TSB-ENHCV-2225 Urea Pump Replacement Checklist

Appendix 1

21.11.2025

WORKFLOW

Read Fault Code → Is the related fault present? → Visual Inspection → Electrical Check → Fault Diagnosis → Problem Resolution

Leer/escribir el número de identificación del vehículo: NM0KCXTP6KPU90822
Date: 2025-01-28T11:55:12.453+0001

ECU: ACM (Disponible)
DTCS: 1

U2100-00	La configuración inicial no se completa

ECU: AMT (Disponible)
DTCS: 2

P0C6C-04	Error de transmisión del mensaje EEC1
P1012-04	Error de transmisión de las condiciones ambientales del mensaje

ECU: BCM (Disponible)
DTCS: 0

ECU: DTCO (Disponible)
DTCS: 1

P0005-B1	Sobre velocidad
Lámpara de mal funcionamiento	Apagado
Tipo de fallo	Confirmado
Estado del fallo	CURADO

ECU: EAPU (Disponible)
DTCS: 1

U370709	Condiciones ambientales Fallo del mensaje (PGN 65269 - 'AMB')

ECU: EBS (Disponible)
DTCS: 6

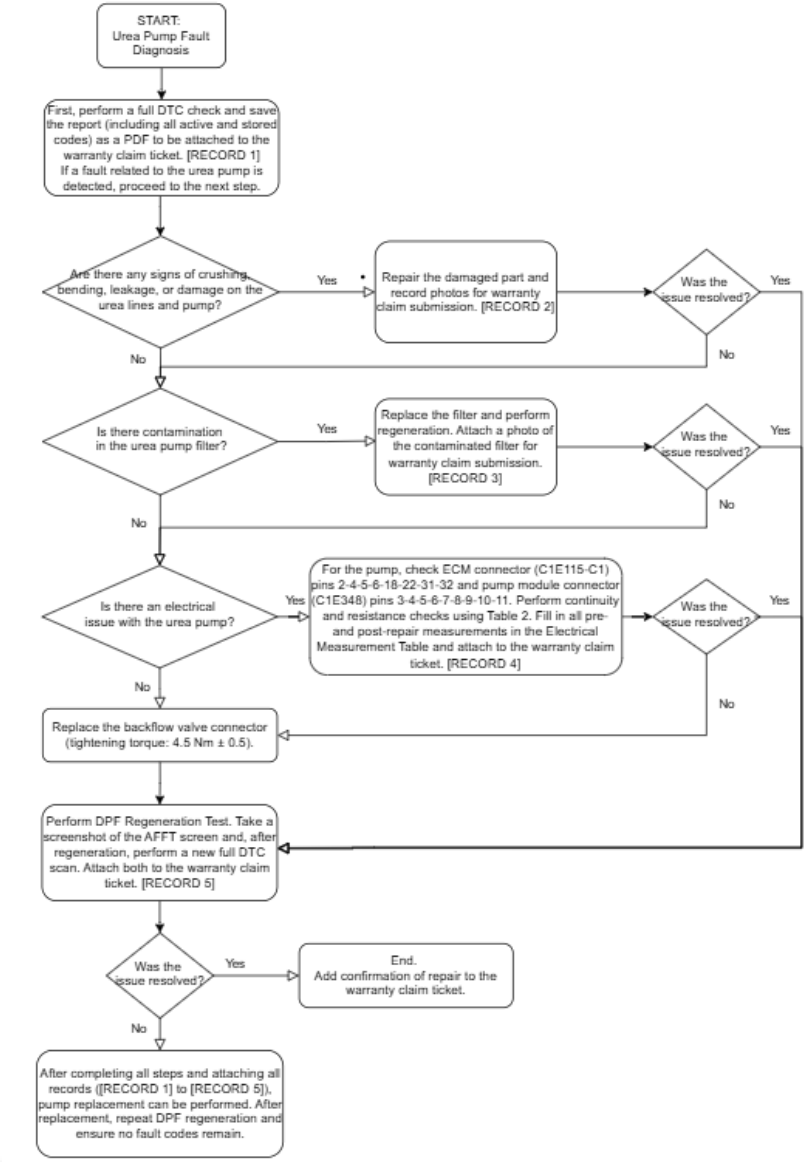
E4FF00	Fallo secundario externo: señal de peso externa de vehículo inverosímil
E60A00	J1939 (Power Train CAN): Tiempo de espera o condición de error en la comunicación con el motor ECU ON (SA = 0x00)
E90A00	J1939 (Power Train CAN): Tiempo de espera o condición de error en la comunicación con la ECU de gestión (Coordinador) (FFR) en CAN (SA = 0x27 o Global SA)
EF0A00	J1939 (Power Train CAN): Tiempo de espera o condición de error en la Comunicación con la ECU de suspensión ON (SA = 0x2f)
0B4700	ESP Logic: Tiempo de espera
590C00	ISO 11992 (lata de trailer): solicitud de lámpara de advertencia roja

ECU: ECM (Disponible)
DTCS: 5

P204C-21	Circuito de sensor de presión reductante bajo
Lámpara de mal funcionamiento	ON
Tipo de fallo	Confirmado
Estado del fallo	No probado en el último viaje
P208B-31	Bomba agente reductor A rendimiento/atasco
Lámpara de mal funcionamiento	Apagado
Tipo de fallo	Pendiente
Estado del fallo	No probado en el último viaje
P20C1-00	Circuito de control del calentador C reductor/Abrir
Lámpara de mal funcionamiento	ON
Tipo de fallo	Confirmado
Estado del fallo	No probado en el último viaje
P20C3-00	Calentador reductante C Circuito de control bajo
Lámpara de mal funcionamiento	ON
Tipo de fallo	Confirmado
Estado del fallo	No probado en el último viaje

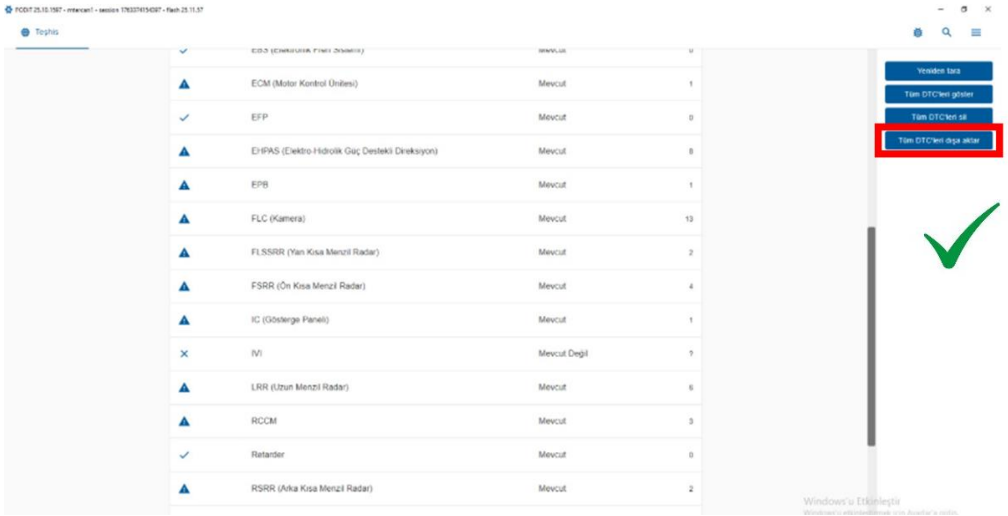
UREA PUMP REPLACEMENT CHECKLIST

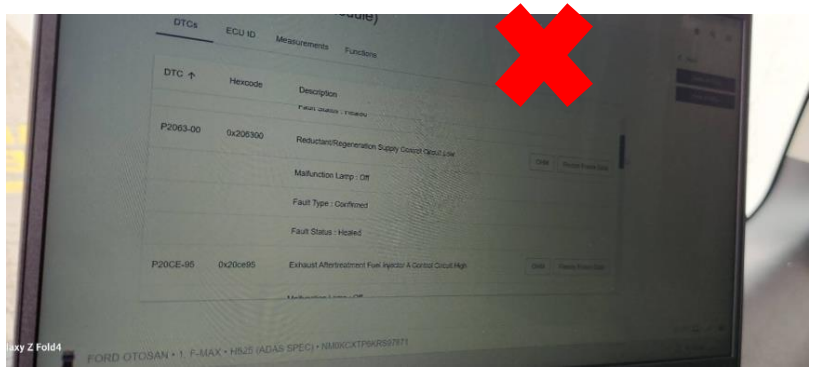
Urea Pump Replacement Checklisst □		
No	Control	Explanation
1	Initial Check and DTC Scan	* Connect the FODIT tool and perform a full DTC scan. Save the report including all active and stored fault codes in the ECM. * [LOG 1] Save the complete DTC report as a PDF to be submitted with the warranty claim ticket. * If there is a fault related to the urea pump, proceed to the next step.
2	Physical Inspection for Damage and Leaks	* Visually inspect all urea lines connected to and from the pump module for signs of crushing, bending, leakage, or physical damage. * Inspect the pump module housing for any cracks or damage (Sample damage and leakage images - Image 1). * LOG 2] Save photos of the detected damages to be submitted with the warranty claim ticket. If the damage is repaired, proceed to Step 6: DPF Regeneration Test and Functional Checks. * If the fault still persists, proceed to the next step.
3	Urea Filter Contamination Check□	* Remove the urea filter (5L264) from the pump module. Inspect it for crystallization, contamination, oil/diesel ingress, or clogging (see “Contamination in Urea Filter” - Image 2). * [LOG 3] Attach a photo of the removed filter to the warranty claim ticket. * If contamination is observed in the filter, proceed to Step 6: DPF Regeneration Test and Functional Checks. * If the filter appears clean, replace the filter and move on to the next step.
4	Pump Module and Harness Electrical Checks	* With the ignition off, disconnect the ECM (C1E115-C1) and Urea Pump Module (C1E348) connectors. Using a multimeter, perform wiring harness and component resistance checks. Expected values can be found in Table 1. * [LOG 4] Complete the “Electrical Measurement Table” in Table 2 with all pre-repair and post-repair values and save it as a document. Attach this document to the warranty claim ticket. (See Urea Pump Pin diagram - Image 3). * If a wiring fault is found and repaired, proceed to Step 6: DPF Regeneration Test and Functional Checks. * If no electrical problem is found, move on to the next step.
5	BackFlow Connector Replacement	* For this step, you need to remove the Urea Tank. Then, replace the backflow valve (5L267) connector located on the urea pump as shown in Image 4. Damage in this connector is usually internal and not visible. Tightening torque: 4.5 Nm ± 0.5. * This step is a critical, low-cost action that often resolves “pressure” faults and prevents unnecessary pump replacement.
6	DPF Regeneration Test and Functional Checks	* Reconnect all components. Initiate the DPF regeneration. * During the test, ensure there are no leaks or abnormal noise, and system pressure on the AFFT screen (RAP) approx. 9000 hPa (Image 5). * [LOG 5] Take a screenshot of the AFFT screen and, after regeneration is complete, perform a new full DTC scan and attach it to the warranty claim ticket.
7	Final Decision and Pump Replacement Authorization□	* After all the above steps are completed and all records ([LOG 1] through [LOG 5]) have been attached to the document, if the issue is still not resolved, the pump replacement can be performed. * After replacing the pump, initiate the DPF regeneration again. Ensure that no fault codes reappear after regeneration.



INITIAL CHECK AND DTC SCAN

1	Initial Check and DTC Scan	* Connect the FODIT tool and perform a full DTC scan. Save the report including all active and stored fault codes in the ECM. * [LOG 1] Save the complete DTC report as a PDF to be submitted with the warranty claim ticket. * If there is a fault related to the urea pump, proceed to the next step.





Read/Write Vehicle Identification Number: NM0KCXTP6KRA98847
Date: 2025-03-11T10:47:27.334+0006

ECU: ACM (Audio Control Module) (Available)
DTCs: 0

ECU: AMT (Transmission Control Unit) (Available)
DTCs: 0

ECU: BCM (Body Control Module) (Available)
DTCs: 1

B12D8-15	Water Pump Supply Circuit Short To Battery or Open

ECU: DTCO (Digital Tachograph) (Available)
DTCs: 0

ECU: EAPU (Electronic Air Processing Unit) (Available)
DTCs: 0

Sample document

ECU: EBS (Electronic Braking System) (Available)
DTCs: 0

ECU: ECM (Engine Control Module) (Available)
DTCs: 3

P20A2-00	Reductant Purge Control Valve A Circuit GND
Malfunction Lamp	On
Fault Type	Pending
Fault Status	NA
P20C3-00	Reductant Heater C Control Circuit Low
Malfunction Lamp	On
Fault Type	Pending
Fault Status	NA
P2BAF-00	NOx System Driver Inducement Active
Malfunction Lamp	Off
Fault Type	Confirmed
Fault Status	Healed

ECU: EHPAS (Electro-Hydraulic Power Assisted Steering) (Not available)
DTCs: -

ECU: FLC (Forward Looking Camera) (Available)
DTCs: 3

P0000B0	J1939 VDC2 - Steering Wheel Angle signal from EBS module is missing
P0000BE	J1939 VDC2 Yaw rate sensor signal from EBS is missing. Check EBS module errors.
P0000C0	VDC2 Lateral acceleration sensor signal is missing. Check EBS module errors.

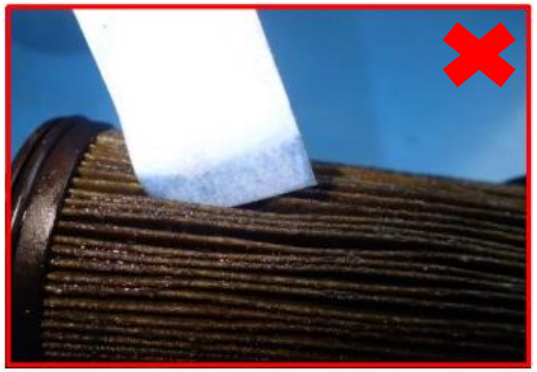
ECU: FLR (Forward Looking Radar) (Available)
DTCs: 0

PHYSICAL INSPECTION FOR DAMAGE AND LEAKS

2	Physical Inspection for Damage and Leaks	* Visually inspect all urea lines connected to and from the pump module for signs of crushing, bending, leakage, or physical damage. * Inspect the pump module housing for any cracks or damage (Sample damage and leakage images - Image 1). * LOG 2] Save photos of the detected damages to be submitted with the warranty claim ticket. If the damage is repaired, proceed to Step 6: DPF Regeneration Test and Functional Checks. * If the fault still persists, proceed to the next step.

UREA FILTER CONTAMINATION CHECK

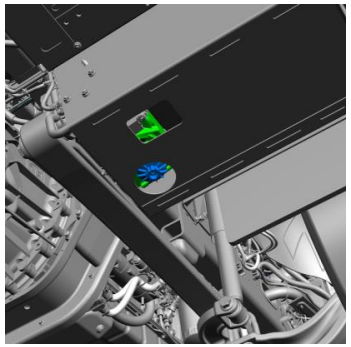
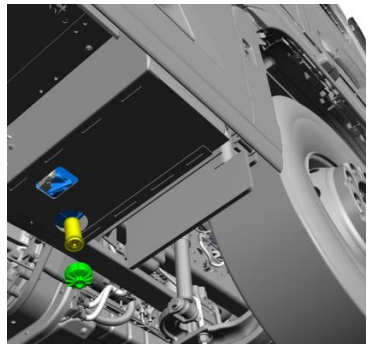
3	Urea Filter Contamination Check□	* Remove the urea filter (5L264) from the pump module. Inspect it for crystallization, contamination, oil/diesel ingress, or clogging (see “Contamination in Urea Filter” - Image 2). * [LOG 3] Attach a photo of the removed filter to the warranty claim ticket. * If contamination is observed in the filter, proceed to Step 6: DPF Regeneration Test and Functional Checks. * If the filter appears clean, replace the filter and move on to the next step.





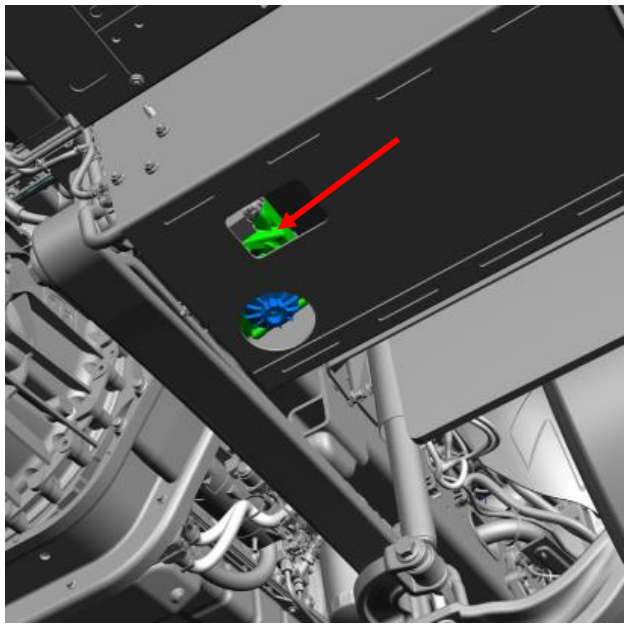


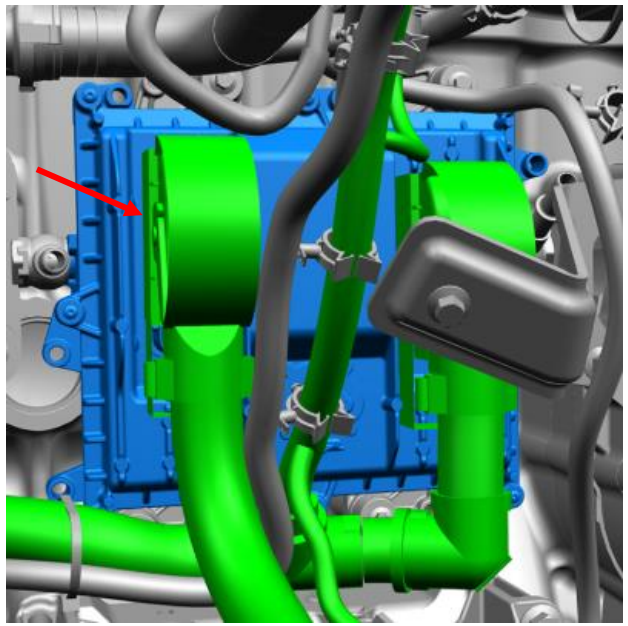


PUMP MODULE AND HARNESS ELECTRICAL CHECKS

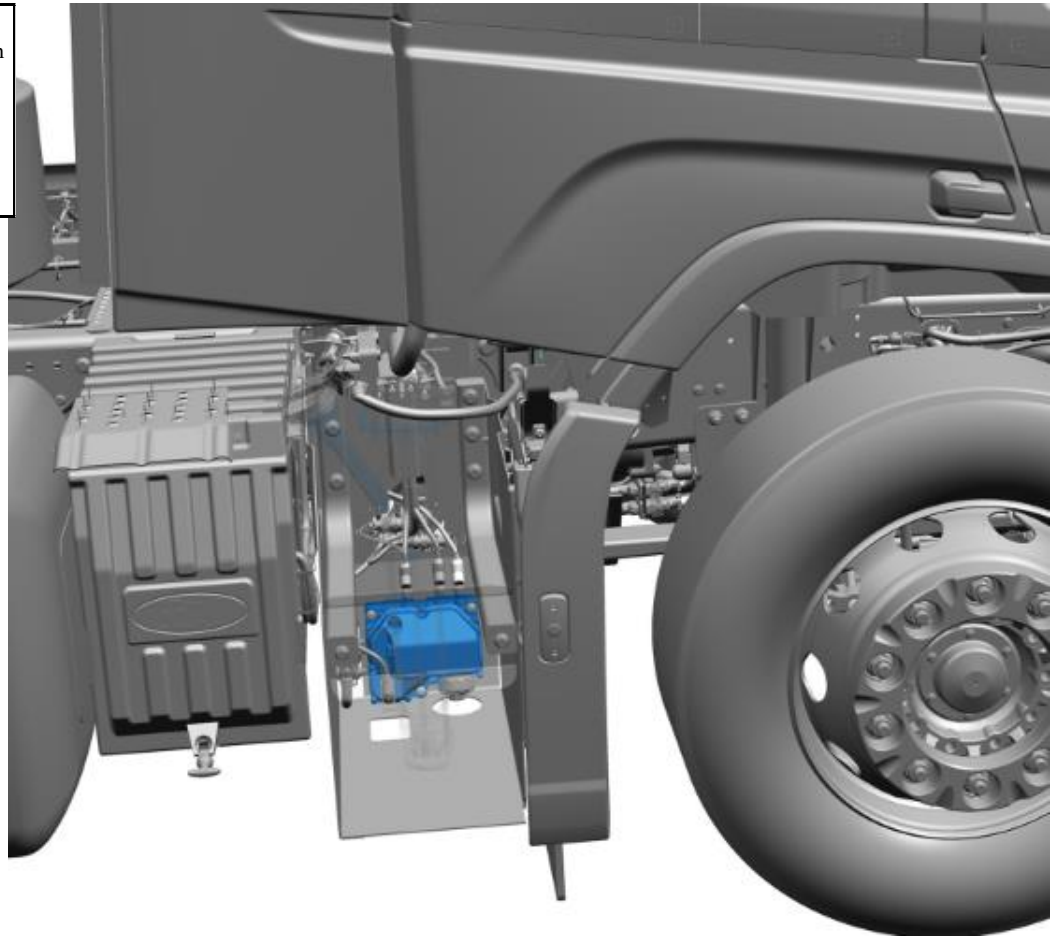
4	Pump Module and Harness Electrical Checks	* With the ignition off, disconnect the ECM (C1E115-C1) and Urea Pump Module (C1E348) connectors. Using a multimeter, perform wiring harness and component resistance checks. Expected values can be found in Table 1. * [LOG 4] Complete the "Electrical Measurement Table" in Table 2 with all pre-repair and post-repair values and save it as a document. Attach this document to the warranty claim ticket. (See Urea Pump Pin diagram - Image 3). * If a wiring fault is found and repaired, proceed to Step 6: DPF Regeneration Test and Functional Checks. * If no electrical problem is found, move on to the next step.





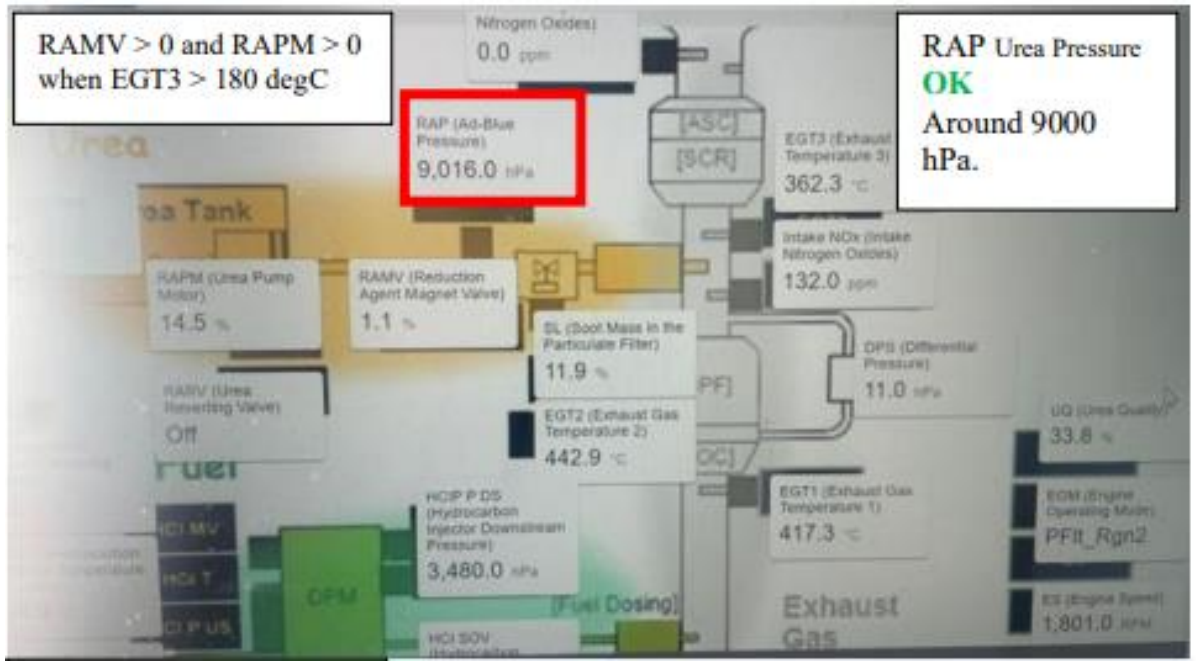
BACKFLOW CONNECTOR CHECK

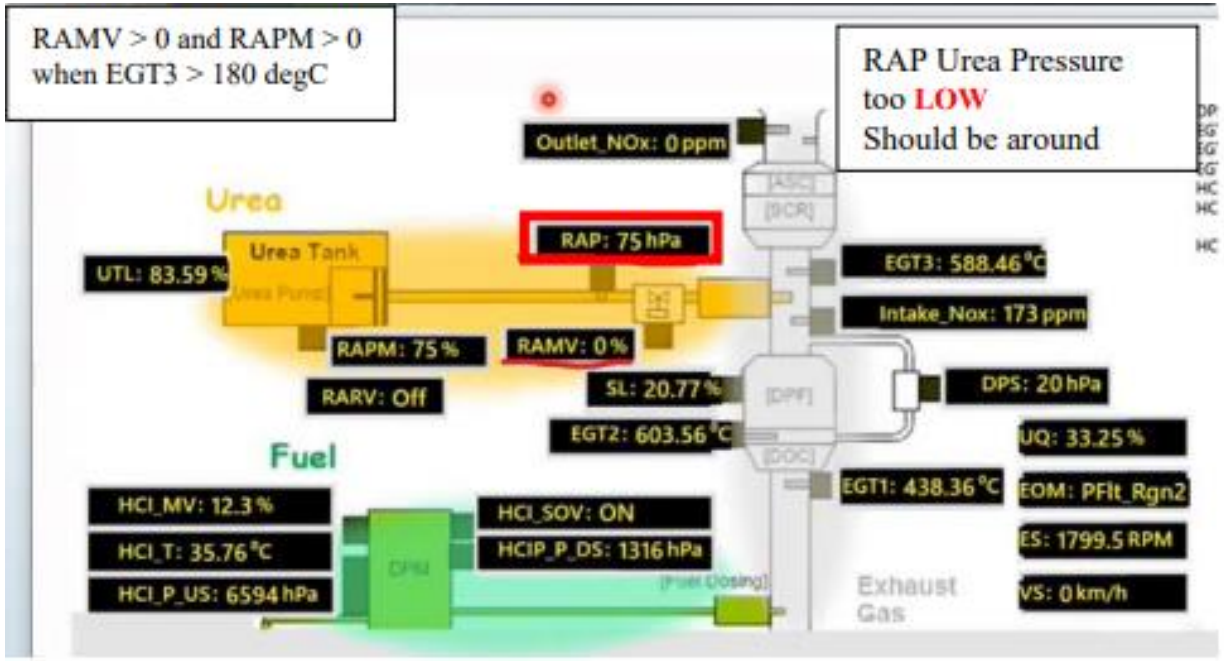
5	BackFlow Connector Replacement	* For this step, you need to remove the Urea Tank. Then, replace the backflow valve (5L267) connector located on the urea pump as shown in Image 4. Damage in this connector is usually internal and not visible. Tightening torque: 4.5 Nm ± 0.5. * This step is a critical, low-cost action that often resolves “pressure” faults and prevents unnecessary pump replacement.



DPF REGENERATION TEST AND FUNCTIONAL CHECKS

6	DPF Regeneration Test and Functional Checks	* Reconnect all components. Initiate the DPF regeneration. * During the test, ensure there are no leaks or abnormal noise, and system pressure on the AFFT screen (RAP) approx. 9000 hPa (Image 5). * [LOG 5] Take a screenshot of the AFFT screen and, after regeneration is complete, perform a new full DTC scan and attach it to the warranty claim ticket.





FINAL DECISION AND PUMP REPLACEMENT AUTHORIZATION

7	Final Decision and Pump Replacement Authorization	* After all the above steps are completed and all records ([LOG 1] through [LOG 5]) have been attached to the document, if the issue is still not resolved, the pump replacement can be performed. * After replacing the pump, initiate the DPF regeneration again. Ensure that no fault codes reappear after regeneration.

Note: During each inspection step, capture clear photos and/or videos. All visual evidence, along with the full DTC (Diagnostic Trouble Code) data, must be compiled and saved for this work order.
This collection of evidence must be retained and made available to the warranty engineer upon request.

Kindly bear in mind that warranty claims for newly opened work orders that do not have all the required evidence will not be approved for Urea Pump Module failures.

Leer/escribir el número de identificación del vehículo: NM0KCXTP6KPU90822
Date: 2025-01-28T11:55:12.453+0001

ECU: ACM (Disponible)
DTCS: 1

U2100-00	La configuración inicial no se completa

ECU: AMT (Disponible)
DTCS: 2

P0C6C-04	Error de transmisión del mensaje EEC1
P1012-04	Error de transmisión de las condiciones ambientales del mensaje

ECU: BCM (Disponible)
DTCS: 0

ECU: DTCO (Disponible)
DTCS: 1

P0005-B1	Sobre velocidad
Lámpara de mal funcionamiento	Apagado
Tipo de fallo	Confirmado
Estado del fallo	CURADO

ECU: EAPU (Disponible)
DTCS: 1

U370709	Condiciones ambientales Fallo del mensaje (PGN 65269 - 'AMB')

ECU: EBS (Disponible)
DTCS: 6

E4FF00	Fallo secundario externo: señal de peso externa de vehículo inverosímil
E60A00	J1939 (Power Train CAN): Tiempo de espera o condición de error en la comunicación con el motor ECU ON (SA = 0x00)
E90A00	J1939 (Power Train CAN): Tiempo de espera o condición de error en la comunicación con la ECU de gestión (Coordinador) (FFR) en CAN (SA = 0x27 o Global SA)
EF0A00	J1939 (Power Train CAN): Tiempo de espera o condición de error en la Comunicación con la ECU de suspensión ON (SA = 0x2f)
0B4700	ESP Logic: Tiempo de espera
590C00	ISO 11992 (lata de trailer): solicitud de lámpara de advertencia roja

ECU: ECM (Disponible)
DTCS: 5

P204C-21	Circuito de sensor de presión reductante bajo
Lámpara de mal funcionamiento	ON
Tipo de fallo	Confirmado
Estado del fallo	No probado en el último viaje
P208B-31	Bomba agente reductor A rendimiento/atasco
Lámpara de mal funcionamiento	Apagado
Tipo de fallo	Pendiente
Estado del fallo	No probado en el último viaje
P20C1-00	Circuito de control del calentador C reductor/Abrir
Lámpara de mal funcionamiento	ON
Tipo de fallo	Confirmado
Estado del fallo	No probado en el último viaje
P20C3-00	Calentador reductante C Circuito de control bajo
Lámpara de mal funcionamiento	ON
Tipo de fallo	Confirmado
Estado del fallo	No probado en el último viaje

1

Sample document

2