



### **Paddleshift recommended service schedule**

The Geartronics pneumatic paddleshift system has been designed to offer many hours of trouble-free operation. However, in the interests of continued reliability it is recommended that the various components are regularly tested and serviced as follows:

#### **Before every event**

1. Wipe clean and lubricate the gearbox actuator chromed rod. Use only a smear of silicon grease. Do not use mineral grease or any type of oil. Specifically, NEVER use any form of penetrating fluid such as WD40 as this will wash lubricant from the moving parts and increase friction and wear.
2. Make a few shifts, both up and down, without the engine running. Listen to the solenoid valve block for any unusual noises. When the valves are operating normally you should hear a sharp blast of air immediately after every shift. If you hear a more prolonged hissing noise as the shift is happening then this could be a sign of a sticking or failed seal in the valve manifold base.
3. Check for air leaks at every junction. An indication of an air leak would be the compressor operating periodically when the car is stationary with the ignition on. Even a small leak will cause the compressor to operate to replenish the lost air in the tank. Please note that it's normal for the compressor to operate for a short time after an overnight period of inactivity. Very few systems are 100% airtight as the compressed air in the tank can slowly leak past the compressor piston ring. If the compressor runs more frequently than every few minutes despite inactivity then you should investigate the source of the leak.

#### **Every 3 events or 12 hours, whichever is sooner.**

1. Connect a laptop to the GCU and check the calibration of the gear position sensor and the throttle sensor. You must also check the throttle 0-100% calibration if the sensor has been moved or replaced. The gear position calibration is correct when the pointer on the software dial rests in the centre of each coloured band for the respective gear. It's usually only necessary to check 1<sup>st</sup> gear because if one gear is correct then all other gears will be correct. If everything looks OK then close the software without making any changes.
2. Drain any water from the air reservoir. Just like any air compressor system, over a period of time a small amount of water will collect in the tank. This water does not usually cause any problems as the pneumatic components are designed with this in mind. However, if water remains in the tank for an extended period of time then it can cause corrosion to the through bolt that clamps the tank end caps. The easiest way to drain the water is to

pressurise the system and then turn the tank upside down and pull the ring on the brass pressure relief valve. This will quickly blow out most of the accumulated water. Do not disassemble the tank unless you have replacement seals and a new bolt/nut.

3. Test the efficiency of the compressor. This can be done by venting all the air from the reservoir tank and then timing how long it takes to fill it to 10bar, at which point the compressor will turn off. A new compressor takes approximately 35-40 seconds. If the compressor continues to run for more than 45-50 seconds then first of all check for air leaks, however minor. If you're satisfied that there are no leaks then it's advisable to replace the compressor as they are not economic to service. Please note that this test must be conducted with a fully charged battery or with the engine running. Low battery voltage will cause the compressor to run for longer.

Every season or 40 hours, whichever is sooner.

After every season we recommend that the following components are returned to us for checking and refurbishment as necessary:

Air reservoir

Valve block

Gearbox actuator

Throttle blip actuator

**IMPORTANT:** If you experience any shifting problems then you must stop immediately and not continue in the hope that it will resolve. Continuing to operate a malfunctioning system can quickly lead to serious gearbox damage. When the system was fitted, the software settings were optimised for each individual car to provide the smoothest and most reliable shifting. If a problem subsequently develops then it is safe to say that software settings are NOT the cause of the problem! The software does not change itself, so any problems that may arise will always be as a result of a mechanical issue. Do not alter any software settings in the hope that it will resolve a problem that has started subsequently to the system operating normally. A good analogy would be an engine suddenly developing a misfire – you would not go into the ECU to adjust anything in the map, you would probably fit a set of new spark plugs as a first course of action.