sub>   | 82.55 | 4 <sup>5</sup> / <sub>8</sub>   | 117.47 |
| 24   | .9449 | 57 | 2.244 | 90 | 3.543 | 123 | 4.842 | <sup>9</sup> / <sub>16</sub>                   | 14.288 | 1.9                             | 48.26  | 3.3                             | 83.82 | 4 <sup>11</sup> / <sub>16</sub> | 119.06 |










Torque specifications for specific components are listed in each section at the point of use. When converting to Newton-meters, use the formulas given under the metric chart. For all other steel fasteners, use the values listed in one of the tables below. In the English table, torque figures are listed in ft-lbs, except those marked with an asterisk (\*), which are listed in **in-lbs**. In the metric table, figures are listed in Newton-meters.

### ⚠ WARNING








The quality fasteners used on Buell motorcycles have specific strength, finish and type requirements to perform properly in the assembly and the operating environment. Use only genuine Buell replacement fasteners tightened to the proper torque. Substitution could cause fastener failure, which could result in death or serious injury.

## English Torque Values

| FASTENER  | TYPE             | MINIMUM TENSILE STRENGTH | MATERIAL                      | BODY SIZE OR OUTSIDE DIAMETER   |   |   |   |    |     |     |  |              |      |     |      |     |      |     |     |
|---|------------------|--------------------------|-------------------------------|---|---|---|---|----|-----|-----|--|--------------|------|-----|------|-----|------|-----|-----|
|   |                  |                          |                               | # (number)  |   |   |   |    |     |     |  | in. (inches) |      |     |      |     |      |     |     |
|   |                  |                          |                               | 2   | 3 | 4 | 5 | 6  | 8   | 10  |  | 1/4          | 5/16 | 3/8 | 7/16 | 1/2 | 9/16 | 5/8 | 3/4 |
|    | SAE 2 STEEL      | 74,000 PSI               | LOW CARBON                    |   |   |   |   |    |     |     |  | 6            | 12   | 20  | 32   | 47  | 69   | 96  | 155 |
|    | SAE 5 STEEL      | 120,000 PSI              | MEDIUM CARBON HEAT TREAT      |   |   |   |   |    | 14* | 22* |  | 10           | 19   | 33  | 54   | 78  | 114  | 154 | 257 |
|    | SAE 7 STEEL      | 133,000 PSI              | MEDIUM CARBON ALLOY           |   |   |   |   |    |     |     |  | 13           | 25   | 44  | 71   | 110 | 154  | 215 | 360 |
|    | SAE 8 STEEL      | 150,000 PSI              | MEDIUM CARBON ALLOY           |   |   |   |   |    |     |     |  | 14           | 29   | 47  | 78   | 119 | 169  | 230 | 380 |
|   | SAE 8 STEEL      | 150,000 PSI              | MEDIUM CARBON ALLOY           |   |   |   |   |    |     |     |  | 14           | 29   | 47  | 78   | 119 | 169  | 230 | 380 |
|  | SOCKET SET SCREW | 212,000 PSI              | HIGH CARBON QUENCHED TEMPERED |   |   |   |   | 9* | 16* | 30* |  | 70*          | 140* | 18  | 29   | 43  | 63   | 100 | 146 |
|  | STUDS            |                          |                               | Use SAE 2, 5 and 8 values when grade is known, with nut of sufficient strength. |   |   |   |    |     |     |  |              |      |     |      |     |      |     |     |

\*Torque values in **in-lbs**.

## Metric Torque Values

| FASTENER  | TYPE             | MINIMUM TENSILE STRENGTH  | MATERIAL                      | BODY SIZE OR OUTSIDE DIAMETER   |   |   |   |     |     |     |  |                  |      |      |       |       |       |       |       |
|---|------------------|---------------------------|-------------------------------|---|---|---|---|-----|-----|-----|--|------------------|------|------|-------|-------|-------|-------|-------|
|   |                  |                           |                               | # (number)  |   |   |   |     |     |     |  | mm (millimeters) |      |      |       |       |       |       |       |
|   |                  |                           |                               | 2   | 3 | 4 | 5 | 6   | 8   | 10  |  | 6.4              | 7.9  | 9.5  | 11.1  | 12.7  | 14.3  | 15.9  | 19.1  |
|  | SAE 2 STEEL      | 5,202 kg/cm <sup>2</sup>  | LOW CARBON                    |   |   |   |   |     |     |     |  | 8.3              | 16.6 | 27.7 | 44.3  | 65.0  | 95.4  | 132.8 | 214.4 |
|  | SAE 5 STEEL      | 8,436 kg/cm <sup>2</sup>  | MEDIUM CARBON HEAT TREAT      |   |   |   |   |     | 1.6 | 2.5 |  | 13.8             | 26.3 | 45.6 | 74.7  | 107.9 | 157.7 | 213.0 | 355.4 |
|  | SAE 7 STEEL      | 9,350 kg/cm <sup>2</sup>  | MEDIUM CARBON ALLOY           |   |   |   |   |     |     |     |  | 18.0             | 34.6 | 60.8 | 98.2  | 152.1 | 213.0 | 297.3 | 497.9 |
|  | SAE 8 STEEL      | 10,545 kg/cm <sup>2</sup> | MEDIUM CARBON ALLOY           |   |   |   |   |     |     |     |  | 19.4             | 40.1 | 65.0 | 107.9 | 164.6 | 233.7 | 318.1 | 525.5 |
|  | SAE 8 STEEL      | 10,545 kg/cm <sup>2</sup> | MEDIUM CARBON ALLOY           |   |   |   |   |     |     |     |  | 19.4             | 40.1 | 65.0 | 107.9 | 164.6 | 233.7 | 318.1 | 525.5 |
|  | SOCKET SET SCREW | 14,904 kg/cm <sup>2</sup> | HIGH CARBON QUENCHED TEMPERED |   |   |   |   | 1.0 | 1.8 | 3.4 |  | 8.1              | 16.1 | 24.9 | 40.1  | 59.5  | 87.1  | 138.3 | 201.9 |
|  | STUDS            |                           |                               | Use SAE 2, 5 and 8 values when grade is known, with nut of sufficient strength. |   |   |   |     |     |     |  |                  |      |      |       |       |       |       |       |

foot-pounds (ft-lbs) x 1.356 = Newton-meters (Nm)

inch-pounds (in-lbs) x 0.113 = Newton-meters (Nm)