



CVT Belt Tech Tips

Tech Tip #1: Belt Deflection (Tension)

Belt deflection is very critical for proper clutch performance. If your deflection is too tight, the belt will burn on the clutch hub and you will lose top end. If the belt is too loose, it will allow the primary clutch to up-shift faster than the secondary clutch causing a low end bog and poor performance.

To check your belt deflection, you will need a straight edge and a tape measure. Normally you want your belt to stick out of the secondary clutch 1/16" - 1/8" if possible. Lay a straight edge on the belt and measure the distance between the straight edge and the belt between the two clutches. Lightly press down on the belt to remove any slack. Most machines use a spec of 1 1/8" to 1 1/4" of belt deflection. If you measure less than 1 1/8", your belt is too tight. If you measure more than 1 1/4" your belt is too loose. This procedure should be shown in your owners or service manual.

Factory specs are: Polaris 1 1/4", Arctic Cat 1 1/8"-1 1/4", and Ski-Doo 1 1/4".

Look at your manuals to see how to adjust belt deflection. Anytime you change your belt, your deflection can change. Remember, when you put on a new belt, it will stretch after awhile and the deflection will need to be reset.

Tech Tip #2: Cleaning your clutches

Keeping your clutches clean will help improve your performance and save wear and tear on your clutches. Lightly sand your clutch sheaves (faces) with fine sand paper or emery cloth. The direction you must sand is from the center out to the edge. Work your way around both sheaves.

DO NOT sand any grooves into the clutch sheaves.

Sanding the sheaves will remove belt residue and give the belt a better surface to grip. Once you are done sanding, blow off any sanding dust from both clutches. Take contact or brake cleaner and clean the entire clutch EXCEPT for the bushings. Do not use contact cleaner on any of the clutch bushings. Choose a contact cleaner that does not leave an oily film when it dries. Wipe the bushings off with a clean, dry cloth.

Remember, the clutches are considered a dry part. No oil or grease is required. The inside hub of the helix is the only area where a small amount of grease may be applied.

Clean your clutches every time you have them apart and/or several times a season.

Tech Tip #3: How Over-Sized Tires Affect Clutching

Oversized tires have a lot of benefits, such as better traction and performance and greater ground clearance. The down fall to these tires is loss in power, throttle response, and increased belt slippage.

Usually, oversized tires weigh more than the stock tires the machine is set up for. It will take more power to turn the extra weight. This is where it helps to use lighter weight rims.

Most oversized tires will offer more aggressive tread, which will make it harder for the motor to turn the tires. Even if the tires and rims are lighter than your stock tires, they will still start out in a higher gear ratio due to the taller tire. With the extra weight, traction, and height there is an increased strain on the clutch system causing belt slippage.

The good news is your clutches can be adjusted to help compensate for oversized tires. An EPI Big Foot Clutch Kit is specially designed for machines with larger, more aggressive tires. This kit will grip your belt better, give you better backshift and throttle response, and more low-end and midrange power. These kits work great and allow you to get the most out of your machine.

Tech Tip #4: ATV Clutch Heat

Several different things can cause your clutches to over heat and cause poor performance and/or part failure. These problems can show up on any brand with automatic belt driven transmissions. The three most common causes are belt slippage, plugged vent lines, and homemade snorkel kits.

When the clutches slip the belt, this will cause extra heat in the belt and clutches and a loss in performance. Belt slippage can happen when the clutches are over worked. Pulling heavy loads, larger tires, using high range in extreme conditions, improper clutch set up and incorrect belt deflection can cause belt slippage. Clutch kits are available through EPI to help fix some these problems. Other problems be can fixed by changing riding styles, using low range in extreme conditions, and proper maintenance.

Another over looked cause of clutch heat is plugged vent lines. Grass, dirt, mud, and mice can get into some of the vent lines for your clutch housings. This causes heat to build up and does not let the cool air in. Mice can build nests that block the vent line when machines are stored for any amount of time. The clutch system will then run hot and eventually over heat. Whenever any clutch work is being done be sure to check for any vent line blockage or if you notice extra clutch heat.

Home made snorkel kits or breather kits for clutch housings may keep the water out but also keep the heat in. When using a snorkel kit it is imperative that you maintain adequate ventilation for your clutches. Reduction of diameter, lengthening, incorporating multiple bends, or modifying the vent tube will result in increased heat build up in the clutch housing and damage may occur.