

This is how Prime-Tracker work compared with other designs.

Over the last 5 years I have spent time and energy to understand why so many belt trackers do not work properly and tend to destroy themselves. The simple answer is that many trackers slide over the belt and cause abrasion instead of a rolling motion. Compare with a car. If the car moves straight ahead, tires rotate. No sliding no abrasion. Turn the wheel and the angle to road changes and car move in new direction. Still wheel rotates no sliding.

The object of my design work has been to create a belt tracker that steer the belt and let the tracker roll in an idling position.

Below a picture from Kinder AU web page.

It is a picture of a Trutrak installed on the top side of the return strand. There is a major difference in diameter between central part and edges of the tracker. We all know that a smaller diameter has lower peripheral speed than a larger diameter on the same shaft.

The rotational speed is decided by the central part of the tracker. The speed is forced upon the edges. The edges brake and are worn away quicker than central part. It is like running a car with brakes partly working.

When belt start to misalign, the load will be higher on one edge and abrasion and sliding also higher.



Compare with V-belt transmission. You can change speed of rotation by choosing another diameter of your pulley.

Compare with the pulley below. You can choose any speed of V-belt depending on diameter of choice.

All sheaves on same shaft.

This is how a gearbox, variator or bicycle gear work.

A belt tracker with different diameters is a disgrace to the engineer who carried out the design.



In other words, the roll edges are forced to rotate faster than the contact with the belt require.

A belt tracker with two diameters try to rotate with 2 speeds at the same time. This is not possible, and result is a position in between with sliding and abrasion of both tracker and belt.

The tracker is not idling.

Belt tracker is making it's job taking belt back to the straight line.

In center position tracker must go idling until misalignment appear and then steer back to idling position.

Basic for belt tracking is that tracker must rotate freely, idling. When misalignment appear, the tracker goes into action and steer the belt back.

A tracker with more than 1 diameter is doomed to fail.

Therefore Prime-Tracker is cylindric and pivot point is a specially developed rubber bush with almost infinite life time.

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