

Engine running rough / Fault code entry

Topic number	LI54.21-P-062006
Version	2
Design group	54.21 Control modules/modules
Date	06-16-2016
Validity	Model 190.37# Model 205.#8#
Reason for change	Remedy revised
Reason for block	

Complaint:

Engine might be running rough / Fault codes DTCs might be present in the engine control module for misfire.

Possible fault codes:

P030885 - Combustion misfiring of cylinder 8 was detected.

P030285 - Combustion misfiring of cylinder 2 was detected.

P030785 - Combustion misfiring of cylinder 7 was detected.

P030185 - Combustion misfiring of cylinder 1 was detected.

P030585 - Combustion misfiring of cylinder 5 was detected.

P030385 - Combustion misfiring of cylinder 3 was detected.

P030485 - Combustion misfiring of cylinder 4 was detected.

P030685 - Combustion misfiring of cylinder 6 was detected.

P030022 - Combustion misfiring was detected

Cause:

Diagnostic data in the control module might be too sensitive in certain situations.

Remedy:

1. Check engine for intake or exhaust leaks and repair as required; perform other regular checks related to misfire and repair as required. If nothing found continue with step 2.
2. Update engine and transmission control units software with Xentry - Model 190 with M178 DVD 12/2015 with Ad-On 5237, Model 205 with M177 DVD 12/2015 with AddOn 5472 or DVD 03/2016 with AddOn 5473
3. Check vehicle for misfire (perform cold start checks as well) and reassess.

If the vehicle still has problems, please consider the following:

- Check spark plugs for cracked ceramic or damaged electrode - turn the spark plug up-side down to check for cracked / lose ceramic if normally there is no visible damage (refer to attachments for example illustrations). If one or more spark plugs are found damaged, replace all spark plugs with the latest version as per EPC.
- Cross check ignition coils. If the misfire / fault moves to other cylinder(s), check / replace ignition coil packs to the latest version as per EPC

XENTRY TIPS

Further, if vehicle still exhibits symptom, check / verify injector coding and reset fuel mixture adaption. Perform adaption test drive as per attached instructions and reassess vehicle again.

Attachments	
File	Description
IMG_3273.JPG	damaged ceramic
20150609_105958.jpg	electrode damage
AMG engine adaption process.pdf	Fuel mixture adaption process

Symptoms
Power generation / Engine management / Engine running / Runs rough/shakes

Control unit/fault code		
Control unit	Fault code	Fault text
N3/10 - Motor electronics 'MED1775' for combustion engine 'M177' (ME), N3/10 - Motor electronics 'MED1775' for combustion engine 'M178' (ME)	P030385	Combustion misfiring of cylinder 3 has been detected. There is a signal above the permissible limit value.
N3/10 - Motor electronics 'MED1775' for combustion engine 'M177' (ME), N3/10 - Motor electronics 'MED1775' for combustion engine 'M178' (ME)	P030885	Combustion misfiring of cylinder 8 has been detected. There is a signal above the permissible limit value.
N3/10 - Motor electronics 'MED1775' for combustion engine 'M177' (ME), N3/10 - Motor electronics 'MED1775' for combustion engine 'M178' (ME)	P030285	Combustion misfiring of cylinder 2 has been detected. There is a signal above the permissible limit value.
N3/10 - Motor electronics 'MED1775' for combustion engine 'M177' (ME), N3/10 - Motor electronics 'MED1775' for combustion engine 'M178' (ME)	P030585	Combustion misfiring of cylinder 5 has been detected. There is a signal above the permissible limit value.
N3/10 - Motor electronics 'MED1775' for combustion engine 'M177' (ME), N3/10 - Motor electronics 'MED1775' for combustion engine 'M178' (ME)	P030485	Combustion misfiring of cylinder 4 has been detected. There is a signal above the permissible limit value.
N3/10 - Motor electronics 'MED1775' for combustion engine 'M177' (ME), N3/10 - Motor electronics 'MED1775' for combustion engine 'M178' (ME)	P030185	Combustion misfiring of cylinder 1 has been detected. There is a signal above the permissible limit value.

XENTRY TIPS

N3/10 - Motor electronics 'MED1775' for combustion engine 'M177' (ME), N3/10 - Motor electronics 'MED1775' for combustion engine 'M178' (ME)	P030022	Combustion misfiring has been detected. The signal amplitude is greater than the maximum amplitude.
N3/10 - Motor electronics 'MED1775' for combustion engine 'M177' (ME), N3/10 - Motor electronics 'MED1775' for combustion engine 'M178' (ME)	P030685	Combustion misfiring of cylinder 6 has been detected. There is a signal above the permissible limit value.
N3/10 - Motor electronics 'MED1775' for combustion engine 'M177' (ME), N3/10 - Motor electronics 'MED1775' for combustion engine 'M178' (ME)	P030785	Combustion misfiring of cylinder 7 has been detected. There is a signal above the permissible limit value.

Validity		
Vehicle	Engine	Transmission
*	177.980	*
*	178.980	*

Attachments

IMG_3273.JPG:



XENTRY TIPS

20150609_105958.jpg:



Engine adaptation

The adaptation values should not be reset without good reason!

If the adaptation values have been reset, a test drive must be performed as described under point 10!

1. Read out and print out/save ECU fault memory.
2. Read out and print out/save ECU mixture adaptation data.
3. Read out and print out/save ECU performance data with the vehicle stationary and the engine idling.
4. Process and document guided test/troubleshooting tree for fault code.
5. Erase ECU fault memory.
6. Flash ECU.
7. Perform SCN coding of ECU.
8. Check injector coding, carry out if necessary.
9. Erase vehicle fault memory.
10. Start vehicle for test drive and drive off immediately (adapt test drive to current traffic conditions).
11. Perform test drive in transmission mode C at least until operating temperature is reached, engine oil 90 °C.
12. Start vehicle and drive off immediately. Drive in transmission mode S for approx. 5km (2mi), try to drive at a constant speed as far as the traffic allows.
13. Stop vehicle and allow to idle for approx. 5 minutes with gear range engaged.
14. Bring vehicle up to an engine speed of 5000 rpm in transmission mode M over a distance of 2km (1mi), then allow vehicle to coast down to an engine speed of 2000 rpm and then continue driving at a normal speed (no V-max driving). Repeat this process at least 3 times.
15. Stop vehicle and allow to idle for approx. 5 minutes with gear range engaged.
16. Switch off engine and restart it.
17. Then drive for approx. 2km (1mi) once more in transmission mode C, driving at a constant speed as far as the traffic conditions allow.
18. Stop vehicle and allow to idle for approx. 5 minutes with gear range engaged.
19. Bring engine up to a high engine speed (3500-5000 rpm) under high load several times in transmission mode M over approx. 2km (1mi) and drive at a normal vehicle speed (no V-max driving). (Generate load through continuous upshifting and downshifting with shift paddles)
20. Stop vehicle and allow to idle for approx. 5 minutes with gear range engaged.
21. Switch off engine and restart it.
22. Then drive for approx. 5km (2mi) once more in transmission mode C, driving at a constant speed as far as the traffic conditions allow and check the start/stop function.
23. Allow vehicle to idle in front of the workshop for approx. 5 minutes.
24. Switch off engine for at least 10 minutes.
25. Now start engine and assess it.