

Vauxhall Cavalier/Opel

Vauxhall Cavalier 4x4 Do's & Definitely Don'ts

- The advice given here is derived from the author's own experience of a failed transfer box which was stripped and rebuilt. This is how the author defines looking after what is not the strongest transfer box in the market.
- No responsibility is implied or accepted for this advice, but it does continue to serve the author well.

Definite Don'ts

Reasoning

- **Never apply the handbrake while driving the car.**
- **Don't drive the car like a maniac.**
- Under normal driving conditions the transfer box is engaged, except while and only when the brakes are applied over 16 mph.
- If the handbrake is applied, without the foot brake, the stress applied to the viscous coupling and txb clutch is anything up to enormous.
- In an emergency situation, try to have the presence of mind to apply the foot brake as well as the handbrake (disengages the txb), failing that pray you get out of the emergency with or without a working txb.
- The txb will get you in the end.

Do's

TYRES

- **Always fit tyres as a set of four**
- **Change wheels front to back every 1500 miles.**
- **Regularly check tyre pressures**
- It is essential to keep all four tyres very close to the same diameter (within 2mm front to back) and with the same characteristics. This means you change the whole set. If one tyre becomes defective e.g. a blow out or damage, then **the set of four must be changed** - (see the vehicle handbook). They must also be of the same make and rating.
- Failure to keep all four tyres the same will strain the mechanics of the txb, The txb clutch is put under additional strain to slip and wear the lining material or, in extreme cases, to cause the lining material to break up. (It's glued to the metal plates). At the same time the viscous coupling is also under additional strain, having to immediately respond to differences in diameter, front to back. This will be a constant force causing the build up of heat, which when hot enough will cause the txb to go over temperature, and in extreme cases it all happens too quickly and the box can go into 'meltdown'.
- A good indicator that all is far from well is mysterious 'thumps' at certain times when driving.
- Txb £2500 off the shelf - set of 'Z' rated tyres £300 - £500. **QED**
- It is quite reasonable to expect the front and rear wheel sets to wear at different rates and in different ways. The rear tyres tend to wear on the inside edge, easily missed when conducting 'kick and look at what you can see' approach.
- The higher rated tyres are also directional. (Arrow on the casing). Change the wheels front to back to maintain the rotational requirements.
- **BE RELIGIOUS** about the wheel changing, it is essential to maintain similar wear front to back (within 2mm). Failure to achieve this will cause the txb to overheat with sometimes disastrous consequences.
- Driving round on unevenly inflated tyres has the same effect and accelerates wear.

TRANSFER BOX OIL

- **Change the txb oil annually**
- GM recommend, for those vehicles using the synthetic oil, that it is only necessary to top up the oil as required.
- The author says a new txb costs £2500 off the shelf, £800 rebuilt (with second hand parts) or up to £500 off the shelf second hand.
- 600 ml of synthetic oil costs about £7 - **QED**.
- In addition, it gives the user a chance to check what's in the old oil. e.g. dirt, bits of txb clutch lining, metal swarf etc.
- The early boxes apparently used DEXTRON II ATF fluid. - Its principally

the same box - always use the synthetic oil.

- The author always uses the GM oil just in case something goes wrong and GM became involved. (Good Luck!)
- If the box seizes in service, it will usually be because of bearing failure or a gear tooth breaking. Either way a not too big a piece of steel entering the gear train will, in extreme cases, literally split the txb casing. Another good reason for changing the oil regularly and closely inspecting what comes out, if only to spot early signs of failure.

BASIC FUNCTIONAL CHECK

- Test the basic function of the txb annually, with the driving test - (Pull fuse 19 - see 'txb, electrical & functional testing'.
- This is quite a good test, the difficulty is that you do not necessarily know what a good box should sound like when it is forced to disengage - 'the thump'. If you follow the guidance in the workshop manual, and are only lightly accelerating out of the corner the thump is heavy.
- The first time this happened to the author, because the temperature sensor was intermittent, he thought he had dropped a rear wheel into a manhole type hole with the lid say, 3" - 5" below the surface, but without the body lurch.
- If you want to know what a good txb sounds like and are anywhere near Ely or Cambridge; Cambs, contact the author - happy to demonstrate.

ACCUMULATOR

- Change the ACCUMULATOR at 54k miles or 6 years.
- If the accumulator bulb does not have painted white spots or a ring, clearly visible, then change the bulb *immediately*. Accumulators without the markings are faulty. This was a recall item which has now time expired.
- Change the accumulator bulb every 54k miles or six years, whichever comes first. If you do not know the history of your vehicle then follow the procedure in the workshop manual for '*bleeding the hydraulic system*' and check how many 'whooshes' it takes to empty the accumulator. GM calls it a pressure vessel and it costs £99+vat. The instructions say the brake pedal should be applied at least 25 times to empty the accumulator, much less and the author recommends a change. It is still £116 against a potential £2500, or £800 etc etc etc. **QED**
- Research continues, but here is the story so far, in a [post](#) to the 'CavWeb' site.
- Accumulator change procedure added 16th October 2001 (see the Menu Selection from the Workshop Manual).

POWER STEERING OIL

- Periodically and regularly check the Power Steering Oil reservoir level
- If the Power Steering Oil level suddenly drops, investigate immediately.
- This is a service requirement but must not be overlooked. The oil is required to operate the transfer box, as well as the steering. If the level falls too low air can enter the system, requiring it to be bled, and/or the txb ceases to function properly. The procedure for checking is in the workshop manual.
- If the steering reservoir oil level drops the power steering pump may start to whine and gurgle with the engine running. Using the workshop manual procedure, check the oil level in the reservoir. If it has dropped, say out of sight, then follow the procedure to bleed and fill/top up the system.
- At the same time withdraw the txb mounting bolt, used for oil level checking in the txb and check for the box being over filled. If it is over filled, probably by the amount you have used to top up the system then you have almost certainly got the start of terminal 'pressure plate (or ram) seal' failure. It is now a case of removing fuse 19 to disable the system. The car can still be driven, but it will be without 4WD and NO fluid pressure is applied to the txb pressure plate resulting in further loss of steering oil. (This should be considered an emergency procedure because over a period of time the wrong type of tyre wear will develop).
- Do carry a bottle of DEXTRON II in the boot for such a failure away from base.
- The total and immediate failure of the seal will result in a dashboard 4x4 tell tale and the loss of fluid. Oil will be expelled from the txb breather/filler, behind the water header tank. The roadside cure is the same, as above, but without the txb oil level check, you know it is overfilled. (Fuse 19 must be removed to maintain power steering and the level replenished).

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