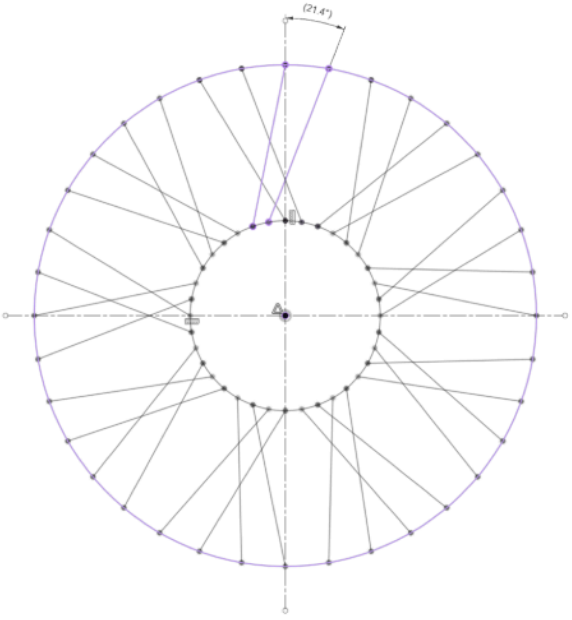
Why Rim Drilling Is Important

We are often asked to supply spokes for customers who have bought a pre drilled rim which they want to use with our Comstar Conversion Flanges. We always reply that whilst we can calculate the spoke lengths if you supply some rim information we can't guarantee the integrity of the wheel.

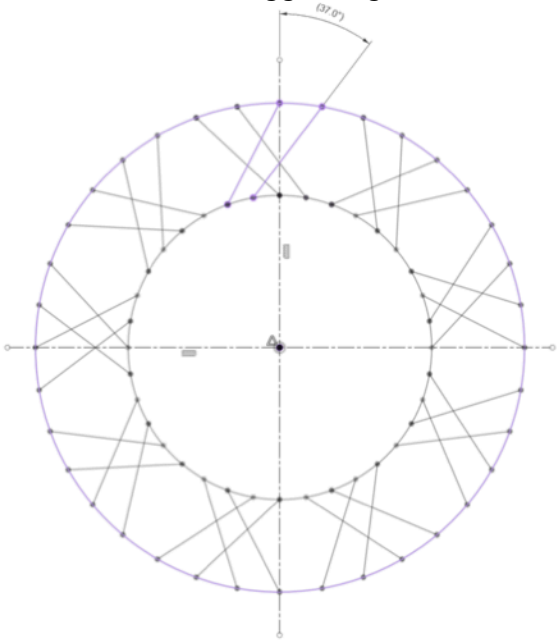
The reason for our reply is that rims should always be drilled to match the dimensions of the hub they are to be fitted onto. If you look at the two images below you can see how the angle where the spoke meets the rim will change if the hub is larger or smaller.

Smaller Angle



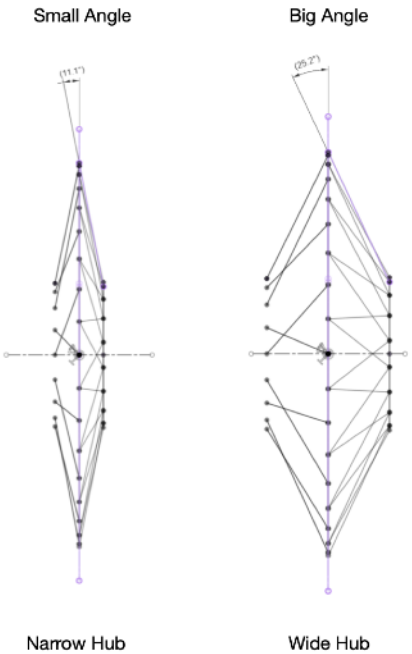
Smaller Hub

Bigger Angle



Bigger Hub

This change in angle will also occur in the other plane of the wheel. If the spoke flanges are far apart the angle will increase.



If there is a mismatch of the rim and hub the spokes will try to follow the angle of the rim holes when the wheel is tensioned. This will lead to bending of the spokes and make the wheel much harder to run true. The wheel will be weaker due to bending forces on the spokes and more likely to buckle if subject to shock loads.

Here you can see an example of this problem.