

Today's Auto Repair

with Chip Stewart

- Transmissions and Weather -

The terrific heat wave we've been experiencing here of late got me to thinking about automatic transmissions and transaxles and the effect severe weather can have on them. I suspect most people are aware of the damage that can be inflicted on these units by heat, as in, "Looks like you burned up your transmission!". But, few ever consider the consequences of heavy rains and flooding and that may be a major issue before the end of the season.

No major component of your car can survive indefinitely with the introduction of water into its internal components. All three of the major mechanical components (the engine, transmission and differential) must be vented; in other words, they must have a vent opening to atmospheric pressure to relieve internal pressures. The 'down-side' to that is that under certain conditions outside elements such as water can be introduced which will ultimately have adverse and sometimes catastrophic effects.

The introduction of a limited amount of water into the engine or differential for a relatively short period of time does not necessarily spell disaster. On the other hand, even a cup of water in an automatic transmission almost always results in serious failure and major repair bills. The reason for this is that the friction surfaces (band and clutch linings) are adhered to their metal counterparts with a water-soluble adhesive. When water contacts these linings and adhesives, the friction surfaces deteriorate in a very short time. The result is metal-to-metal application of certain components. This condition always means serious damage to the transmission assembly. To avoid this type of trouble, steer clear of deep puddles. Should you park your car, only to return to find that it is submerged in 16 inches of water or more, do not attempt to start or operate the vehicle. At that point you may have a good chance of avoiding a big repair bill. Call for a tow truck! Have it taken to competent transmission specialists (see "Searching for a Pro" - part 1 & 2). They will evaluate the damage, if any, and, if you're fortunate, draining and servicing the transmission may be all that is necessary. If you are not so lucky, in many cases (depending on the circumstances), your auto insurance coverage may cover part, if not all, of the damage. A transmission professional will be pleased to supply the technical information to your insurance carrier to register a claim.

For off-road vehicles that are likely to be subjected regularly to deep water driving conditions, there are additional precautions that can be taken. Extending vent tubes upward and sealing dust covers are good ideas. Your transmission specialist can discuss those options with you.

Other weather conditions to consider are freezing temperatures and snow. Engaging an automatic transmission when it's very cold can create internal damage - let it warm up for a few minutes. Using the transmission to try to free yourself from a snow bank can destroy a transmission via overheating. Once again, call for a tow truck - a tow is far less expensive than a transmission.

