

WP0184

**Dodge® HT500 synchronous belts: handling**

Dodge Customer/Order Engineering

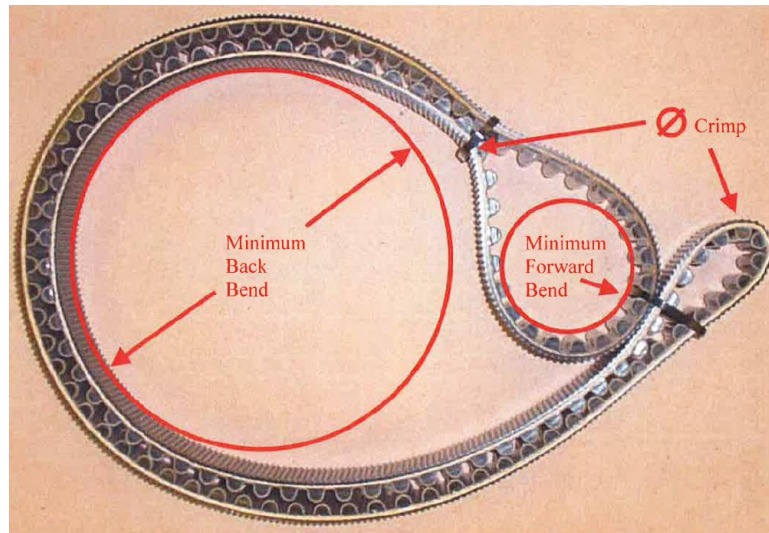
04-02-2016



HT500 belts use advanced materials which help achieve superior torque capacity needed for high performance applications. The belt backing is made from polyurethane which gives it maximum resistance to environmental conditions like oil, grease and high temperatures. Carbon fiber cords are used to provide superior tension and torque transmission capability and help to prevent belt shrinkage and stretch. The belt teeth are covered in nylon fabric which provides improved resistance to abrasion and tooth shear, resulting in longer belt and sprocket life.

However, improper handling of HT500 belts any time before, or during, installation can reduce the service life of the belt dramatically. As mentioned above, the tensile cords (carbon fiber) are designed to carry high torque in tension, but can be damaged when put in compression. While handling HT500 belts, care should be taken to avoid aggressive bending and twisting.

Bending, both forward and reverse, can damage the carbon cords, significantly reducing the capacity and life of the belt. Excessive bending can lead to crimping of the belt, which leads to a permanent set to form in the belt. The belt takes the shape of a fish head. **Figure 1** illustrates forward and reverse bending, as well as crimping.



**Figure 1. Belt Bending**

Care should be taken to always limit forward and reverse bending to the minimum diameter values shown in **Table 1**.

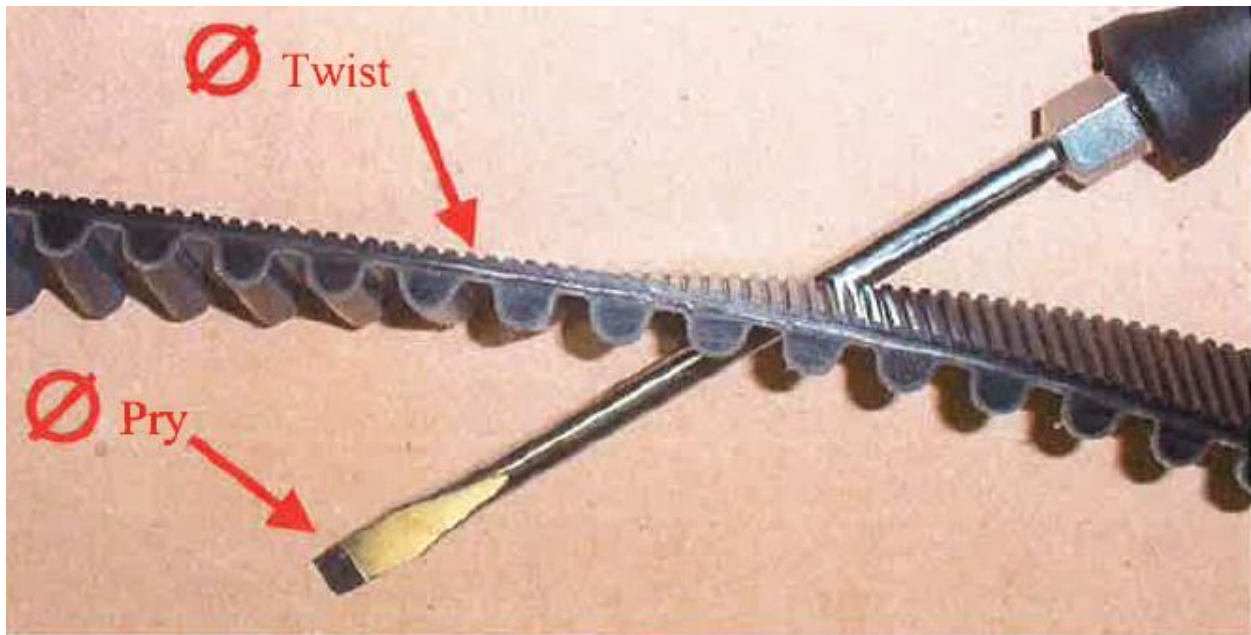
Belt Pitch	Min. Forward Diameter	Min. Reverse Diameter
8M	3	5
14M	4	10

**Table 1. Minimum Bend Diameters**

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Twisting of the belt can lead to excessive tension across parts of the belt, resulting in damage to the tensile cords and premature failure. Never twist, or pry, the belt during installation as shown in **Figure 2** below. Always adjust the sprocket center distance to allow for installation of the belt.



**Figure 2.** Improper Installation

Dodge HT500 belts are constructed of advanced materials to handle the most demanding of applications. Proper handling both before and during installation will guarantee maximum belt life and minimize downtime.

For any questions please contact us on phone# 864-284-5700 or e mails us at [DodgeEngineering@abb.com](mailto:DodgeEngineering@abb.com).

Pictures courtesy of Gates Rubber Company.

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