



DTB

Date: December 10, 2004
Order No.: P-B-47.20/31
Supersedes:
Group: 47

**SUBJECT: Model 215.376
Model 220.176
Model 230.476
with Engine M275
Hot Start Performance Complaints with Winter Fuel Which Contains Ethanol**

If you receive customer reports in the above model vehicles of hot start performance complaints, mainly in areas where winter fuel contains ethanol, proceed as follows to resolve.

i Note:

This applies only to vehicles with the check engine light activated and misfire codes on the front cylinders (i.e. cylinder number 1, 2, 7, 8) where the freeze frame data indicates that the misfire was detected immediately (up to 1 minute) after engine restart at operating temperature (Figure 2). All other cases, proceed as outlined in V12 Engine Complaints Diagnostic Tree located on STAR TekInfo (EDAC).

1. Print all stored fault codes with freeze frame data from the ME engine control unit.
2. Check and analyze freeze frame data based on the description of the symptoms (Figure 2).
 - If freeze frame data (Figure 2) does not indicate hot start issue, proceed as outlined in V12 Engine Complaints Diagnostic Tree located on STAR TekInfo (EDAC).
 - If freeze frame data (Figure 2) indicates hot start issue, continue with step 3.
3. Check fuel pressure and fuel delivery of component M3 (fuel pump) as described in DAS. Perform repairs as necessary.
4. Check fuel pressure at rest as described in DAS version 11/2004 or later (Figure 1).
5. Monitor the pressure at rest 40 minutes after engine shut down (engine must have working pressure within specifications before shut down).

i Note: It is only after 40 minutes that the technician checks the pressure at rest. However, the vehicle must remain at the same temperature condition as started in the workshop (room temperature).

This bulletin has been created and maintained in accordance with MBUSA-SLP S423QH001, Document and Data Control, and MBUSA-SLP S424HH001, Control of Quality Records.

- If the specified value for the fuel pressure at rest is below the specified value of 2.6 bar, proceed with installation of the following parts.

Description	Part Number
Fuel filter	A002 477 61 01
Fuel pump	A001 470 87 94
Fuel pump control unit	A220 540 29 45 (Model 215.376, 220.176)
Fuel pump control unit	A230 540 29 45 (Model 230.476)

Refer to the following applicable WIS documents:

Model	Document Number / Description
215.376 and 220.176	AP47.20-P-0780L / Replacement fuel filter
	AR47.20-P-5717H / Replacement fuel pump control unit
	AR47.20-P-5710MA / Replacement fuel pump
230.476	AP47.20-P-0780DC / Replacement fuel filter
	AR47.20-P-5717RA / Replacement fuel pump control unit
	AR47.20-P-5710R / Replacement fuel pump

- After the installation of the fuel filter and fuel pump is completed, insure that the fuel system is properly bled.
- Check the specified value for the modified working pressure [4.7 ... 5.3 bar] and shut the engine off when engine operating temperature (coolant temperature > 90 degree Celsius) is reached.
- Restart hot engine after 40 minutes.

i **Note:**

As a precaution, insure secondary coolant system is properly bled, refer to WIS document AR20.00-P-1145H.

Figure 1 - DAS Screen: Fuel pressure test at rest

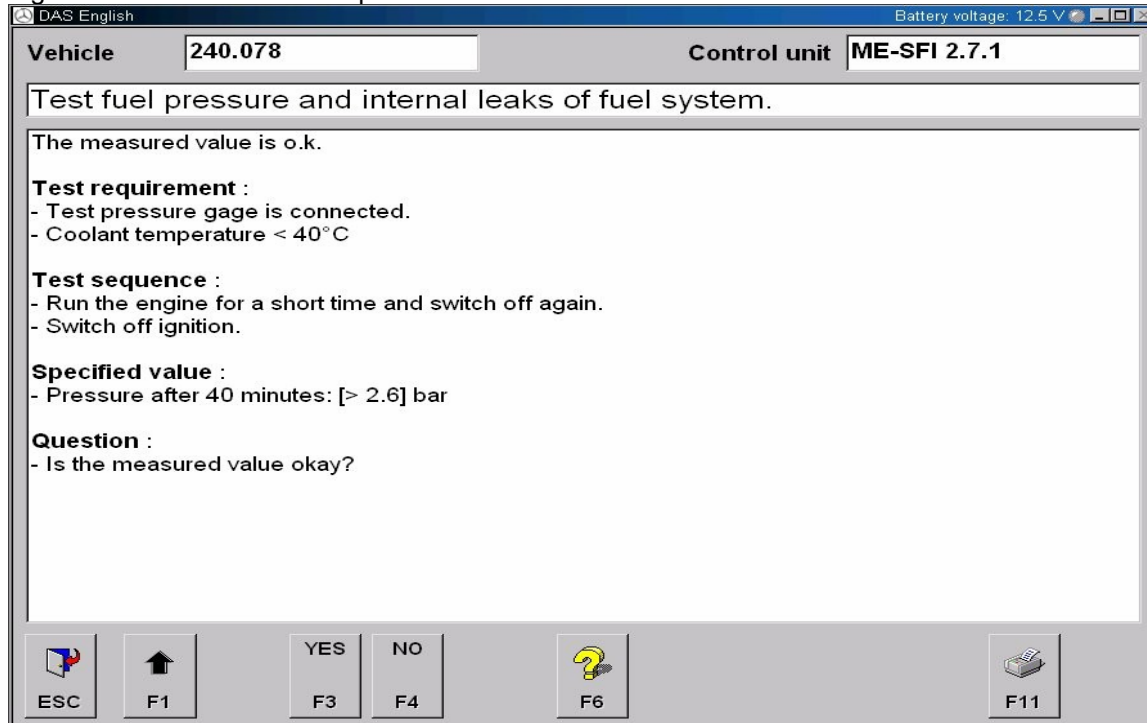


Figure 2

VIN	WDBNG76J64A	Model series/model designation	220.176
Order number		License plate	

Fault codes

Control unit: ME271

Code	Text	Status
P2043	Misfiring (P0300)	STORED

Misfire codes on both cylinder banks

Name	Current values (first/last)	Unit
Internal control module error	67	
Fault Type	Signal is too large.	
'Check engine' indicator lamp	ON	
Fault frequency	4	
Status of Lambda control for right cylinder bank	Active Not active (Fault status)	
Status of Lambda control for left cylinder bank	Active Not active (Fault status)	
Engine load	29.37	%
Coolant temperature	191 185	°F
Selfadaptation in idle speed range, right bank of cylinders	0.051 0.051	ms
Selfadaptation in part load range, right bank of cylinders	1.030 1.034	
Selfadaptation in idle speed range, left bank of cylinders	0.051 0.051	ms
Selfadaptation in part load range, left bank of cylinders	1.019 1.019	
Engine speed	625 750	rpm
Vehicle speed	4 10	mph
Intake manifold pressure	420 512	hPa
Intake air temperature	164 158	°F
Distance driven since fault memory erased	760.1840	km
Time since engine start	1 1	min
Ignition angle	-16.5 -2.2	°KW
Idle speed detection	OFF/ON OFF/ON	
Full load detection	OFF/ON OFF/ON	
Inertia fuel shutoff	OFF/ON OFF/ON	
Secondary air injection pump	OFF/ON OFF/ON	
Fuel tank cap	OPEN/CLOSED OPEN/CLOSED	
Underspeed exit	NO/YES NO/YES	
Purge control	OFF/ON OFF/ON	
Throttle valve angle	2.5 4.7	°DK
Fuel tank level	40 29	Liter
Lambda control, before TWC right	1.054 0.999	
Lambda control, before TWC left	1.050 0.999	
Boost pressure	993.28 993.28	hPa

engine at operating temperature

idle speed range

just after hot start (≤ 1 minute)

fuel level must be > 5 liter

Filename: C:\Programme\Das\bin\...trees\PKWMotorOtt\ME271\sgscreen\FCScreen.s
 Cell co-ordinate: 1, 3



Note:

All fuel pump control units exchanged under warranty for the above condition must be accompanied by the printout of all fault codes stored in the ME engine control unit and freeze frame data showing the symptoms (Figure 2) of a hot start performance problem. Claims submitted without this information as of repair date December 13, 2004 will be debited back to the dealer.

Parts Information

Qty.	Part Name	Updated Part Number
1	Fuel Filter	A002 477 61 01 **
1	Fuel Pump	A001 470 87 94 **
1	Fuel pump control unit	A220 540 29 45 **
1	Fuel pump control unit	A230 540 29 45 **

****Parts are in a critical supply situation and will be limited, please see the PAC weekly status report on parts availability status and delivery expectations. This report is located on the PAC website.**



Note: The following allowable labor operations should be used when submitting a warranty claim for this repair.

In Case of Warranty

- Operation:** Short test, perform (54-1011)
Fuel pump pressure – check, perform (07-5702)
Fuel pump delivery, test (07-5701)
- If necessary: Main fuel filter (gas engines), replace (07-5563)
Fuel pump, replace (07-5730)
Fuel pump control module (after test), replace (07-5831)

Damage Code	Operation Number	Time (hrs.)	Model Indicator (s)
09001 53	54 1011	0.3 hrs.	00
	07 5702	0.4 hrs.	M0, N0, R3
	07 5701	0.3 hrs.	00
If necessary	07 5563	0.6 hrs.	N0
		0.9 hrs.	M8, R0
	07 5730	0.8 hrs.	M8, N4
		0.9 hrs.	R3
		0.3 hrs.	M8, N4
	07 5831	0.5 hrs.	R3