

C63/GTx 177/178 Check Engine Light on with Misfire DTC's. Engine Running Roughly

Topic number	LI54.21-P-062006
Version	6
Function group	54.21 Control units / basic modules
Date	11-13-2018
Validity	Model 190.3## Model 190.4## Model 205.#8#
Reason for change	ME SW Update
Reason for block	

Complaint:

Engine running rough / Fault code entry

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:

Misfire detection protocol in ME SW

Attachments	
File	Description
IMG_3273.JPG	Example image of ceramic damage on spark plug
20150609_105958.jpg	Example image of electrode damage on spark plug

Remedy:

Check that the ME Control Unit Software is up to date.

If ME Control Unit Software is NOT up to date:

1. If ME Control Unit Software is not up to date, update it along with the VGS, PTCU, and FSCU control units.
2. Ensure that all ignition coils are part number A 177 906 95 00
3. After updating, clear out the mixture adaptation data and perform 2 AMG Engine Adaptation Drives
4. Create a PTSS case and upload the old (showing the fault codes) IQT, the new (after ME update) IQT, and the injector performance data AFTER performing the 2 AMG Engine Adaptation Drives.
5. The data will be reviewed and you will be given instructions on whether to release the vehicle or perform further adaptations

XENTRY TIPS

If ME Control Unit Software IS up to date:

1) Smoke test intake/exhaust and check for leaks. NOTE: The intakes to the turbochargers as well as the tubes from the turbochargers to the intercoolers must be tested.

- Repair as necessary.
- If no leaks are found, or repair does not remedy complaint proceed to step (2).

2) Inspect ignition coils and verify they are PN: A 177 906 95 00.

- Replace as necessary.
- If all coils are PN A 177 906 95 00 swap the coil(s) of the misfiring cylinder(s) with those of cylinder(s) that are not misfiring and road test the vehicle.
 - If the misfires move with the coils, replace the coils and the spark plugs on original misfiring cylinders
 - If the misfires do not move with coils, or if the misfires do not reappear proceed to step (3)

3) Perform a Xentry guided high pressure fuel test from cold start and obtain the injector performance data, and initial quick test with fault freeze

- If the test fails for either bank, replace the high pressure fuel pump for that bank.
- If the test passes for both banks, road test the car with ECO start/stop disabled and allow the vehicle to achieve operating temperature
 - Shut the vehicle down and observe the fuel pressures on the left and right banks at t=0, t=30 minutes, t=60 minutes, and t>120 minutes
 - If at any time the fuel pressure drops below the minimum value and/or a large differential exists between the left and right banks, boroscope the cylinders on the bank with low fuel pressure and determine if one or more of the injectors is leaking.
 - If the fuel pressure remains within acceptable limits proceed to step (4)
 - If one or more of the injectors is leaking, open a PTSS case and upload pictures of the leaking injector(s) taken with the boroscope as well as the information collected via Xentry thus far.
 - Replace the leaking injector(s)
 - Update the IMA coding for the new injectors in their respective cylinders via Xentry
 - Perform 2 AMG Engine Adaptation Drives
 - Upload the new injector performance data and quick test to the case

4) Open PTSS Case if Above do not Remedy the Complaint:

Include in the case:

1. All Data from step (3)
2. MED1775 Control Unit Log
3. Software update check for ME and Transmission control units
4. Engine Performance Data
5. Injector Performance Data
6. Line Graph Version of the Fault counter from Cold Start
7. PICO Compression Test of ALL Cylinders
8. Boroscope of cylinder(s) with leaking injector(s)
 - Important: Before performing the boroscope examination, it is imperative that the engine be left to sit until cold

Attachments

File	Description
Fault Counter.pdf	Line Graph Version of Fault Counter Instructions

Symptoms

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

Power generation / Engine management / Indicator lamp / Engine diagnosis / lit

Control unit/fault code

Control unit	Fault code	Fault text
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XENTRY TIPS

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.
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	P030785	Combustion misfiring of cylinder 7 has been detected. There is a signal above the permissible limit value.

XENTRY TIPS

'MED1775' for combustion engine 'M178' (ME)		
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Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note
			54575 90	Use the appropriate damage code according to the cause