

2004 C230 Sport Coupe Kompressor Mass Air Flow Sensor Removal

The Check Engine Light came ON on my C230 Kompressor Sport Coupe; the fault code was P0170 which is Fuel Trim Malfunction fault. The Mercedes CD repair manual was a bit vague as to what to replace. An archive search of the Benz World forums indicated that the Mass Airflow (MAF) sensor could be dirty or need to be replaced. So I thought I would clean it. In order to remove the MAF it's necessary to remove the air filter box. In hind sight if all you really want to do is clean the MAF sensor it is possible by simply taking the top of the air filter box off and removing the air filter and spraying through the MAF screen at the sensor components. If however you would like to remove the MAF or want full accessibility to clean it then follow the steps below.

Caution: I am not a Mercedes mechanic and have probably forgotten a step or two or done something wrong, so follow these steps at your own risk.



To get to the Mass Airflow sensor you need to remove the air filter box. It is held in place by two bolts toward the rear and two rubber bushings in front. Other items that are attached to it are a flex duct going to the supercharger, various electrical connectors, crankcase ventilation tube and also a vacuum line that needs to be disconnected for clearance.

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1. Disconnect the battery ground cable since you'll be disconnecting several connectors. The battery is underneath the cover/filter for cabin air. You will need to resynchronize the windows and panorama sun roof.



2. There are two bolts that have to be loosened.



3. Disconnect the inlet air duct, there's a tab on the bottom that can make it difficult to disconnect.



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4. Disconnect the vacuum line by gently pressing on the outer ring and lifting. Also disconnect the nearby connector and detach one half of the connector from the stand-off bracket.



5. Disconnect the electrical connectors by pulling on the "T" handles at the front and rear of the connectors. Also unscrew the small bracket that they are zip tied to or cut the zip tie.



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6. Disconnect the connectors from the mass air flow (MAF) sensor and the altitude sensor.



7. Disconnect the crankcase ventilation tube.



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8. You will need a tool like this to be able to loosen the hose clamps on the flex duct that connects the air filter box to the supercharger, because there's no room to get your hands in there. It's essentially hand pliers with cable actuated pinchers. I got mine from [Jack-X-Change](#) for about \$30.00; it is Astro Pneumatic tool number 9409.



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9. Loosen the flex duct hose clamps with the special tool.



10. Everything is now disconnected that needs to be, it takes a bit of pushing aft and twisting towards the left to get it out. The filter box has two pins at the forward end that holds it in place with rubber bushings. The main thing is to keep all the connectors and hoses out of the way and it will come out with a bit of effort. You can actually see the intake manifold now.



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11. This is what the air box looks like out of the car.



12. This is the end of the air box with the MAF sensor. Three screws hold it in.



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13. My motivation for getting at the MAF was to clean it since I'd gotten a Check Engine Light (CEL) with a fault code of P0170 which is the code for Fuel Trim Malfunction. The Mercedes manual doesn't give much troubleshooting information for this fault code but an internet search revealed that most experience was that the MAF needed cleaning or to be replaced. Even though mine looked clean I sprayed it with CRC Mass Air Flow sensor cleaner.



Conclusion – After putting everything back together the Check Engine Light (CEL) was still illuminated but the fault code P0170 was no longer present instead I now had P0136 and P0141 which is for the O2 sensor downstream of the catalytic converter. I replaced the O2 sensor (which is very straightforward) and the CEL is now OFF. I believe what happened was the O2 sensor was slowly failing causing the Fuel Trim Malfunction fault (P0170) and then when it finally failed completely the O2 sensor faults appeared. Had I not been so anxious to extinguish the CEL I would not have had to do all the work of removing the air filter box to access the MAF. However it was a good learning experience and I have more confidence working on my Benz.