MITSUBISHI MOTORS

SERVICE BULLETIN

DOMESTIC SALES & AFTER SALES SERVICE OFFICE, MITSUBISHI MOTORS CORPORATION

PURPOSE : INFORMATION	ISSUE NO. : MSB-10E13_17-001	DATE : 2010-06-05
SUBJECT : DPF-RELATED SERVICE PROCEDURES FOR 4N1		<MODEL> <M/Y>
GROUP : FUEL/ENGINE & EMISSION CONTROL		(EUR) See following 2. Applicable Manuals table.

1. Description:

On 4N1 engines, some DPF-related service procedures are revised as shown below. This Service Bulletin contains the details of these changes.

- Forcible DPF regeneration procedure using MUT-III is established.
- The diagnosis procedure for DTC P1498 is changed.
- The diagnosis procedure for DTC P2463 is established.
- Description of state and required service for a DPF warning signal condition is changed.

2. Applicable Manuals:

See Attached sheet 1.

There may be some attached sheets not included in this Service Bulletin because they are not applicable to your market. Their sheet numbers are not listed in the above table.

3. Details:

See Attached sheets 2 to 5.

Attached sheet 1

Manual/Model	<M/Y>	Pub. No.	Title (Info-ID)	Attached Sheet
2011 LANCER Workshop Manual (CY0A)	11	CG1E11E1-1 (English) CG1F11E1-1 (French) CG1G11E1-1 (German) CG1S11E1-1 (Spanish) CG1I11E1-1 (Italian)	Gr.13C: DTC P1498: Excessive PM Accumulated in DPF (M133-52-480-09500-01)	Attached sheet 2
			Gr.13C: DTC P2455: Exhaust Differential Pressure Sensor Circuit High Input (M133-52-510-10700-01)	Attached sheet 3
			Gr.17: General Information (DPF System) (M175-00-660-19700-01)	Attached sheet 4
			Gr.17: Forcible DPF Regeneration (M175-00-680-17900-01)	Attached sheet 5
2011 LANCER SPORTBACK Workshop Manual (CX0A)	11	CG4E11E1-1 (English) CG4F11E1-1 (French) CG4G11E1-1 (German) CG4S11E1-1 (Spanish) CG4I11E1-1 (Italian)	Gr.13C: DTC P1498: Excessive PM Accumulated in DPF (M133-52-480-09500-01)	Attached sheet 2
			Gr.13C: DTC P2455: Exhaust Differential Pressure Sensor Circuit High Input (M133-52-510-10700-01)	Attached sheet 3
			Gr.17: General Information (DPF System) (M175-00-660-19700-01)	Attached sheet 4
			Gr.17: Forcible DPF Regeneration (M175-00-680-17900-01)	Attached sheet 5
2011 OUTLANDER Workshop Manual (CW0W)	11	CGXE11E1-1 (English) CGXF11E1-1 (French) CGXG11E1-1 (German) CGXS11E1-1 (Spanish) CGXI11E1-1 (Italian)	Gr.13F: DTC P1498: Excessive PM Accumulated in DPF (M133-52-480-10300-01)	Attached sheet 2
			Gr.13F: DTC P2455: Exhaust Differential Pressure Sensor Circuit High Input (M133-52-510-11800-01)	Attached sheet 3
			Gr.17: General Information (DPF System) (M175-00-660-20500-01)	Attached sheet 4
			Gr.17: Forcible DPF Regeneration (M175-00-680-18000-01)	Attached sheet 5
2011 ASX Workshop Manual (GA0W)	11	CGWE11E1-1 (English) CGWF11E1-1 (French) CGWG11E1-1 (German) CGWS11E1-1 (Spanish) CGWI11E1-1 (Italian)	Gr.13B: DTC P1498: Excessive PM Accumulated in DPF (M133-52-480-08400-01)	Attached sheet 2
			Gr.13B: DTC P2455: Exhaust Differential Pressure Sensor Circuit High Input (M133-52-510-09900-01)	Attached sheet 3
			Gr.17: General Information (DPF System) (M175-00-660-18600-01)	Attached sheet 4
			Gr.17: Forcible DPF Regeneration (M175-00-680-16800-01)	Attached sheet 5

Code No. P1498: Excessive PM Accumulated In DPF

FUNCTION

- The engine-ECU monitors the input signals from sensors to estimate the PM amount loaded to the DPF inside.
- If the PM is loaded more than the specified amount, the DPF regeneration is automatically executed under certain conditions in order to eliminate the PM.
- If the PM is excessively loaded, the engine-ECU does not execute the automatic DPF regeneration. It makes the engine warning lamp illuminate and allow the DPF warning mark to be shown.

TROUBLE JUDGMENT

Check Condition

- Ignition switch is in "ON" position.

Judgement Criterion

- Driving distance exceeds the specified value after the last DPF regeneration.

FAIL-SAFE AND BACKUP FUNCTION

- The throttle valve is opened (Electrical discontinuity).
- The EGR control is stopped (fully closed).
- The DPF regeneration is prohibited.
- The fuel injection amount is restricted (Output restriction).
- The open angle of the accelerator pedal is restricted.
- The AS&G control is prohibited.

PROBABLE CAUSE

- The PM is abnormally loaded to the DPF inside.

DIAGNOSIS PROCEDURE

<Changed>

STEP 1. Forcible DPF regeneration execution

- Carry out the forcible DPF regeneration (Refer to GROUP 17 – Diesel Particulate Filter (DPF) System <4N1> – Forcible DPF Regeneration).

Q: Is the diagnosis code set?

YES : Inspection chart for diagnosis code.
NO : Check end.

Insert attached sheet 2-A

Attached sheet 2-A

STEP 1. M.U.T.-III diagnosis code.

- Check whether the diagnosis code P2463 is set together with P1498 or not.

Q: Is the diagnosis code P2463 set?

YES : Troubleshoot the diagnosis code P2463.
NO : Go to Step 2.

STEP 2. Forcible DPF regeneration execution

- Carry out the forcible DPF regeneration (Refer to GROUP 17 – Diesel Particulate Filter (DPF) System – Forcible DPF Regeneration).

Q: Is the diagnosis code set?

YES : Inspection chart for diagnosis code.
NO : Check end.

<Added>

Attached sheet 3

Code No. P2463: No chance of forcible regeneration of DPF

FUNCTION

- The engine-ECU monitors the input signals from sensors to estimate the PM amount loaded to the DPF inside.
- If the PM is loaded more than the specified amount, the DPF regeneration is automatically executed under certain conditions in order to eliminate the PM.
- If the PM is excessively loaded, the engine-ECU should not execute the automatic DPF regeneration. At that time, the engine-ECU should store the diagnosis code P1498. It makes the engine warning lamp illuminate and allows the DPF warning mark to be shown.
- If the engine-ECU estimates that the amount of accumulated PM will increase and reach the level where the DPF cannot be regenerated after the diagnosis code P01498 is stored, the diagnosis code P2463 should be stored.

TROUBLE JUDGMENT

Check Condition

- Ignition switch is in "ON" position.

Judgement Criterion

- The estimated amount of accumulated PM exceeds more than specified amount.

FAIL-SAFE AND BACKUP FUNCTION

- The EGR control is stopped (fully closed).
- The cruise control is prohibited.
- The fuel injection amount is restricted (Output restriction).
- The open angle of the accelerator pedal is restricted.
- The AS&G control is prohibited.

PROBABLE CAUSE

- The PM is abnormally loaded to the DPF inside.

DIAGNOSIS PROCEDURE

STEP 1. Replace the exhaust centre pipe.

1.Replace the exhaust centre pipe.

2.Erase the diagnosis code.

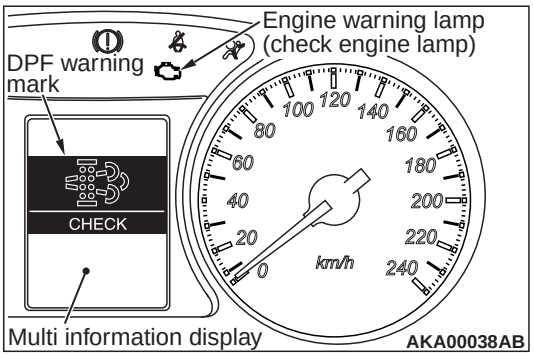
3.Use the M.U.T.-III to perform the initialization item No.40 "Exchange Service". Initialize the learning values. (Refer to GROUP 00 – Initialisation Procedure For Learning Value In Common Rail Engine <4N1>).

4.Reconfirm whether the diagnosis code is set.

Q: Is the diagnosis code set?

YES : Inspection chart for diagnosis code.
NO : Check end.

Attached sheet 4



DPF WARNING SIGNAL

When the anticipated PM accumulation becomes larger in amount and reaches the specified level, the engine-ECU encourages the driver to drive under the driving conditions required for the DPF regeneration by showing the DPF warning mark on the multi information display. When the PM accumulated in the DPF reaches its clogged or damaged level, the engine-ECU warns the driver that the vehicle must be brought to the workshop by showing the DPF warning mark in the multi information display and illuminating the engine warning lamp. When the vehicle is brought into the shop with the DPF warning mark shown, service the vehicle in accordance with the following procedures.

DPF warning mark	Engine warning lamp	State and service
Shown	Being lit <Changed>	~~The forcible DPF regeneration, using M.U.T.-III, must be carried out because it is assumed that PM is excessively accumulated within the DPF.~~ *~~NOTE: At that time, the engine-ECU stores the diagnosis code P1498.~~*
Shown	Not being lit	The status is that the driver is advised to drive the vehicle under the driving conditions in which the DPF automatic regeneration can be carried out because it is assumed that the PM is accumulated more than the specified value in the DPF. In this case, the DPF regeneration must be carried out using one of the following two methods: • After the engine warm-up, the vehicle must be driven at more than 40 km/h until the DPF warning mark is extinguished. The driving time is approximately 20 minutes. It is all right that the vehicle or the engine stops during the driving. • Using the MUT-III, the forcible DPF regeneration must be carried out.

The engine-ECU estimates that the PM will excessively be accumulated in the DPF.
At that time, the engine-ECU should store the diagnosis codes (P1498, P2463). Carry out the troubleshooting regarding the stored diagnosis codes (Refer to GROUP 13 Diesel Fuel <4N1> - Troubleshooting - Diagnosis Code Chart).
NOTE:
The diagnosis code P2463 should be stored if the engine-ECU estimates that the PM will more excessively be accumulated after the P1498 is stored and the PM will reach the level where the DPF cannot be regenerated.

FORCIBLE DPF REGENERATION

WARNING

The forcible regeneration of the DPF must be carried out in a safe place by two people. The M.U.T.-III must be operated by the person seated in the front passenger seat.

WARNING

When the vehicle is stopped during or after the forcible regeneration of the DPF, be sure there is no people or combustible materials in the vicinity. If people or combustible material is around the muffler, serious injury or damage such as heat injury or fires may occur because high temperature exhaust gases are put out.

NOTE: When the engine warning lamp illuminates with the DPF warning mark shown in the multi information display, the forcible regeneration of the DPF must be carried out.

1. Set the vehicle to the pre-inspection condition.
2. Turn the ignition switch to the "LOCK" (OFF) position and then connect the M.U.T.-III to the diagnosis connector.
3. Start the engine and drive the vehicle under the following conditions, then keep the situation.
   - Engine speed: 2,000 r/min or more
   - Transmission: more than 3rd speed
   - Vehicle speed: 40 km/h or more

   NOTE: Continue to drive the vehicle without stopping as much as possible.
4. From "FUNCTION MENU" on M.U.T.-III, select "SPECIAL FUNCTION".
5. From "SPECIAL FUNCTION", select "DPF REGENERATION".
6. Carry out the Item No.33 DPF regeneration and check that the red DPF warning mark is changed to the yellow one.
   Drive the vehicle for approximately 20 – 45 minutes.

   NOTE: Use the MUT-III to check whether the forcible regeneration of the DPF is carried out or not. Check that the DPF REGENERATION OPERATIONS of the item No.321 is turned on.

   NOTE: If the forcible regeneration of the DPF is not carried out, slightly increase the engine speed.

   NOTE: Stopping the vehicle stops the forcible regeneration of the DPF. If driving again within 100 seconds, the forcible regeneration of the DPF is restarted.
7. Finishing the forcible regeneration of the DPF should turn the yellow DPF warning mark to the red one. Check that the display is gone after four seconds.
8. After the ignition switch is in the "LOCK" (OFF) position, confirm the DPF warning mark does not show by restarting the engine.

Attached sheet 5 (2/2)

9. If the DPF warning mark is not extinguished even though running the engine more than 60 minutes, carry out the troubleshooting of the diagnosis code P1497 (Refer to GROUP 13 Diesel Fuel <4N1> – Diagnosis Code Chart).
10. Erase the diagnosis code.
11. Turn the ignition switch to the "LOCK" (OFF) position and then remove the M.U.T.-III.