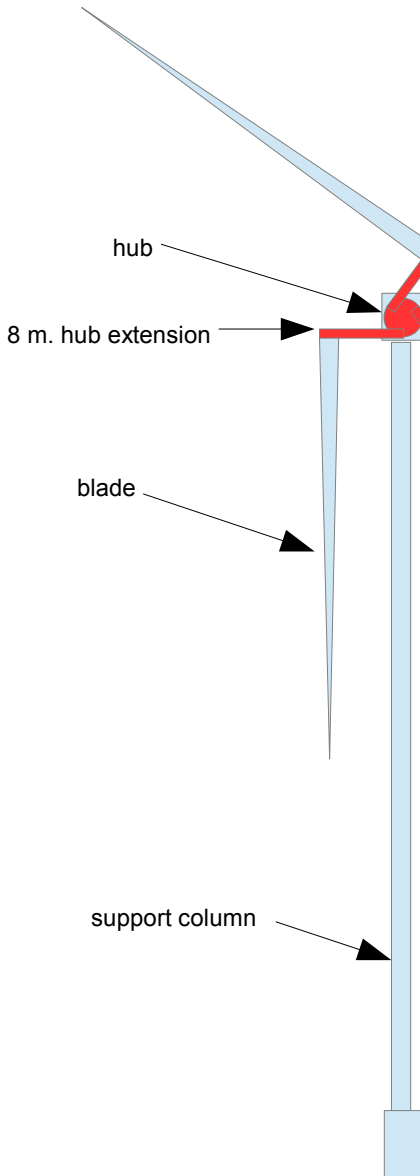


# Pulse Eliminator Hub Extensions for Industrial Wind Turbines (IWTs)

Michael West, June 1, 2021



Note: The 8 meter hub extension is attached (or formed) at the exact same attachment point as the original blade attachment. The extension is at a 90 degree angle to the original blade orientation. The blade attaches to the bottom side of the hub extension, so that the blade is essentially relocated 8 meters to the left of its original position, if it were lined up with the supporting column. The optimum hub extension length should be tested, perhaps using an adjustable extension.

This modification changes the angle of the blade relative to the supporting column when the blade passes it, stretching out the time of inter-action between the two parts, and eliminating the very low frequency pulse events.

This hub extension will reduce vibration throughout the IWT machine, extending blade life and eliminating the low frequency pulse events from the atmosphere. It will also allow the machine to operate in higher winds without much vibration, increasing electricity production. A rotating wing can also be installed on the hub extension to increase lift and electricity production further.



**Left:** IWT without the Pulse Eliminator hub extensions. Wind is blowing toward camera. IWT is rotating counter-clockwise in this view.

**Right:** IWT with the Pulse Eliminator hub extensions.