

Appendix C Units Conversions

Metric Conversion Table

| ORIGINAL VALUE | DESIRED VALUE | | | | | | | |
|----------------|---------------|------|-------|------|-------|-------|-------|------------|
| | Mega | Kilo | Units | Deci | Centi | Milli | Micro | Micromicro |
| Mega | ← 3 | 3 → | 6 → | 7 → | 8 → | 9 → | 12 → | 18 → |
| Kilo | ← 3 | | 3 → | 4 → | 5 → | 6 → | 9 → | 15 → |
| Units | ← 6 | ← 3 | | 1 → | 2 → | 3 → | 6 → | 12 → |
| Deci | ← 7 | ← 4 | ← 1 | | 1 → | 2 → | 5 → | 11 → |
| Centi | ← 8 | ← 5 | ← 2 | ← 1 | | 1 → | 4 → | 10 → |
| Milli | ← 9 | ← 6 | ← 3 | ← 2 | ← 1 | | 3 → | 9 → |
| Micro | ← 12 | ← 9 | ← 6 | ← 5 | ← 4 | ← 3 | | 6 → |
| Micromicro | ← 18 | ← 15 | ← 12 | ← 11 | ← 10 | ← 9 | ← 6 | |

The above metric conversion table provides a fast and automatic means of conversion from one metric notation to another. The notation "Unit" represents the basic units of measurement, such as amperes, volts, ohms, watts, cycles, meters, grams, etc. To use **table k (b-1)**, first locate the original or given value in the left-hand column. Now follow this line horizontally to the vertical column headed by the prefix of the desired value. The figure and arrow at this point indicates number of places and direction decimal point is to be moved.

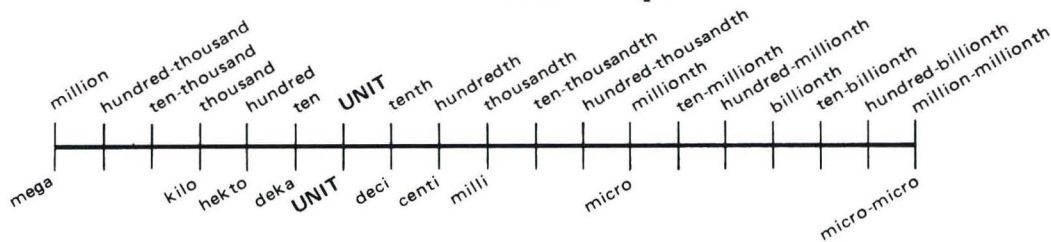
Example: Convert 0.15 ampere to milliamperes. Starting at the "Units" box in the left-hand column (since ampere is a basic unit of measurement), move horizontally to the column headed by the prefix "Milli", and read 3 →. Thus 0.15 ampere is the equivalent of 150 milliamperes.

METRIC EQUIVALENTS

| LENGTH | | | |
|--------------|---|-----------|--------------------|
| 1 centimeter | .3937 inches | 1 inch | 2.5400 centimeters |
| 1 meter | 3.2800 feet | 1 foot | .3048 meters |
| 1 meter | 1.0940 yards | 1 yard | .9144 meters |
| 1 kilometer | .6210 miles | 1 mile | 1.6100 kilometers |
| AREA | | | |
| 1 sq. cm. | .1550 sq. in. | 1 sq. in. | 6.4500 sq. cm. |
| 1 sq. meter | 10.7600 sq. ft. | 1 sq. ft. | .0929 sq. meters |
| 1 sq. meter | 1.1960 sq. yd. | 1 sq. yd. | .8360 sq. meters |
| 1 sq. kilo. | .3860 sq. miles | 1 sq. mi. | 2.5900 sq. kilo. |
| VOLUME | | | |
| 1 cubic cm. | .0610 cu. in. | 1 cu. in. | 16.3800 cu. cm. |
| 1 cubic m. | 35.3150 cu. ft. | 1 cu. ft. | .0280 cu. m. |
| 1 cubic m. | 1.3080 cu. yds. | 1 cu. yd. | .7645 cu. m. |
| CAPACITY | | | |
| 1 liter | .0353 cu. ft. | 1 cu. ft. | 28.3200 liters |
| 1 liter | .2643 gal. | 1 gallon | 3.7850 liters |
| 1 liter | 61.0230 cu. in. | 1 cu. in. | .0164 liters |
| 1 liter | 2.2020 lbs. of fresh water at 62 degrees F. | | |

table k (b-5)

Metric Relationships



graph k (b-3)

Graph k (b-3) above, shows the relation between the American and the metric systems of notation.

Example: Convert 5.0 milliwatts to watts. Place the finger on milli and count the number of steps from there to units (since the term watt is a basic unit). The number of steps so

counted is three, and the direction was to the left. Therefore, 5.0 milliwatts is the equivalent of .005 watts.

Example: Convert 0.00035 microfarads to micro-microfarads. Here the number of steps counted will be size to the right. Therefore 0.00035 microfarads is the equivalent of 350 micro-microfarads.

NUMERICAL CONVERSION TABLE

| INCHES INTO MILLIMETERS | | | | | | | |
|-------------------------|--------|-------|--------|-----|-------|-----|--------|
| 1 inch = 25.40005 mm. | | | | | | | |
| in. | mm. | in. | mm. | in. | mm. | in. | mm. |
| 1/64 | 0.397 | 1-1/2 | 38.10 | 15 | 381.0 | 36 | 914.4 |
| 1/32 | 0.794 | 1-3/4 | 44.45 | 16 | 406.4 | 38 | 965.2 |
| 3/64 | 1.191 | 2 | 50.80 | 17 | 431.8 | 40 | 1016.0 |
| 1/16 | 1.588 | 2-1/2 | 63.50 | 18 | 457.2 | 42 | 1067.0 |
| 3/32 | 2.381 | 3 | 76.20 | 19 | 482.6 | 44 | 1118.0 |
| 1/8 | 3.175 | 3-1/2 | 88.90 | 20 | 508.0 | 46 | 1168.0 |
| 5/32 | 3.969 | 4 | 101.60 | 21 | 533.4 | 48 | 1219.0 |
| 3/16 | 4.763 | 4-1/2 | 114.30 | 22 | 558.8 | 50 | 1270.0 |
| 1/4 | 6.350 | 5 | 127.00 | 23 | 584.2 | 55 | 1397.0 |
| 5/16 | 7.938 | 6 | 152.40 | 24 | 609.6 | 60 | 1524.0 |
| 3/8 | 9.525 | 7 | 177.80 | 25 | 635.0 | 65 | 1651.0 |
| 7/16 | 11.110 | 8 | 203.20 | 26 | 660.4 | 70 | 1778.0 |
| 1/2 | 12.700 | 9 | 228.60 | 27 | 685.8 | 75 | 1905.0 |
| 5/8 | 15.880 | 10 | 254.00 | 28 | 711.2 | 80 | 2032.0 |
| 3/4 | 19.050 | 11 | 279.40 | 29 | 736.6 | 85 | 2159.0 |
| 7/8 | 22.230 | 12 | 304.80 | 30 | 762.0 | 90 | 2286.0 |
| 1 | 25.400 | 13 | 330.20 | 32 | 812.8 | 95 | 2413.0 |
| 1-1/4 | 31.750 | 14 | 355.60 | 34 | 863.6 | 100 | 2540.0 |

| SQUARE IN. INTO SQUARE CM. | | | | | | | |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|
| 1 sq. in. = 6.45163 sq. cm. | | | | | | | |
| sq. in. | sq. cm. | sq. in. | sq. cm. | sq. in. | sq. cm. | sq. in. | sq. cm. |
| 1/4 | 1.613 | 7 | 45.16 | 45 | 290.3 | 200 | 1290 |
| 1/2 | 3.226 | 8 | 51.61 | 50 | 322.6 | 250 | 1613 |
| 3/4 | 4.839 | 9 | 58.06 | 55 | 354.8 | 300 | 1935 |
| 1 | 6.452 | 10 | 64.52 | 60 | 387.1 | 350 | 2258 |
| 1-1/2 | 9.677 | 12 | 77.42 | 65 | 419.4 | 400 | 2581 |
| 2 | 12.900 | 14 | 90.32 | 70 | 451.6 | 450 | 2903 |
| 2-1/2 | 16.130 | 16 | 103.20 | 75 | 483.9 | 500 | 3226 |
| 3 | 19.350 | 18 | 116.10 | 80 | 516.1 | 600 | 3871 |
| 3-1/2 | 22.580 | 20 | 129.00 | 85 | 548.4 | 700 | 4516 |
| 4 | 25.810 | 25 | 161.30 | 90 | 580.6 | 800 | 5161 |
| 4-1/2 | 29.030 | 30 | 193.50 | 95 | 612.9 | 900 | 5806 |
| 5 | 32.260 | 35 | 225.80 | 100 | 645.2 | 1000 | 6452 |
| 6 | 38.710 | 40 | 258.10 | 150 | 967.7 | | |

| GALLONS* INTO LITERS | | | | | | | |
|---------------------------|--------|------|--------|--|--------|------|--------|
| 1 liter = 0.2641775 gal.* | | | | *U.S. liquid gallon (231 in. ³). | | | |
| gal. | liters | gal. | liters | gal. | liters | gal. | liters |
| 1 | 3.785 | 10 | 37.85 | 90 | 340.7 | 300 | 1136 |
| 2 | 7.571 | 20 | 75.71 | 100 | 378.5 | 400 | 1514 |
| 3 | 11.360 | 30 | 113.60 | 120 | 454.2 | 500 | 1893 |
| 4 | 15.140 | 40 | 151.40 | 140 | 529.9 | 600 | 2271 |
| 5 | 18.930 | 50 | 189.30 | 160 | 605.7 | 700 | 2650 |
| 6 | 22.710 | 60 | 227.10 | 180 | 681.4 | 800 | 3028 |
| 7 | 26.500 | 70 | 265.00 | 200 | 757.1 | 900 | 3407 |
| 8 | 30.280 | 80 | 302.80 | 250 | 946.3 | 1000 | 3785 |
| 9 | 34.070 | | | | | | |

| CUBIC FEET INTO GALLONS* | | | | | | | |
|---------------------------|--------|---------|--------|--|--------|---------|------|
| 1 cu. ft. = 7.48052 gal.* | | | | *U.S. liquid gallon (231 in. ³). | | | |
| cu. ft. | gal. | cu. ft. | gal. | cu. ft. | gal. | cu. ft. | gal. |
| 1 | 7.481 | 10 | 74.81 | 90 | 673.2 | 300 | 2244 |
| 2 | 14.960 | 20 | 149.60 | 100 | 748.1 | 400 | 2992 |
| 3 | 22.440 | 30 | 224.40 | 120 | 897.7 | 500 | 3740 |
| 4 | 29.920 | 40 | 299.20 | 140 | 1047.0 | 600 | 4488 |
| 5 | 37.400 | 50 | 374.00 | 160 | 1197.0 | 700 | 5236 |
| 6 | 44.880 | 60 | 448.80 | 180 | 1346.0 | 800 | 5984 |
| 7 | 52.360 | 70 | 523.60 | 200 | 1496.0 | 900 | 6732 |
| 8 | 59.840 | 80 | 598.40 | 250 | 1870.0 | 1000 | 7481 |
| 9 | 67.320 | | | | | | |

| MILLIMETERS INTO INCHES | | | | | | | |
|-------------------------|-------|-----|-------|-----|--------|-------|--------|
| 1 mm. = 0.03937000 in. | | | | | | | |
| mm. | in. | mm. | in. | mm. | in. | mm. | in. |
| 1 | 0.039 | 28 | 1.102 | 130 | 5.118 | 750 | 29.53 |
| 2 | 0.079 | 30 | 1.181 | 140 | 5.512 | 800 | 31.50 |
| 3 | 0.118 | 35 | 1.378 | 150 | 5.906 | 850 | 33.46 |
| 4 | 0.158 | 40 | 1.575 | 160 | 6.299 | 900 | 35.43 |
| 5 | 0.197 | 45 | 1.772 | 170 | 6.693 | 950 | 37.40 |
| 6 | 0.236 | 50 | 1.969 | 180 | 7.087 | 1000 | 39.37 |
| 7 | 0.276 | 55 | 2.165 | 190 | 7.480 | 1250 | 49.21 |
| 8 | 0.315 | 60 | 2.362 | 200 | 7.874 | 1500 | 59.05 |
| 9 | 0.354 | 65 | 2.559 | 250 | 9.842 | 1750 | 68.90 |
| 10 | 0.394 | 70 | 2.756 | 300 | 11.810 | 2000 | 78.74 |
| 12 | 0.472 | 75 | 2.953 | 350 | 13.780 | 2500 | 98.43 |
| 14 | 0.551 | 80 | 3.150 | 400 | 15.750 | 3000 | 118.10 |
| 16 | 0.630 | 85 | 3.346 | 450 | 17.720 | 3500 | 137.80 |
| 18 | 0.709 | 90 | 3.543 | 500 | 19.690 | 4000 | 157.50 |
| 20 | 0.787 | 95 | 3.740 | 550 | 21.650 | 4500 | 177.20 |
| 22 | 0.866 | 100 | 3.937 | 600 | 23.620 | 5000 | 196.90 |
| 24 | 0.945 | 110 | 4.331 | 650 | 25.590 | 7500 | 295.30 |
| 26 | 1.024 | 120 | 4.724 | 700 | 27.560 | 10000 | 393.70 |

| SQUARE CM. INTO SQUARE IN. | | | | | | | |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|
| 1 sq. cm. = 0.155000 sq. in. | | | | | | | |
| sq. cm. | sq. in. | sq. cm. | sq. in. | sq. cm. | sq. in. | sq. cm. | sq. in. |
| 1 | 0.155 | 18 | 2.790 | 80 | 12.40 | 600 | 93.0 |
| 2 | 0.310 | 20 | 3.100 | 85 | 13.18 | 700 | 108.5 |
| 3 | 0.465 | 25 | 3.875 | 90 | 13.95 | 800 | 124.0 |
| 4 | 0.620 | 30 | 4.650 | 95 | 14.73 | 900 | 139.5 |
| 5 | 0.775 | 35 | 5.425 | 100 | 15.50 | 1000 | 155.0 |
| 6 | 0.930 | 40 | 6.200 | 150 | 23.25 | 1500 | 232.5 |
| 7 | 1.085 | 45 | 6.975 | 200 | 31.00 | 2000 | 310.0 |
| 8 | 1.240 | 50 | 7.750 | 250 | 38.75 | 2500 | 387.5 |
| 9 | 1.395 | 55 | 8.525 | 300 | 46.50 | 3000 | 465.0 |
| 10 | 1.550 | 60 | 9.300 | 350 | 54.25 | 3500 | 542.5 |
| 12 | 1.860 | 65 | 10.080 | 400 | 62.00 | 4000 | 620.0 |
| 14 | 2.170 | 70 | 10.850 | 450 | 69.75 | 5000 | 775.0 |
| 16 | 2.480 | 75 | 11.630 | 500 | 77.50 | | |

| LITERS INTO GALLONS* | | | | | | | |
|--------------------------|-------|--------|--------|--|--------|--------|--------|
| 1 gal.* = 3.785334 liter | | | | *U.S. liquid gallon (231 in. ³). | | | |
| liters | gal. | liters | gal. | liters | gal. | liters | gal. |
| 1 | 0.264 | 10 | 2.642 | 250 | 66.04 | 1000 | 264.2 |
| 2 | 0.528 | 20 | 5.284 | 300 | 79.25 | 2000 | 528.4 |
| 3 | 0.793 | 30 | 7.925 | 400 | 105.70 | 3000 | 792.5 |
| 4 | 1.057 | 40 | 10.570 | 500 | 132.10 | 4000 | 1057.0 |
| 5 | 1.321 | 50 | 13.210 | 600 | 158.50 | 5000 | 1321.0 |
| 6 | 1.585 | 100 | 26.420 | 700 | 184.90 | 6000 | 1585.0 |
| 7 | 1.849 | 150 | 39.630 | 800 | 211.30 | 8000 | 2113.0 |
| 8 | 2.113 | 200 | 52.840 | 900 | 237.80 | 10000 | 2642.0 |
| 9 | 2.378 | | | | | | |

| GALLONS* INTO CUBIC FEET | | | | | | | |
|----------------------------|---------|------|---------|--|---------|-------|---------|
| 1 gal.* = 0.133685 cu. ft. | | | | *U.S. liquid gallon (231 in. ³). | | | |
| gal. | cu. ft. | gal. | cu. ft. | gal. | cu. ft. | gal. | cu. ft. |
| 1 | 0.134 | 10 | 1.337 | 250 | 33.42 | 1000 | 133.7 |
| 2 | 0.267 | 20 | 2.674 | 300 | 40.11 | 2000 | 267.4 |
| 3 | 0.401 | 30 | 4.011 | 400 | 53.47 | 3000 | 401.1 |
| 4 | 0.535 | 40 | 5.347 | 500 | 66.84 | 4000 | 534.7 |
| 5 | 0.668 | 50 | 6.684 | 600 | 80.21 | 5000 | 668.4 |
| 6 | 0.802 | 100 | 13.370 | 700 | 93.58 | 6000 | 802.1 |
| 7 | 0.934 | 150 | 20.050 | 800 | 106.90 | 8000 | 1069.0 |
| 8 | 1.069 | 200 | 26.740 | 900 | 120.30 | 10000 | 1337.0 |
| 9 | 1.203 | | | | | | |

table k (b-3)

References on the following page.

formulas, graphs & tables continued

| FEET PER SEC. INTO METERS PER SEC. | | | | | | | |
|--|---------|----------|---------|----------|---------|----------|---------|
| 1 ft. per sec. = 0.3048006 m. per sec. | | | | | | | |
| ft./sec. | m./sec. | ft./sec. | m./sec. | ft./sec. | m./sec. | ft./sec. | m./sec. |
| 1 | 0.305 | 9 | 2.743 | 24 | 7.315 | 50 | 15.24 |
| 2 | 0.610 | 10 | 3.048 | 26 | 7.925 | 60 | 18.29 |
| 3 | 0.914 | 12 | 3.658 | 28 | 8.534 | 70 | 21.34 |
| 4 | 1.219 | 14 | 4.267 | 30 | 9.144 | 75 | 22.86 |
| 5 | 1.524 | 16 | 4.877 | 35 | 10.670 | 80 | 24.38 |
| 6 | 1.829 | 18 | 5.486 | 40 | 12.190 | 90 | 27.43 |
| 7 | 2.134 | 20 | 6.096 | 45 | 13.720 | 100 | 30.48 |
| 8 | 2.438 | 22 | 6.706 | | | | |

| POUNDS* INTO KILOGRAMS | | | | | | | |
|-------------------------|-------|-----|--------|--------------|-------|-------|--------|
| 1 lb.* = 0.45359243 kg. | | | | *Avoirdupois | | | |
| lb. | kg. | lb. | kg. | lb. | kg. | lb. | kg. |
| 1 | 0.454 | 10 | 4.536 | 250 | 113.4 | 1000 | 453.6 |
| 2 | 0.907 | 20 | 9.072 | 300 | 136.1 | 2000 | 907.2 |
| 3 | 1.361 | 30 | 13.610 | 400 | 181.4 | 3000 | 1361.0 |
| 4 | 1.814 | 40 | 18.140 | 500 | 226.8 | 4000 | 1814.0 |
| 5 | 2.268 | 50 | 22.680 | 600 | 272.2 | 5000 | 2268.0 |
| 6 | 2.722 | 100 | 45.360 | 700 | 317.5 | 6000 | 2722.0 |
| 7 | 3.175 | 150 | 68.040 | 800 | 362.9 | 8000 | 3629.0 |
| 8 | 3.629 | 200 | 90.720 | 900 | 408.2 | 10000 | 4536.0 |
| 9 | 4.082 | | | | | | |

| POUNDS PER SQ. IN. INTO KG. PER SQ. CM. | | | | | | | |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1 lb. per sq. in. = 0.070307 kg. per cm. ² | | | | | | | |
| lb./in. ² | kg./cm. ² | lb./in. ² | kg./cm. ² | lb./in. ² | kg./cm. ² | lb./in. ² | kg./cm. ² |
| 1 | 0.070 | 20 | 1.406 | 140 | 9.843 | 600 | 42.18 |
| 2 | 0.141 | 30 | 2.109 | 160 | 11.250 | 700 | 49.21 |
| 3 | 0.211 | 40 | 2.812 | 180 | 12.660 | 800 | 56.25 |
| 4 | 0.281 | 50 | 3.515 | 200 | 14.060 | 900 | 63.28 |
| 5 | 0.352 | 60 | 4.218 | 250 | 17.580 | 1000 | 70.31 |
| 6 | 0.422 | 70 | 4.921 | 300 | 21.090 | 2500 | 175.80 |
| 7 | 0.492 | 80 | 5.625 | 350 | 24.610 | 5000 | 351.50 |
| 8 | 0.562 | 90 | 6.328 | 400 | 28.120 | 7500 | 527.30 |
| 9 | 0.633 | 100 | 7.031 | 450 | 31.640 | 10000 | 703.10 |
| 10 | 0.703 | 120 | 8.437 | 500 | 35.150 | | |

| HORSEPOWER INTO KW. | | | | | | | |
|----------------------------|-------|-----|--------|-----|-------|-----|-------|
| 1 horsepower = 0.74571 kw. | | | | | | | |
| hp. | kw. | hp. | kw. | hp. | kw. | hp. | kw. |
| 1 | 0.746 | 9 | 6.711 | 24 | 17.90 | 50 | 37.29 |
| 2 | 1.491 | 10 | 7.457 | 26 | 19.39 | 60 | 44.74 |
| 3 | 2.237 | 12 | 8.948 | 28 | 20.88 | 70 | 52.20 |
| 4 | 2.983 | 14 | 10.440 | 30 | 22.37 | 75 | 55.93 |
| 5 | 3.729 | 16 | 11.930 | 35 | 26.10 | 80 | 59.66 |
| 6 | 4.474 | 18 | 13.420 | 40 | 29.83 | 90 | 67.11 |
| 7 | 5.220 | 20 | 14.910 | 45 | 33.56 | 100 | 74.57 |
| 8 | 5.966 | 22 | 16.410 | | | | |

| METERS PER SEC. INTO FEET PER SEC. | | | | | | | |
|---------------------------------------|----------|---------|----------|---------|----------|---------|----------|
| 1 m. per sec. = 3.280833 ft. per sec. | | | | | | | |
| m./sec. | ft./sec. | m./sec. | ft./sec. | m./sec. | ft./sec. | m./sec. | ft./sec. |
| 0.5 | 1.640 | 8 | 26.25 | 16 | 52.49 | 26 | 85.30 |
| 1 | 3.281 | 9 | 29.53 | 17 | 55.77 | 28 | 91.86 |
| 2 | 6.562 | 10 | 32.81 | 18 | 59.05 | 30 | 98.42 |
| 3 | 9.842 | 11 | 36.09 | 19 | 62.34 | 35 | 114.80 |
| 4 | 13.120 | 12 | 39.37 | 20 | 65.62 | 40 | 131.20 |
| 5 | 16.400 | 13 | 42.65 | 22 | 72.18 | 45 | 147.60 |
| 6 | 19.680 | 14 | 45.93 | 24 | 78.74 | 50 | 164.00 |
| 7 | 22.970 | 15 | 49.21 | | | | |

| KILOGRAMS INTO POUNDS* | | | | | | | |
|------------------------|--------|-----|--------|--------------|-------|------|--------|
| 1 kg. = 2.2046223 lb.* | | | | *Avoirdupois | | | |
| kg. | lb. | kg. | lb. | kg. | lb. | kg. | lb. |
| 1 | 2.205 | 10 | 22.05 | 90 | 198.4 | 300 | 661.4 |
| 2 | 4.409 | 20 | 44.09 | 100 | 220.5 | 400 | 881.8 |
| 3 | 6.614 | 30 | 66.14 | 120 | 264.5 | 500 | 1102.0 |
| 4 | 8.818 | 40 | 88.18 | 140 | 308.6 | 600 | 1323.0 |
| 5 | 11.020 | 50 | 110.20 | 160 | 352.7 | 700 | 1543.0 |
| 6 | 13.230 | 60 | 132.30 | 180 | 396.8 | 800 | 1764.0 |
| 7 | 15.430 | 70 | 154.30 | 200 | 440.9 | 900 | 1984.0 |
| 8 | 17.640 | 80 | 176.40 | 250 | 551.2 | 1000 | 2205.0 |
| 9 | 19.840 | | | | | | |

| KG. PER SQ. CM. INTO POUNDS PER SQ. IN. | | | | | | | |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1 kg. per cm. ² = 14.2233 lb. per sq. in. | | | | | | | |
| kg./cm. ² | lb./in. ² | kg./cm. ² | lb./in. ² | kg./cm. ² | lb./in. ² | kg./cm. ² | lb./in. ² |
| 0.25 | 3.556 | 8 | 113.8 | 35 | 497.8 | 85 | 1209 |
| 0.50 | 7.112 | 9 | 128.0 | 40 | 568.9 | 90 | 1280 |
| 0.75 | 10.670 | 10 | 142.2 | 45 | 640.0 | 95 | 1351 |
| 1 | 14.220 | 12 | 170.7 | 50 | 711.2 | 100 | 1422 |
| 2 | 28.450 | 14 | 199.1 | 55 | 782.3 | 200 | 2845 |
| 3 | 42.670 | 16 | 227.6 | 60 | 853.4 | 300 | 4267 |
| 4 | 56.890 | 18 | 256.0 | 65 | 924.5 | 400 | 5689 |
| 5 | 71.120 | 20 | 284.5 | 70 | 995.6 | 500 | 7112 |
| 6 | 85.340 | 25 | 355.6 | 75 | 1067.0 | 600 | 8534 |
| 7 | 99.560 | 30 | 426.7 | 80 | 1138.0 | | |

| KW. INTO HORSEPOWER | | | | | | | |
|---------------------|--------|-----|-------|-----|-------|-----|--------|
| 1 kw. = 1.3410 hp. | | | | | | | |
| kw. | hp. | kw. | hp. | kw. | hp. | kw. | hp. |
| 1 | 1.341 | 9 | 12.07 | 24 | 32.18 | 50 | 67.05 |
| 2 | 2.682 | 10 | 13.41 | 26 | 34.87 | 60 | 80.46 |
| 3 | 4.023 | 12 | 16.09 | 28 | 37.55 | 70 | 93.87 |
| 4 | 5.364 | 14 | 18.77 | 30 | 40.23 | 75 | 100.60 |
| 5 | 6.705 | 16 | 21.46 | 35 | 46.94 | 80 | 107.30 |
| 6 | 8.046 | 18 | 24.14 | 40 | 53.64 | 90 | 120.70 |
| 7 | 9.387 | 20 | 26.82 | 45 | 60.35 | 100 | 134.10 |
| 8 | 10.730 | 22 | 29.50 | | | | |

table k (b-4)

- Pressure { One atmosphere = 14.70 lb. per sq. in.
 One lb. per sq. in. = 0.06804 atmosphere
 One cm. mercury = 0.1934 lb. per sq. in.
 One in. mercury = 0.4912 lb. per sq. in.
 One meter water * = 1.421 lb. per sq. in.
 One foot water * = 0.4332 lb. per sq. in.
- Density { One lb. per cu. in. = 27.68 gram per cu. cm.
 One gram per cu. cm. = 0.03613 lb. per cu. in.

- Energy or Work { One British Thermal Unit = 777.52 ft. lb.
 One kilogram calorie = 3086 ft. lb.
 One foot lb. = 0.1383 kg. m.
 One kg. m. = 7.233 ft. lb.
- Length { One mile (statute) = 1.609 kilometer
 One kilometer = 0.6214 mile
 One mile (statute) = 5280 ft.

* 15°C and g = 32.1740 ft. per sec. per sec.

TEMPERATURE CONVERSION TABLE

| -60 to 43 | | | 44 to 93 | | | 94 to 510 | | |
|-----------|-----|-------|----------|----|-------|-----------|-----|-------|
| °C | °F | | °C | °F | | °C | °F | |
| -51 | -60 | -76 | 6.7 | 44 | 111.2 | 34.4 | 94 | 201.2 |
| -46 | -50 | -58 | 7.2 | 45 | 113.0 | 35.0 | 95 | 203.0 |
| -40 | -40 | -40 | 7.8 | 46 | 114.3 | 35.6 | 96 | 204.8 |
| -34 | -30 | -22 | 8.3 | 47 | 116.6 | 36.1 | 97 | 206.6 |
| -29 | -20 | - 4 | 8.9 | 48 | 118.4 | 36.7 | 98 | 208.4 |
| -23 | -10 | 14 | 9.4 | 49 | 120.2 | 37.2 | 99 | 210.2 |
| -17.8 | 0 | 32 | 10.0 | 50 | 122.0 | 37.8 | 100 | 212.0 |
| -17.2 | 1 | 33.8 | 10.6 | 51 | 123.8 | 38 | 100 | 212 |
| -16.7 | 2 | 35.6 | 11.1 | 52 | 125.6 | 43 | 110 | 230 |
| -16.1 | 3 | 37.4 | 11.7 | 53 | 127.4 | 49 | 120 | 248 |
| -15.6 | 4 | 39.2 | 12.2 | 54 | 129.2 | 54 | 130 | 266 |
| -15.0 | 5 | 41.0 | 12.8 | 55 | 131.0 | 60 | 140 | 284 |
| -14.4 | 6 | 42.8 | 13.3 | 56 | 132.8 | 66 | 150 | 302 |
| -13.9 | 7 | 44.6 | 13.9 | 57 | 134.6 | 71 | 160 | 320 |
| -13.3 | 8 | 46.4 | 13.4 | 58 | 136.4 | 77 | 170 | 338 |
| -12.8 | 9 | 48.2 | 15.0 | 59 | 138.2 | 82 | 180 | 356 |
| -12.2 | 10 | 50.0 | 15.6 | 60 | 140.0 | 88 | 190 | 374 |
| -11.7 | 11 | 51.8 | 16.1 | 61 | 141.8 | 93 | 200 | 392 |
| -11.1 | 12 | 53.6 | 16.7 | 62 | 143.6 | 99 | 210 | 410 |
| -10.6 | 13 | 55.4 | 17.2 | 63 | 145.4 | 100 | 212 | 413.6 |
| -10.0 | 14 | 57.2 | 17.8 | 64 | 147.2 | 104 | 220 | 428 |
| - 9.4 | 15 | 59.0 | 18.3 | 65 | 149.0 | 110 | 230 | 446 |
| - 8.9 | 16 | 60.8 | 18.9 | 66 | 150.8 | 116 | 240 | 464 |
| - 8.3 | 17 | 62.6 | 19.4 | 67 | 152.6 | 121 | 250 | 482 |
| - 7.8 | 18 | 64.4 | 20.0 | 68 | 154.4 | 127 | 260 | 500 |
| - 7.2 | 19 | 66.2 | 20.6 | 69 | 156.2 | 132 | 270 | 518 |
| - 6.7 | 20 | 68.0 | 21.1 | 70 | 158.0 | 138 | 280 | 536 |
| - 6.1 | 21 | 69.8 | 21.7 | 71 | 159.8 | 143 | 290 | 554 |
| - 5.6 | 22 | 71.6 | 22.2 | 72 | 161.6 | 149 | 300 | 572 |
| - 5.0 | 23 | 73.4 | 22.8 | 73 | 163.4 | 154 | 310 | 590 |
| - 4.4 | 24 | 75.2 | 23.3 | 74 | 165.2 | 160 | 320 | 608 |
| - 3.9 | 25 | 77.0 | 23.9 | 75 | 167.0 | 166 | 330 | 626 |
| - 3.3 | 26 | 78.8 | 24.4 | 76 | 168.8 | 171 | 340 | 644 |
| - 2.8 | 27 | 80.6 | 25.0 | 77 | 170.6 | 177 | 350 | 662 |
| - 2.3 | 28 | 82.4 | 25.6 | 78 | 172.4 | 182 | 360 | 680 |
| - 1.7 | 29 | 84.2 | 26.1 | 79 | 174.3 | 188 | 370 | 698 |
| - 1.1 | 30 | 86.0 | 26.7 | 80 | 176.0 | 193 | 380 | 716 |
| - 0.6 | 31 | 87.8 | 27.2 | 81 | 177.8 | 199 | 390 | 734 |
| 0.0 | 32 | 89.6 | 27.8 | 82 | 179.6 | 204 | 400 | 752 |
| 0.6 | 33 | 91.4 | 28.3 | 83 | 181.4 | 210 | 410 | 770 |
| 1.1 | 34 | 93.2 | 28.9 | 84 | 183.2 | 216 | 420 | 788 |
| 1.7 | 35 | 95.0 | 28.4 | 85 | 185.0 | 221 | 430 | 806 |
| 2.2 | 36 | 96.8 | 30.0 | 86 | 186.8 | 227 | 440 | 824 |
| 2.8 | 37 | 98.6 | 30.6 | 87 | 188.6 | 232 | 450 | 842 |
| 3.3 | 38 | 100.4 | 31.1 | 88 | 190.4 | 238 | 460 | 860 |
| 3.9 | 39 | 102.2 | 31.7 | 89 | 192.2 | 243 | 470 | 878 |
| 4.4 | 40 | 104.0 | 32.2 | 90 | 194.0 | 249 | 480 | 896 |
| 5.0 | 41 | 105.8 | 32.8 | 91 | 195.8 | 254 | 490 | 914 |
| 5.6 | 42 | 107.6 | 33.3 | 92 | 197.6 | 260 | 500 | 932 |
| 6.1 | 43 | 109.4 | 33.9 | 93 | 199.4 | 266 | 510 | 950 |

LOOK UP READING IN MIDDLE COLUMN
FIND °C AT LEFT OR °F AT RIGHT

table k (b-6)