



HOW TO USE CHART OF GEAR RATIOS, TIRE SIZES & CRANKSHAFT REVOLUTIONS PER MINUTE

Given the miles per hour, gear ratio, and tire sizes and the revolutions of a crankshaft per minute: For illustration, suppose the car is traveling at 80 miles per hour with 34-inch tires and a gear ratio of 1.5 to 1. From the figure 80 move right to the intersection of the gear ratio line designed as 1.5. From this point move up to the diagonal of 34 inches. From this point move right to the margin where the revolutions of the crankshaft speed per minute are shown; 1200 in this case. Given the crankshaft revolutions per minute, the tire diameters and miles per hour, find the gear ratio. Supposing the motor is turning over at 1000 revolutions per minute, that 42-inch tires are used, and the car is traveling at 50 miles per hour. Go left from the 1000 on the right margin until the intersection of the 42-inch tire size line. From this point go up to the intersection of the 50 mile per hour horizontal line. The intersection of this line also cuts the gear ratio of the 2.7 line, which is the gear ratio employed.

Given crankshaft revolutions per minute, size of tires and gear ratio, in order to find miles per hour, proceed as follows: Go left from crankshaft speed - say 1000 revolutions per minute - to tire size - say 28 inch. From this point go up or down to intersection of gear ratio line - say 1.5. Then go left to 55 miles per hour. If we have given crankshaft speed in revolutions per minute, miles per hour and gear ratio, the tire sizes may be obtained by going left from crankshaft speed to the intersection of the gear ratio line and thence up or down to the miles per hour, which point will mark the intersection of the required tire diameter.

Chart from *Automobile Repairing Made Easy* (1917) by Victor W. Page.