

Continuously Variable Pains?

All about CVT gearbox – Is it magic or a pain in the wallet region?

In Bangladesh, car owners are a lazy bunch. They like everything to be automated, hence automatic transmissions sell big. But these days you hear a lot about CVT gearboxes. They are like automatics but only different. How? Well, they work by magic. Most people don't know how they do what they do. As a result, there are many myths and headaches resulting from poorly maintained, CVT equipped cars. Let's take a look into what they are, how they work and why they sometimes refuse to work no matter how much you beg your car.

THE DIFFERENCE
Automatic transmissions are like regular manual transmissions. There are a finite number of gears (typically four speeds). As you speed up, the gears shift one after the other without you having to think about it. Each time the gear changes up or down, you feel a jolt. You smile knowing it is working. CVT on the other hand, stands for Continuous Variable Transmission. It has a wider, almost infinite range of gears (or speeds). They are constantly changing in relation to the car's engine speed. What this means is, if you step into a CVT equipped car for the first time, you will feel weird.

HOW DOES IT FEEL?
Like I just said; weird. With a normal automatic, your car accelerates followed by a jolt as the gear moves up, then more acceleration followed by a proportionate rise in engine noise and so on. The jolt brings drama to our slow lives. With a CVT, there is no drama. The car accelerates seamlessly without jolting. Unfortunately, it sounds like it is revving without accelerating much, as if the clutch is slipping and is worn out. This is normal.

EH?
Floor the accelerator in a typical automatic and you feel a surge. Ooh, 'turbo', right? In case of a CVT, flooring the accelerator raises the engine speed to the optimum level but the car starts off not as fast as you'd expect. You get a lot of 'vroom' but the accompanied 'go' is sedated. Then there is a steady, quick increase of speed without any shifts. Some people think this is slower but its actually faster than a similarly powered car with a typical automatic. Some cars offer an electrical simulated 'jerk' so people aren't scared by the apparent smoothness of magic happening.

THAT'S ALL GOOD, RIGHT?
Well, yeah. CVT always keeps the car in its optimum power range, unlike a regular automatic. It's a little whiny but you get better acceleration, better fuel efficiency. Which is why a typical 1.5 Toyota Axio or a Honda Jazz will give you upwards of 10kmpl fuel efficiency.

SO WHAT'S BAD?
It's new tech and many service centres, mechanics and owners are yet to catch up to it. Drivers used to a manual or automatic will think that a CVT is faulty because the engine speeds rise up and down eerily. As stated earlier, in a conventional transmission, this would mean the clutch is slipping. In CVTs however, this is normal. Unfortunately, many mechanics and drivers make the incorrect diagnosis and try to remedy it. Often, they will look into topping up gear oil, sometimes with the wrong kind of oil. And that's how they really kill it. CVT fluid is different than normal ATF (auto transmission fluid). It's like how water and acid are similarly liquid but are completely different. Simply put, CVT will die if you put normal ATF in it. CVT will also die if you put too much oil into it.

SOUNDS SIMPLE BUT HOW TO AVOID KILLING IT?
CVTs do not require regular 'topping' up. Not all CVTs are the same, so they require different type of attention. But the common consensus from most manufacturers is that CVT fluid doesn't need replacement. These fluids are 'made for lifetime of transmission'. Most manufacturers have service intervals such as 30k, 60k, 120k kilometers. At each of these intervals the fluid composition is checked by technicians and refilled at around the 100000 km mark. DHS (Honda dealer in Bangladesh) say their cars are sealed for the lifetime of the transmission. But if you have to service it, replace the old fluid with the proper type, replace the filter and clean the oil pan. Problem is CVT fluid is usually 5-8 times more expensive than ATF; so many people unknowingly just pour in some cheaper ATF.

Another major killer of CVT is the cooling system. Make sure your radiator and coolant is perfect because that system is also part of the transmission cooling. Overheating will cause your CVT oil to deteriorate. This is Bangladesh and it's always on fire. **SO BASICALLY...**
Don't top up the CVT fluid cause you can risk overfilling, which can cause problems followed by a telltale whining sound. There's a way to check the level. Do it when the car is cool so the level is at the right mark.

If you ever have to replace oil, do it only with the proper CVT fluid which is much, much more expensive. Replace filter and clean the oil pan as well. Get it done by a technician who knows what he's doing. Maintain your cooling system with proper coolant servicing.

If you have questions on how not to destroy your car, mail us at shift@thedailystar.net

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Toyota's first generation Noah was an incredible success. Looked like a cow, mechanical and bulletproof to the core, loved by all and found literally everywhere. In case of a breakdown you could hammer them until they started running again. People still look to buy them for their reliability. Its successor was a disappointment to the family, quite literally. The second generation had a reputation for breaking down and being hard to fix. Redesigned, lighter and now with a new engine and transmission, we take a look at Toyota's reiteration of the Noah for the third time around.

The current, third generation of the Noah was introduced in 2007 and then facelifted in 2010 with redesigned lights and a new front end. Two seating options include an 8-seater standard three row or a 7-seater, where the middle row has two individual seats instead of three; they can be rotated to face each other or the back of the car. Our test car was a metallic grey eight seater Noah "G" (borrowed from our friends at Car House), which, despite being a 2010 model, was an early non-facelifted version.

At first sight it appears to have lost some weight, while projectors and winker mirrors retain the presence. The front grille is gargantuan and the trunk door opens at the touch of a button instead of a mechanical handle. Keyless entry and push start seems to be common on all of Toyota's cars now. The spoiler at the back is pleasing to look at, and that seems all there is to talk about a family minivan's looks.

One would generally enter this car without expectations of any sort, as did I. The gauge cluster is centre mounted (which I think has no business there and should really be in front of you), and are brilliantly illuminated with

several tiny analogue screens for the odometer, clock, consumption and such. The Clarion DVD player has HDD storage and is connected to a rear view camera, along with steering mount audio controls. The coolest feature on this car has to be the dual power doors. These can be opened and closed with a pair of buttons on the dash, or just pull onto the handle and watch it slide open or close all the way. Trunk space is average for a minivan, with an extra large compartment beneath.

Driving the Noah was, again, not what I expected. It's a breeze. The windshield is quite large, and paired with largeside mirrors and blind spot quarter windows make tight turns and manoeuvring through traffic easy as pie. Throttle response is good, with sufficient low-end torque and extremely smooth power delivery thanks to a new direct injection 2000 cc 3ZR-FE engine. The CVT is incredibly smooth and promises great fuel economy. Toyota claims above 12 km/l but don't get your hopes high in Dhaka traffic. Wikipedia says it can reach a top speed of 175 km/h, while I chose to skip that test so as to not to look like an idiot.

It is equally as comfortable for the passenger. Our test car came with larger 17 inch wheels which usually means an uncomfortable ride, but it seemed just fine. Ride quality should be even better on smaller wheels. While the leather seats are cozy and the back has plenty of room, AC controls for the back and a ceiling mounted TV screen is all the rear passengers get to play with.

This particular Noah is well specced and priced at 31.5 lacs at Car House Gulshan. You can expect market prices to be similar, varying with model year and options. For a personalized user review, check our Facebook page and online edition.

WORDS AND PHOTOS: AADNAN ZAMAN



Beautifully draped

Our list of the most beautiful race car liveries, ever.

SHAER REAZ



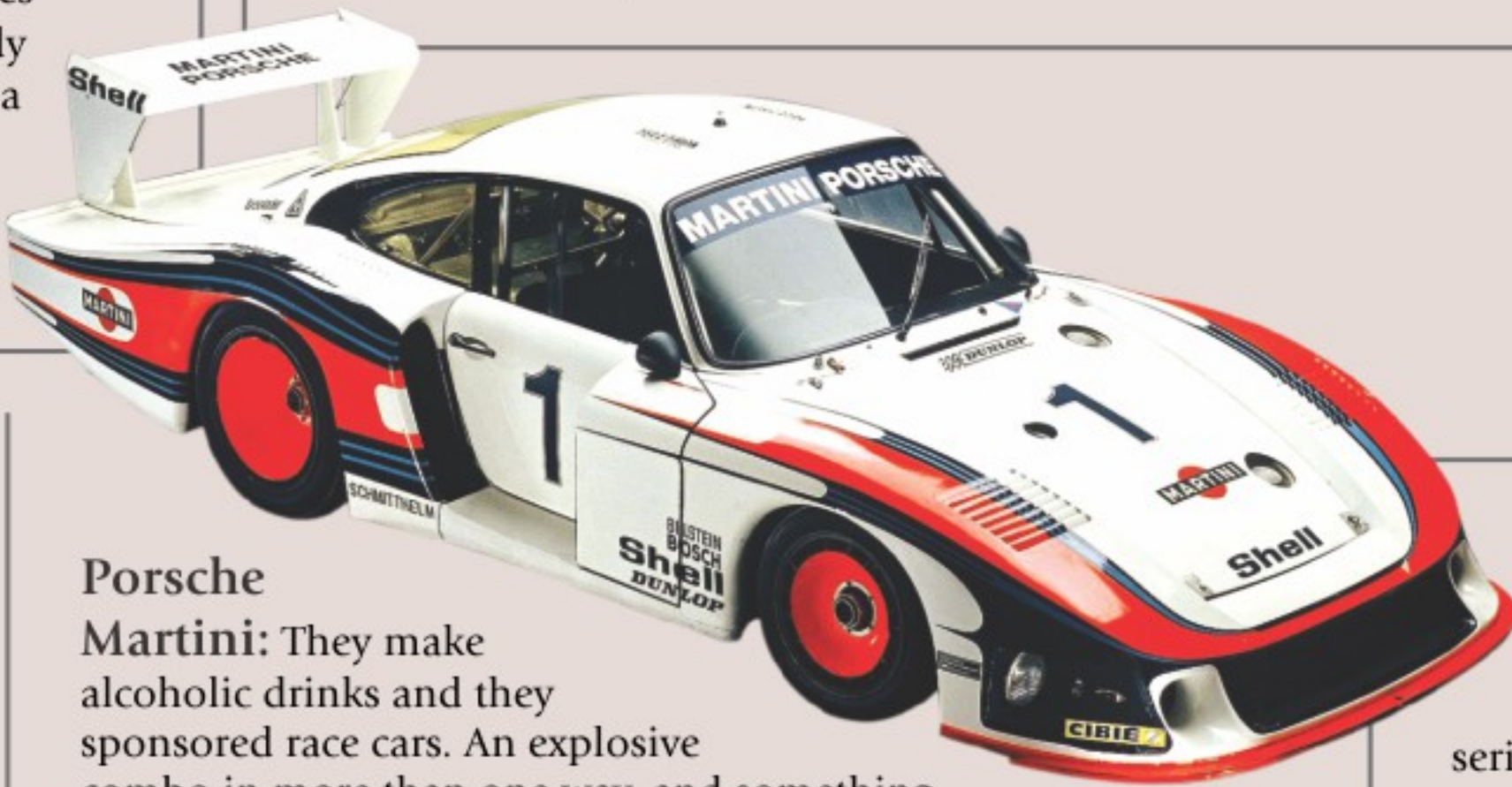
Gulf Oil: The first iteration of the now famous sky blue and orange livery that graces race cars sponsored by Gulf Oil, first appeared in 1967 when the vice president, Grady Davis, entered his Ford GT40 as an independent entry in Daytona. From there it was a short jump to Le Mans, where the GT40 won twice. The livery would go on the legendary Porsche 917, with the latest Gulf Oil car being an Aston DBR9 (pictured). We don't care much for gulf oil colours on a Hummer, though (it exists!).



Lotus John Player Special: Colin Chapman brought about amazing innovations in Formula 1, and Lotus' heydays in motorsport saw Emerson Fittipaldi take the title of the world's youngest champion in one of these black and gold liveried beauties, the Lotus 72, in 1971. Again, the title sponsor was a cigarette brand. Sign of the times?

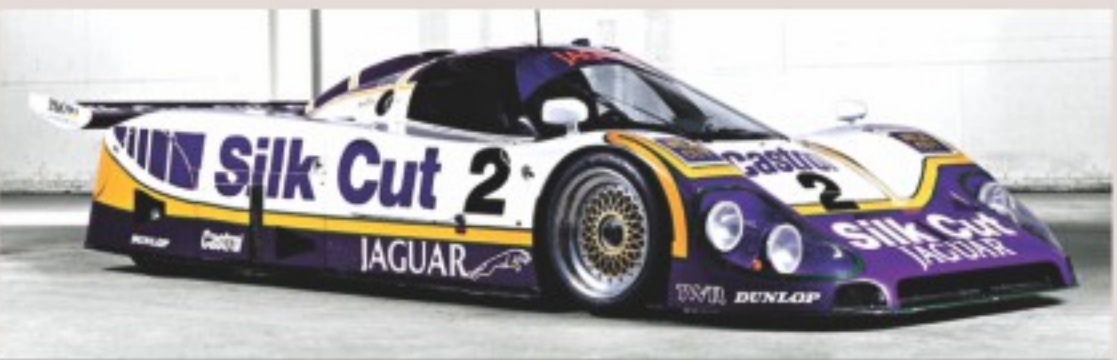


Nissan Calsonic: Talk about iconic. The Calsonic blue is instantly recognizable to car geeks, as well as fans of simulation games. Like the TOM's Supra and Takata Honda NSX, the Calsonic Skyline R32 and R34s gained fame and notoriety worldwide through the sim-racer Gran Turismo. The Playstation generation grew up wanting to buy a Skyline, and the sheer number of Bayside Blue Skylines out there are testament to the legendary status of the Calsonic Skyline.



Porsche Martini: They make alcoholic drinks and they sponsored race cars. An explosive combo in more than one way, and something that wouldn't be allowed by FIA now, but back in the 60's and 70's they graced some of the most legendary race cars in rallying, Formula 1, and road racing. The most famous of these would be the Porsche 935 "Moby Dick", which looks absolutely stunning with oversized fenders and Martini colours.

Jaguar Silk Cut: The Jaguar XJR9, wrapped in a striking purple, orange and white (signature colours of cigarette brand Silk Cut) won at Le Mans and was propelled to legendary status for its aerodynamics and straight-line speed. Another case of a sponsor that would never be allowed in modern times.



Lancia Alitalia: Take a Group B Lancia Stratos, paint it in the colours of the Italian flag, snap on a thousand fog lights and plunge it in a bath of gravel and dirt. Rallying has never been as cool and badass as it once was with Group B, and the Alitalia Lancia Stratos added a touch of grace and class to the dirty world of rallying.



Toyota TOM'S: The Japanese take their JGTC very seriously, and with reason. With more open ended rules compared to the Western ideas about motorsport (maybe other than DTM, which is insane), the JGTC featured some seriously capable cars battling it out on the track. The Supra was hugely popular as a race car base, and Toyota specialists TOM's partnered up with Castrol to create this beautiful white and green monster.

