



Super HC® Vs. Super HC® Molded Notch Static Tensioning Requirements PA NOTE

We have recently had several questions from the Field regarding the static tension requirements for Super HC® Molded Notch (formerly Quad-Power) versus the banded Super HC® V-Belts. Specifically we are referring to Table No. 44 on page 93 of the Heavy Duty V-Belt Drive Design Catalog, 14995-A (Super HC®) and the table on page 4 of the Quad-Power V-Belt Design Data Supplement, 12255 (Super HC® Molded Notch). Users have asked why the Super HC® Molded Notch V-Belts require higher static tensions than currently recommended for Super HC®. [Page 163 of 14995-A, 1/95] While the tables reflect this, it is not necessarily so in all cases. Let's review.

Generally the Super HC® Molded Notch V-belts carry a higher horsepower rating than the Super HC®. Consequently they require a higher static tension per belt in order to transmit those higher horsepower ratings, relative to the Super HC®. Please review Formula 6 on page 94 of the Heavy Duty V-Belt Drive Design Catalog, #14995-A. [Page 164 of 14995-A, 1/95] Note that the static tension as calculated by that formula is related directly to the Design Horsepower (which relates directly back to the horsepower rating per belt). Consequently if a belt drive has been designed using the published higher horsepower ratings for the Super HC® Molded Notch V-belt, then the static tensions must be correspondingly higher.

Also remember the rules on Per Belt and Total tension. As the horsepower ratings go up and you use fewer belts, then the PER BELT tension increases. However TOTAL tension is a function of the application (Design HP, Belt Speed and Factor G) so it remains unchanged until any one of these conditions of the application change. So, PER BELT tension is the tension that changes with horsepower rating. Fewer number of belts - same TOTAL tension - therefore PER BELT tension must increase. Review this PA Note, understand it, use it and you can clear up the misunderstandings involving this change from Super HC® to Super HC® Molded Notch.

If the Super HC® Molded Notch V-belts are simply being used to replace Super HC® V-belts on an older drive, then these higher static tensions are not required. It is assumed that the older drive was originally designed using the lower Super HC® horsepower ratings and the V-belts can be tensioned using the lower Super HC® static tension values.

One word of caution on this matter. If a customer is totally replacing an older Super HC® drive (including both V-belt and sheaves) he may have reduced the number of belts by taking advantage of the higher horsepower ratings for Super HC® Molded Notch. If this is the case, he would have to use the higher Super HC® Molded Notch static tension values.