



Wheel Size Basics

There are many things to consider when picking out a set of wheels (or also referred to as rims) for your vehicle. Factors such as style, finish and detailing can influence which wheel you decide to put on your vehicle. However, the most important factor is choosing the right fitment. Wheels need to be compatible with your vehicle and tire selection, regardless of style preferences. This leads us to explain what “wheel size” is and how each dimension is important to consider.

WHEEL DIAMETER, WIDTH, BOLT PATTERN AND OFFSET

The main dimensions of a wheel are the diameter, width, bolt pattern and offset. All of these individual dimensions come together to form the wheel size. Installing the right wheel for your specific vehicle will be based on these dimensions. But what do each of these measurements mean?

For simplicity, we will work with an example wheel size of:

✓ 16x7 4-100 40

- Wheel Diameter - 16"

Feedback

- Wheel Width - 7"
- Wheel Bolt Pattern - 4-100
- Wheel Offset - +40mm

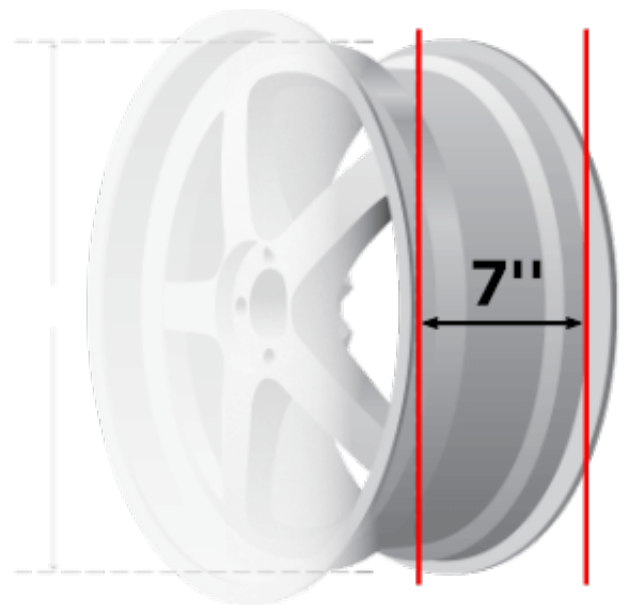
WHEEL DIAMETER

The wheel diameter in this example is **16"**. The definition of wheel diameter is the distance, in inches, measured across the face of the wheel, from bead seat to bead seat. As depicted in the diagram, you will notice the measurement stops at the bead seat and is not measured the full face of the wheel. Only wheels and tires of the same diameter can be safely mounted together; meaning you can only mount a 16" tire on a 16" wheel. The wheel diameter can also be found on the back side of the wheel, usually stamped behind one of the spokes. Wheel diameters can vary most commonly from 13" up to 24" (and even higher for specialized low profile fitments).



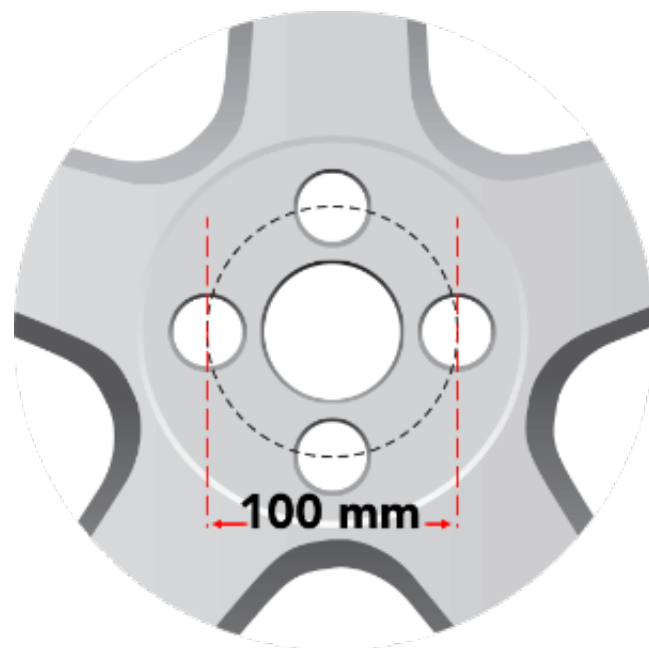
WHEEL WIDTH

[Wheel width](#) is the distance, in inches, from bead seat to bead seat across the barrel of the wheel. The width of the wheel in this example is **7 inches**. As depicted in the diagram, you will notice the measurement stops at the bead seat and is not measured by the full width of the wheel. The wheel width can have a direct effect on a tire's [contact patch](#) (the part of the tire in direct contact with the road) if you decide to change to a wider/narrower wheel option. By varying the width of the wheel, it will either enlarge or shrink your tire's contact patch, leading to changes in your vehicle's handling characteristics. Wheel widths can vary most commonly from 6" up to 14" wide.



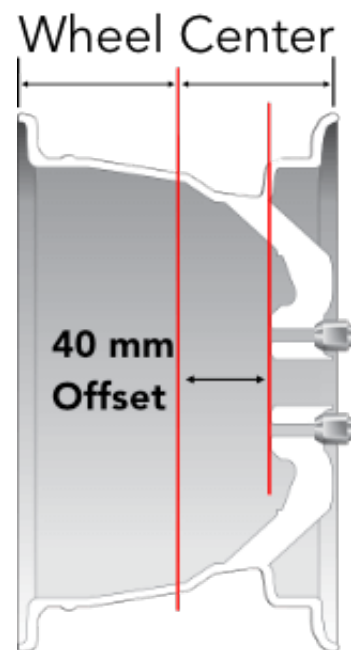
WHEEL BOLT PATTERN

The **bolt pattern**, in our example **4-100**, is made up of two measurements. The first number, **4**, indicates the number of lug holes in the wheel. The second number, **100**, indicates the distance in millimeters from one hole to another, across the face of the wheel. It is common for the second number in a bolt pattern to either be displayed in inches or millimeters. A wheel's bolt pattern **must** exactly match the bolt pattern of the vehicle it is being mounted on. There are different types of bolt patterns most commonly from 4,5,6 and 8 lug patterns.



WHEEL OFFSET

Wheel offset is the distance in millimeters from the mounting surface of the wheel and the wheel's centerline. In our example, the wheel offset is positive **40 mm**; meaning the mounting surface is 40mm away from the centerline of the wheel. Having the right offset is essential to making sure the wheel fitment does not cause any rubbing issues with brakes, fenders or suspension components. The offset determines where the wheel and tire assembly sit in relation to the vehicle fender and suspension. There are different types of offsets; positive, zero and negative.



All of these measurements are very important in determining whether or not a particular wheel will fit your vehicle. It is also critical to ensure that the wheel and tire are of a compatible width and of the same diameter.

If you have any questions or require any assistance, stop by any of our Discount Tire locations and we'll get you taken care of!

For more information on this and other tire and wheel services, check out our [YouTube Channel](#) or reach out to us on [Twitter](#), [Facebook](#) and [Instagram](#).