

# PROJECT FIGARO PART 3 BUILDING IN RELIABILITY

Two main tasks are completed on the Figaro this issue, one a precautionary measure and the other an essential repair. REPORT: SIMON GOLDSWORTHY



Last issue we tackled two essential jobs on our new Figaro that needed doing before we figured it was safe to take on the road – fitting a new exhaust, and replacing the four tyres. The idea was that we wanted it roadworthy to take first to Simon Smith of the Figaro Owners Club for some feedback on the car and how it drove, then to the specialists at The Figaro Shop in Didcot for help with a number of the jobs on our list of improvements to be made. However, with the new tyres and exhaust fitted, our Figaro then decided to throw up another problem when the indicators stopped working. I got it back to base by using hand signals, but then the electric window in the driver's door decided to pack up too – it began to feel like I was in the film *Christine*, but that it was being run in reverse!

On most cars that I buy, the first additional expense is to then get a Haynes workshop manual. However, no such thing exists for the Figaro, which was only ever sold new on the Japanese market. That means you would have to be a very

resourceful character to contemplate ownership without making contact with specialists and the club. In my case, I watched videos from both the Figaro Owners Club and The Figaro Shop showing things like how to fold and store the roof, what the various dashboard warning lights meant and more. You'd be amazed how even seemingly mundane jobs like opening the rear hatch or changing a fuse can leave you stumped when tackling them for the first time on a car like this.

So, for example, the club website had a very helpful translation of the Japanese writing on the fusebox cover. That enabled me to ascertain that a blown fuse was not the cause of my failed indicators. The club's technical forum also explained where the indicator relay was located, and how to get to it. Access was not totally straightforward, but as the pictures show, I got there in the end.

The next job was the precautionary measure alluded to at the top of this page – replacing the timing belt. Because our Figaro came from auction with no history

or contact details for the previous owner, we had no idea when the belt was last changed. And since the Figaro engine is an interference design (meaning that if the timing belt snaps, expensive damage will invariably be caused by the valves hitting the pistons), it made sense to replace it.

Personally, changing timing belts is way down on my list of fun ways to spend a day, but it is not exactly rocket science so, after reading a couple of Figaro tutorials online, I decided to tackle it with the help of a friend, Steve Clark, who brought along moral support, an extra pair of hands and also his impact wrench, which we'd been told was essential for getting off the bottom pulley bolt – the problem here is that there is no obvious way to hold the engine still while applying pressure to the nut given that it is mated to an automatic gearbox with a torque converter.

Unfortunately the impact wrench banged away without making the slightest impression on the pulley bolt, but we found other ways to get around the problem, as the pictures show. Ultimately



**1** The descriptions on the fusebox cover are written in Japanese. Fortunately the Figaro Owners Club has translated them into English; unfortunately our indicator problem had not been caused by anything as simple as a blown fuse.



**2** The finger of suspicion was then pointed firmly at the indicator relay. Again the FOC came to the rescue with a video showing where it was, and how to access it. That started by removing the trim ring around the rev counter...



**3** ...followed by the rev counter itself, which is held in by three screws. (Note the warning lights and switches on the dash – The Figaro Shop have produced a helpful online video showing what the lights mean and what the switches do.)



**4** Some of the screws turned out to have very limited access room in front of them for a screwdriver. This handy little ratchet with a Philips bit inserted proved smaller than a stubby screwdriver and was helpful in some cases.



**5** Although the relay itself is located behind the speedometer, the rev counter has to come out first to provide easier access for disconnecting the speedo cable. The speedo itself then comes out the same way as the rev counter.




**6** The screwdriver is pointing to the indicator relay, which is held by a screw into the column support. There was very little room to get even a tiny screwdriver onto the head, and it was a major pain in the proverbial to remove.

and the valves remain closed as the piston approached and compressed the rope in the combustion chamber above. This did the trick and with a long breaker bar, when the engine stopped turning because it could not compress the rope above it any further, the bolt wound off easily enough.

In the end the timing belt took me all day to change, but that was pretty much as expected because I was feeling my way, learning about the Figaro as I went. The moment at the end when it fired up instantly and settled down to a smooth idle made it all worthwhile, though.

I was then able to visit Simon Smith as planned, who proved to be a real font of knowledge about these cars and pointed out several things that had gone right over my head. It turns out, for example, that the speedo has been converted from km/h to mph using a gearbox in the drive cable, so the odometer is now recording miles as well. Simon was also able to suggest other areas that could do with improving and which we will tackle in due course, as well as giving us some valuable tips and advice to note when doing them. All in all it was an extremely useful visit, and we are very grateful to Simon for sharing both his expertise and his time.

We have now also made our planned trip to The Figaro Shop, who were also incredibly helpful and knowledgeable and who helped us with a number of these tasks. We shall start relating that part of the story next issue. 

The Figaro Owners Club website is at [www.figarownersclub.co.uk](http://www.figarownersclub.co.uk), and membership costs £24 in the first year, dropping to £15 per year after that.

The Figaro Shop are at Rich's Sidings, Lower Broadway, Didcot OX11 8AG. [www.thenissanfigaroshop.co.uk](http://www.thenissanfigaroshop.co.uk)

a length of nylon rope came to our rescue. Turning the engine over using a ratchet on the crank pulley bolt until the piston in no.1 cylinder was at the top of its compression stroke (meaning that the valves were closed and the rockers not under tension) then continuing 180 degrees on the crank until

the piston was at BDC, the rope was fed in through the spark plug hole.

Next, the engine was turned backwards so that the piston was coming up the cylinder back towards TDC and the previous compression stroke – this meant we were turning the crank anti-clockwise



**7** In the end, Simon had to remove some of the plastic air trunking to add a little extra wiggle room behind the dash. He couldn't help wondering though why Nissan hadn't simply fitted the relay alongside the fuse box.



**8** The new relay (on the left) was not an original part; it cost £10.20, but lacked the fixing bracket. That was not a concern, as Simon cable-tied it in a more accessible position anyway and with that, the indicators were functioning again.



**9** So, girding his loins, Simon set about tackling the timing belt. The first job was to jack up and support the offside front corner of the car and remove the wheel. Taking this opportunity to check the brake pads, they looked like new.



**10** The next step was to remove a plastic splash guard in the wheelarch, which meant that access to the front of the engine was then actually pretty good. This was held on with a mixture of coarse self-tappers like this...



**11** ...and small bolts like this, one of which was even smaller after it snapped off. It went into the beam behind the front bumper, screwing into a captive nut with no access behind, so the remains would have to be removed somehow.



**12** For now though, Simon could concentrate on the task in hand. This is the plastic shield coming away, providing access for much of the work to be done from below and via the wheelarch rather than in the cramped engine bay from above.



**13** There are three short drive belts (those used to older classics would call them fan belts) on the Figaro, driving the alternator plus the power steering and air-conditioning pumps. We'd bought a new set from The Figaro Shop for £31.48.



**14** The forum tutorial says about loosening this tensioner's bolt, winding it out and then hitting it with a hammer to slacken the belt. It sounds odd, but once you get in behind and see how the mechanism works, it becomes clearer.



**15** With the bolt unwound, hitting it up moves the tensioner wheel until the belt is loose enough to come off. The first belt is to the aircon pump, while the one behind runs up to the alternator, which slackens off in the normal way.



**16** The third belt runs from the crankshaft pulley to the power steering pump. It is clear that we have some kind of leak in the PAS system from the amount of fluid splashed around. We'll add that to the list, then!



**17** The belts were not badly cracked, but they did feel a little hard and had some small crazing. One was squealing on start up too – this could have been down to an adjustment issue, age or, as we later learnt, because most Figaros do this!



**18** To try and shift the crankshaft pulley bolt, Simon put a breaker bar and an impact socket on it, rested the other end of the handle against the floor and flicked the engine over on the key. There was not enough poke in the starter to shift it.



**19** Plenty of head scratching later, he decided to try something he'd read about, but never seen done before. First he took the rocker cover off (and inspected the security of the rocker gear as the securing washers can break)...



**20** ...then with the engine turned so this cylinder had gone past TDC on its compression stroke and on down to BDC, a length of rope was fed through the spark plug hole and the engine turned backwards, compressing the rope.



**21** When the piston could not compress the rope any more, it stopped turning and we were able to finally crack the bolt free with the breaker bar and then wind it off with a ratchet spanner. It now didn't seem to need much force at all!



**22** The advice was to remove the RH engine mount as a unit, but we found it easier to take off in two halves for better access to the bolt below. Taking the timing cover off, one bolt had rusted into its steel bushing, but was persuaded out.



**23** Rather than just a belt, we bought a complete kit for £69.95. This came with a new idler and water pump too – changing the pump at a later date would involve all the same work, so it made sense to carry out a pre-emptive swap.



**24** That meant draining the coolant. There is a plastic drain plug in the bottom of the radiator. We learnt later that these can snap and should be used with caution, but ignorance is bliss and ours undid without any problem.

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**25** We've bought a new set of coolant hoses, but looking at the radiator through the grille it's clearly in a bad way. That was the excuse we needed to prevaricate – the radiator will have to be changed, so we can do the hoses then.



**26** Simon's preferred method of changing a timing belt is to mark the old one with Tippex around the timing marks before it is removed, then counting the teeth between the marks and transferring them to the new belt.



**27** He knows the pulleys have not moved, but by ensuring that the Tippex marks on the new belt are correctly positioned around the timing marks on those pulleys, he then has a fail-safe way of double checking everything is spot on.



**28** Simon could then turn his attention to the sheared bolt. Drilling a pilot hole and using this stud extractor did not shift the remains...



**29** ...so he had to drill out the broken bolt, then run a tap through the hole to clean up the threads for a new one.



**30** With the car back together and running well, Simon Smith of the Figaro Owners Club took it out for a run and was very impressed with the way that it drove. He also gave the car a thorough check over and helped us prioritise future jobs to be done.

