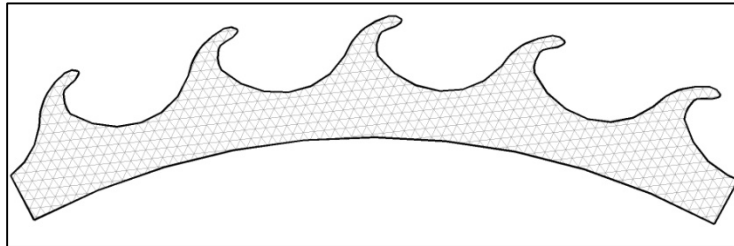


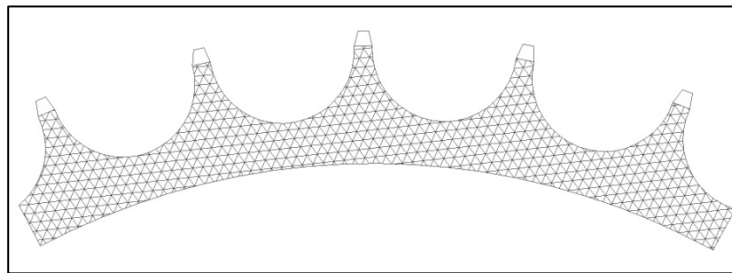
SPROCKET WEAR

By Ed Bargo

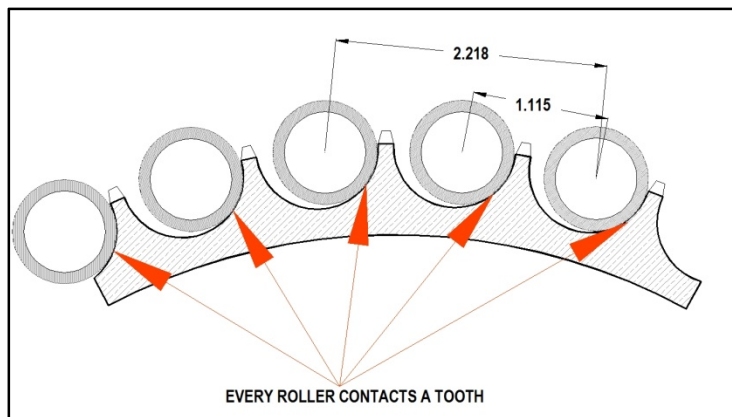
I see a lot of posts on social media about excessive sprocket wear. It will show a badly damaged sprocket. Then, they would go on and blame the sprocket because it was aluminum instead of steel. The sprocket would look like this.



Well I've been building and racing bikes for several decades. I don't have any problems with aluminum sprockets. But I tend to keep the chain & sprockets in good shape. Looking at this damage I would not blame the sprocket, I would blame a stretched and worn out chain. A bad chain will ruin a good sprocket and a bad sprocket will ruin a good chain. A good sprocket should look like this.



Here's how a chain works. A good un-stretched chain will look like the chain & sprocket shown here. A good chain will have several rollers in contact with the teeth of the sprocket. So the load of acceleration is spread over several teeth. Notice the distance from one roller to the next.



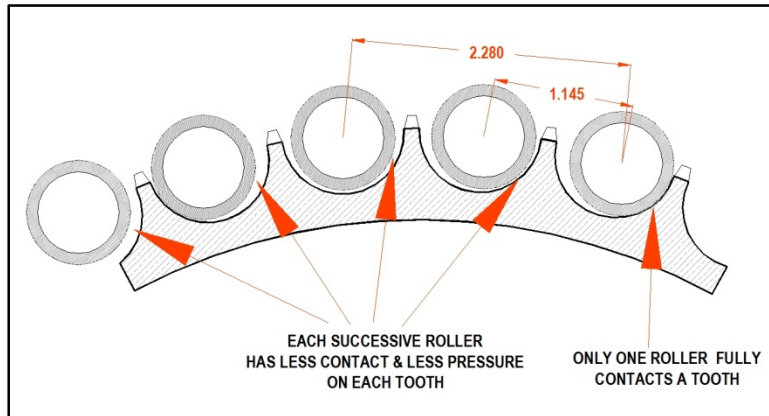
(This diagram is not of any specific chain size but, all drawings are of the same scale.)

SPROCKET WEAR

By Ed Bargy

As a chain wears out and stretches the length of between each roller like gets slightly longer. What happens then is the first chain roller contacts the tooth but each successive roller will have slightly less pressure and contact with the tooth. When the chain is stretched enough you will end up with only one roller contacting at any moment.

The result is all the HP of the engine is concentrated on a single tooth and a single roller.



With that kind of stress any sprocket will wear and fail prematurely. Similar to what is shown in this diagram below.

