



## STAR ONLINE PUBLICATION



**Case Number: S1625000005**

**Release Date: 11/10/2020**

**Symptom/Vehicle Issue: (Rev. A)** Malfunction Indicator Light (MIL) Illuminated. Service Diesel Exhaust Fluid (DEF) System – See Dealer Soon Message on Electronic Vehicle Information Center (EVIC) Along With Possible Diagnostic Trouble Code (DTC) P241D - SCR Inducement - Forced Engine Shutdown.

**Discussion:** The Service DEF System – See Dealer Soon message on EVIC is triggered by certain Diagnostic Trouble Codes (DTC) identified and reported by the Engine Control Module (ECM). When the message is present, the system is in what is commonly called Inducement Mode. The following DTCs will cause the system to go into Inducement Mode and trigger the “Service DEF System – See Dealer Soon” message:

**NOTE:** The “Service DEF, See Dealer” message does not automatically indicate there is an issue with the DEF System itself (i.e. fluid, pump, injector etc.). Only that there is a DTC present that could affect overall performance of the entire Aftertreatment system. Please follow normal published diagnostics for any and all DTCs that have set.

- P208B – Reductant Pump 1 Control performance.
- P1220 – Excessive Cycling of Reductant Line Air Purging Control.
- P20E9 – Reductant Pressure Too High.
- P20E8 – Reductant Pressure Too Low.
- P2BA9 – NOX Exceedence – Insufficient Reductant Quality.
- P203F – Reductant Level Too Low.
- P0072 – Ambient Air Temperature Sensor Circuit “A” Low
- P0073 – Ambient Air Temperature Sensor Circuit “A” High
- P1660 – Emergency Stop Fuel Shut-Off Solenoid
- U0140 – Lost Communication with Body Control Module
- P05ED – Reductant Heater Control Module Supply Voltage
- P2047 – Reductant Injector 1/1 Circuit.
- P203A – Reductant Level Sensor Circuit.
- P208A – Reductant Pump “A” Control Circuit/Open.
- P20FA – Reductant Pump 2 Control Circuit/Open.

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- P05F2 – Reductant Pump Supply Voltage Circuit Stuck Off.
- P05F1 – Reductant Pump Supply Voltage Circuit Stuck On.
- P05EE – Reductant Pump Supply Voltage Circuit Open.
- P05F3 – Exhaust Aftertreatment Power Relay Control Circuit Open.
- P220A – NOX Sensor Bank 1 Sensor 1 Supply Voltage Circuit.
- P2200 – NOX Sensor 1 Circuit.
- U029D – Lost Communication With NOX Sensor Module “A”.
- P220B – NOX Sensor Bank 1 Sensor 2 Supply Voltage Circuit.
- P229E – NOX Sensor Circuit – Bank 1 Sensor 2.
- U029E – Lost Communication With NOX Sensor module “B”.
- P242D – Exhaust Gas Temperature Sensor Circuit High – Bank 1 Sensor 3.
- U02A2 – Lost Communication With Reductant Quality Module (2016 and newer only).
- P206D – Reductant Quality Sensor Circuit High (2016 and newer only).
- P206B – Reductant Quality Sensor Circuit Range Performance (2016 and newer only).
- P206A – Reductant Quality Sensor Circuit (2016 and newer only).

Once the Active DTC has been logged into the ECM’s memory, the vehicle will display the “Engine Will not restart in XXX mi Service DEF See dealer” message if not corrected within 50 miles. If the issue that caused the DTC to set is not corrected within 150 miles, the ECM will not allow the engine to be restarted.

**NOTE: Please refer to the owner’s manual for more detailed information regarding the “Service DEF” messages.**

If the vehicle is driven to the point that the engine will not restart, DTC P241D - SCR Inducement - Forced Engine Shutdown will be stored in the ECM’s memory and the EVIC message “Engine Will Not Start Service DEF System See Dealer” will be displayed. The “SCR Extend Mileage W Active Fault” routine located in the ECM “MISC. Functions” tab within wiTECH will have to be performed to allow the vehicle to start and provide up to an additional 49 miles of driving.

Once the cause of the DTC has been repaired and the code cleared, the ECM DTC monitor that originally set the issue must run successfully before the EVIC message is cleared.

Not all ECM diagnostic parameters are performed while the vehicle is in motion. DTC’s on the previous list that are highlighted in **RED** are run while the vehicle is in motion (vehicle must be driven). All others are run either with the ignition ON – engine OFF or ignition ON – engine Running.

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**NOTE: P2BA9 - NOX Exceedence – Insufficient Reductant Quality requires a specialized repair procedure in order to clear the message on vehicles not equipped with a Urea Quality Sensor. Please refer to additional published service information regarding this DTC.**

**NOTE: DTC P241D is only set when another DTC that affects DEF inducement is also set. If DTC P241D is the only code present, then the associated DTC may have been mistakenly erased from the ECM's memory. In this instance, it is recommended to reset the SCR mileage and drive the vehicle for at least 30 miles to ensure that all diagnostic monitors have run. If the condition is still present, the associated DTC will reset and the MIL will illuminate.**

In addition, you can run into situations where the codes are cleared prior to arrival. This will present a situation where there are no codes visible but the message remains. Should this happen, the original DTC that set the message will be stored in the ECM data list under SCR DTC. See (Figure 1) on the next page.

PCM View

Click on tabs to access various ECU operations and information for the selected ECU.

Flash Data DTCs Actuators System Tests Misc Functions ECU Details

Double-click row selection to graph data element, or check multiple elements and press "Show Graph". Click on column heading to sort table. Drag and drop row or multiple row selections to re-order table elements.

Graph	Name	Value	Unit	Type
<input type="checkbox"/>	SCR DTC_[0]	0000		Sensors
<input type="checkbox"/>	SCR DTC_[1]	0000		Sensors
<input type="checkbox"/>	SCR DTC_[2]	0000		Sensors
<input type="checkbox"/>	SCR DTC_[3]	0000		Sensors
<input type="checkbox"/>	SCR DTC_[4]	0000		Sensors
<input type="checkbox"/>	SCR Long Term Adaptation Adjustment Value	1.00	No Units	Sensors
<input type="checkbox"/>	SCRctl_error_status_[0]	Error Absent		Sensors
<input type="checkbox"/>	SCRctl_error_status_[1]	Error Absent		Sensors
<input type="checkbox"/>	SCRctl_error_status_[2]	Error Absent		Sensors
<input type="checkbox"/>	SCRctl_error_status_[3]	Error Absent		Sensors
<input type="checkbox"/>	SCRctl_error_status_[4]	Error Absent		Sensors

**Figure 1**

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