

Weekend Workshop - Throttle Body Maintenance

By Paul Carter (05/03)

Tools required: 10mm ring spanner; pliers; large flat blade screwdriver; old toothbrush; can carburettor cleaner; rag / paper towel; tie wraps, Brasso (liquid or wadding)
Time required: around 1-½ hours
Cost: about £6

Those of us old enough to know what a carburettor is will remember how important it was to keep the venturi, jets and throttle butterfly clean. All used to suffer as a result of gums left behind by petrol evaporation, dirt ingestion and crankcase fumes from old technology engines. I learned the lesson with a pair of 40 DCOEs on an Avenger – just having the carbs reconditioned yielded about 8hp at the wheels. But how many of us realise that keeping the throttle bodies clean on efi engines is just as important? Well, I confess that I had forgotten.

I run a R800 Vitesse Sport, which I have had for about a year and recently I had cause to remove the air inlet pipe from the throttle body. Well it was as black as the ace of spades in there. There was a thin film of dirt over all surfaces, which did not come off on your finger. If you think about it, this film is made up of crankcase gas deposits and dirt too small for the filter to eliminate. I decided a major clean up was in order.

First thing to do is to remove the throttle body from the car. This is easily done as it is held on by four 10mm nuts. Disconnect all the pipes and wires first. Put down plenty of



newspaper on your workbench and make sure you have plenty of light. If you can, use a tie wrap or string to hold the throttle butterfly in the fully open position. Before you clean the inside, remove as much gunk from the outside of the body first and throw away the top sheets of paper. Then with the carb cleaner and toothbrush GENTLY clean all surfaces, not forgetting the edge of the butterfly. Don't spray on too much cleaner at once as it evaporates quite quickly and you will just waste it. Finish off by wetting a rag with cleaner and wiping all around the inside.

Now finish off the job by polishing up the surfaces with Brasso. This is a good product to use, as it is quite light and not too abrasive (since it's meant for brass – which is what the butterfly is made from). Don't be tempted to use a chrome or steel cleaner, these may be too abrasive. Again, don't go mad; remember that when you polish you are removing metal. Gently

polish all surfaces until they are clean, being careful of the butterfly edge – the sharp edge is important, don't round it off. Get into the corners of the butterfly with some wadding wrapped around the end of your flat blade screwdriver. When you've finished your body should look like the one in the picture. Remove the last of the polish residue with a little of the carb cleaner.

Before refitting the throttle body, clean up the plenum chamber intake as far as you can. Luckily the excess cleaner runs back out on the 800, but be careful if the chamber runs downhill INTO the engine on other versions. Refit your throttle body. Just nip up the nuts holding it on or you'll strip them. Also don't overtighten the pipe clip holding on the intake pipe or you will distort the body, just nip it up is enough – even on a turbo. Make sure you've reconnected all the pipes and harnessing. You may find this is a good opportunity to clean up all the breather pipes whilst some of them are disconnected. Put a little spray grease or oil on the springs and moving parts, wiping off excess.

After this operation I found my engine idled and ran much smoother, a little "fluffing" at idle disappeared completely. Economy has improved from 29.5 to 31.5 mpg, so the cost and time has been easily recouped. I'm now going to make cleaning the throttle body part of my 12k service (not the whole hog – just keep it clean with carb cleaner and toothbrush). I'm also going to clean up the rest of the intake system in the future including the inside of the intercooler (I'll have to have this dipped).