



**Subject:** Snowmobile and ATV Belt Dimensions

**April 17, 2009**

The snowmobile and ATV drive belt dimensions provided by Carlisle are for reference only. These dimensions should not be used to determine product functionality. Carlisle belts are built to exacting specifications and inspected with calibrated equipment to assure strict dimensional compliance. Belt dimensions can vary from one manufacturer to another based on proprietary design information.

Outside circumference and top width have traditionally been published. However, these dimensions can be more misleading than helpful. Proper fit and performance depend on the thickness of the belt, the bottom width, angle, etc. Carlisle typically does not size a belt based on outside circumference so thickness differences from the OEM belt may lead to a different outside circumference on the Ultimax belt. Carlisle measures the effective length, center distance and ride-out on precision measuring equipment to produce a consistent high quality product.

Rubber manufacturing processes do have some variation. Carlisle belts are manufactured to tight tolerances – the same tolerances demanded by the sled and bike manufacturers. Carlisle measures belts on precisely machined inspection pulleys on a computer controlled inspection machine. Two main measurements are made during this process. The first is the distance between the pulley centers at the proper tension or “center distance”. This defines the length of the belt. The second is the ride out or ride position in the pulley.

The top width of the belt is directly related to the ride out of the belt. The projected top width is what counts. The projected top width is where the side walls intersect the top of the belt. (see drawing below) If the belt had perfectly sharp corners, it would be the measured top width. However, every belt manufacturer trims the top corners of the belt, resulting in a top width that is less than the projected width. The purpose of this trim is to keep the top of the belt from catching on the clutch and being ripped off. Trimming the corners has no effect on the ride position (ride out) of the belt. It does however increase the life and performance of the belt. The projected top width is a “design” dimension that belt manufacturers publish, but is not the same as the measured width.

A **CARLISLE** Company

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The corner trim operation is unlike other cutting and manufacturing processes that are tightly controlled. The only purpose of the trim is to remove the flashing. Cutting .020" or .050" accomplishes the same thing with no effect whatsoever on belt performance. Controlling this operation precisely would add cost in manufacturing and deliver no benefit. Because of this variation, measuring the top width can give the mistaken impression that top width variation is greater than actual.

The next time you measure the top width of a belt or compare the width of one belt to another, realize that this is a rough measurement and the real comparison should be how the belt fits on the machine.

