



# E290: EPA2021 PACCAR MX Fuel Injector Cleaning Procedure

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<b>Number</b>
E290
<b>Subject</b>
EPA2021 PACCAR MX Engine Fuel Injector Cleaning Procedure
<b>Date</b>
3/31/2022
<b>Revision</b>

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**04/03/2023:** Bulletin updated to clarify bulletin flow with RMI. Removed fuel filter element replacement steps in procedures. Added second cleaning cycle if necessary. Removed in-tank additive information. Added quick claim for repairs on or after 04/03/2023. Added references to E300.

**01/27/2023:** Updated part number for Diesel Kleen additive.

**01/04/2023:** Revised in-tank fuel additives in Procedures section.

- 12/16/2022:** Removed John Deere additive from the recommended list.
- 09/26/2022:** Updated Procedures diagram for before/after cleaning comparison of Unbalance Detection test results.
- 08/11/2022:** Added in-tank cleaner information in the Procedure section.
- 07/22/2022:** Removed Fleetguard Diesel Fuel Injector Cleaner option from in-tank additive table.
- 06/15/2022:** Edited parts and tool tables. Added in-tank additive recommendation.
- 06/03/2022:** Adjusted cleaning solutions. DSG 4+ is now available from PPD for US use. John Deere is no longer listed as an alternate.
- 05/23/2022:** Adjusted preferred order of cleaning solutions: DSG 4+ is now preferred while John Deere is an alternate.
- 05/16/2022:** Removed "disconnect aftertreatment system" step in procedures. Updated SRT codes and parts lists.
- 04/28/2022:** Removed Stanadyne cleaning solution. Stanadyne #43566 is not to be used as a cleaner for this procedure.
- 04/22/2022:** Added secondary tool kit part number. Adjusted preference for cleaning fluids. Removed mileage limit for affected chassis.
- 04/13/2022:** Updated the Parts section to include an alternative fuel system cleaning tool kit.
- 04/07/2022:** Updated contact information for DSG ordering.
- 04/04/2022:** Updated parts section and procedures document.

## Condition

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Chassis affected may experience one or more of the following DTCs or symptoms;

- Engine Knock
- P3300
- P0300
- P0301, P0302, P0303, P0304, P0305, P0306
- P1263, P1266, P1269, P1272, P1275, P1278
- P0263, P0266, P0269, P0272, P0275, P0278

## Chassis Affected

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All Model Year 2021 and later Model 389, 520, 567, 579, and 579 MLU chassis equipped with EPA2021 compliant PACCAR MX-11 and MX-13 engines.

## Action

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### Fix-As-Fail

If a customer comes into your dealership and demonstrates the condition above, refer to RMI for troubleshooting procedures for specific fault codes. Complete the procedures attached below for injector cleaning.

**1.** Check SIR for “complete” next to **E290A**. The vehicle SIR is also available in .pdf format under “Attachments” in Service Management. If “complete” shows next to **E290A**, the cleaning has been previously performed. See warranty section for filing instructions on vehicles that require additional cleaning.

**2.** If **E290A** does not appear in SIR, check the Asset Service History under the Asset Profile in Service Management to ensure another dealer has not recently completed the repair.

**3.** When completing this cleaning, make sure to manually enter **E290A** in a new operation line in Service Management when starting repairs to ensure the repair is tracked properly.

**4.** Print the E300 Driver’s Information Packet (attached below) and fill in the warranty end date and mileage information on the first page for the chassis. Refer to E300 for specific limitations of in-tank additive reimbursement.

- Check the vehicle in SIR to determine end date and mileage of any applicable engine warranty. The warranty start date is the vehicle “In Service” date.

## Warranty

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Through Base Warranty or any applicable active Extended Warranty, Peterbilt will pay for parts at dealer net plus applicable mark-up and labor:

### Campaign and SRT Codes

Quick Claim Code	SRT Code	Labor Hours	Use
NONE	B44-FSD	3.1	Repairs completed BEFORE 04/03/23
E290A1	B23-04A	1.8	Repairs completed on or after 04/03/23 – Cleaning performed ONCE
E290A2	B23-04B	3.0	Repairs completed on or after 04/03/23 – Cleaning performed TWICE in same service event.
E290A3	Editable	Editable	Repairs completed on or after 04/03/23 –Includes 2 cleanings AND injector replacement in the same service event. Injector replacement (up to 6 injectors) may only be claimed ONCE.
E290A4	B23-04C	1.0	Repairs completed on or after 04/03/2023 - Cleaning performed ONCE - Only applies to MY2023 chassis with NA31 RC1 software - See procedures for details.
E290A5	B23-04D	1.6	Repairs completed on or after 04/03/2023 - Cleaning performed TWICE in same service event. - Only applies to MY2023 chassis with NA31 RC1 software - See procedures for details.
E290B1	B23-04A	1.8	Subsequent claim for secondary cleaning on vehicles with E290A “Complete” – Cleaning performed ONCE <i>in second service event</i>
E290B2	B23-04B	3.0	Subsequent claim for secondary cleaning on vehicles with E290A “Complete” – Cleaning performed TWICE <i>in second service event</i>
E290B3	Editable	Editable	Subsequent claim for secondary cleaning on vehicles with E290A

Quick Claim Code	SRT Code	Labor Hours	Use
			“Complete” – Includes 2 cleanings AND injector replacement <i>in second service event</i> . Injector replacement (up to 6 injectors) may only be claimed ONCE. Only applies if injectors have not been previously replaced under E290A
E290B4	B23-04C	1.0	Subsequent claim for secondary cleaning on vehicles with E290A “Complete” – Cleaning performed ONCE <i>in second service event</i> - <b>Only applies to MY2023 chassis with NA31 RC1 software</b> - See procedures for details.
E290B5	B23-04D	1.6	Subsequent claim for secondary cleaning on vehicles with E290A “Complete” – Cleaning performed TWICE <i>in second service event</i> . - <b>Only applies to MY2023 chassis with NA31 RC1 software</b> - See procedures for details.

**For repairs completed before 04/03/2023:**

- File a long form claim for applicable repair parts (listed below) and 3.1 hrs labor using SRT code B44-FSD. This claim includes filter element replacement.

**For repairs completed on or after 04/03/2023:**

- **1.8 hours** labor to perform the attached cleaning procedure ONCE in the same service event – according to the attached procedure. Use appropriate quick claim code from the table above. This quick claim does NOT include filter element replacement.
- **3.0 hours** labor to perform the attached cleaning procedure TWICE in the same service event – according to the attached procedure. Use appropriate quick claim code from the table above. This quick claim does NOT include filter element replacement.
- **1.0 hours** labor to perform the attached cleaning procedure ONCE in the same service event - according to the attached procedure on **MY2023 chassis with NA31 RC1 software**. Use appropriate quick claim code from the table above. This quick claim does NOT include filter element

replacement.

• **1.6 hours** labor to perform the attached cleaning procedure TWICE in the same service event - according to the attached procedure on **MY2023 chassis with NA31 RC1 software**. Use appropriate quick claim code from the table above. This quick claim does NOT include filter element replacement.

**NOTE**

This bulletin covers the injector cleaning **ONLY**.

The attached procedures require an editable claim to cover parts (injectors) and any labor associated with injector replacement and additional troubleshooting (if necessary).

Use appropriate quick claim code from the table above in the campaign code field of this claim.

- If the vehicle has previously completed E290A and requires another cleaning in a second service event, file an additional claim using the appropriate quick claim code from the table above in the Campaign Code Field.
- For extraordinary circumstances, please use code **E290**. Add from "Recommended Repairs", then select the gear icon to edit Parts/Labor/Misc.
- File the claim within 14 days in accordance with the Warranty Policy.

Peterbilt dealers may perform E290A repairs on Kenworth chassis, but Quick Claims do not apply. For Kenworth chassis repairs, use the long claim

input form.

**PRWS CLAIM CODING**

<b>Campaign Code:</b>	E290A	<b>Campaign Type:</b>	Field Repair
<b>Claim Category:</b>	Engine	<b>Repair Type:</b>	Fix-As-Fail
<b>Customer Concern Code:</b>	202	<b>Causal Code:</b>	64
<b>Corrective Action Code:</b>	02	<b>Responsibility Code:</b>	CAMP
<b>Failure Location:</b>	044-002-002	<b>Causal Part:</b>	2272926
<b>Supplier Code:</b>	N/A	<b>SRT Code:</b>	<p><b>B44-FSD (3.1 hrs)</b> Injector cleaning procedure before 04/03/2023</p> <p><b>B23-04A (1.8 hrs)</b> Injector cleaning procedure (1x) on or after 04/03/2023 (without filter element replacement)</p> <p><b>B23-04B (3.0 hrs)</b> Injector cleaning procedure (2x) on or after 04/03/2023 (without filter element replacement)</p> <p><b>B23-04C (1.0 hrs.)</b> Injector cleaning procedure (1x) on or after 04/03/2023 (without</p>

			filter element replacement) on MY2023 with NA31 RC1 software.
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**B23-04D (1.6 hrs.)**

Injector cleaning procedure (2X) on or after 04/03/2023 (without filter element replacement) on MY2023 with NA31 RC1 software.

## Parts

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Tools and parts are available from PACCAR parts. Tool kits are not reimbursable through this bulletin. Repair parts are only authorized for repairs on



or before the dates listed.

### TOOLS

Quantity	Part Number	Description
1	2281101	Fuel System Cleaning Tool Kit
<b>OR</b>		
1	1961366-1CH	Fuel System Cleaning Tool Kit
Only one of the above tool kits is necessary. Tool Kits listed above do NOT include 5L container. A locally sourced container will be needed for US locations.		
1	Locally Sourced	5L container or clean bucket. Available through <a href="#">Dynalon</a> or <a href="#">Amazon</a>

### REPAIR PARTS

Quantity	Part Number	Description
5qt	DK32P (for US use)	DSG 4+ Super Clean #DK32 (Preferred solution available from PPD for US use)
1	2281100PE (Canada Only)	Tunap FX9 (5qt container for Canada use Only)
The following parts only apply to repairs completed <i>before</i> <b>04/03/23</b>		
1	2272926	Filter Set
The following parts only apply to repairs completed <i>before</i> <b>05/17/2022</b>		
(1)	A029E744	Gasket
(1)	Q312526	Gasket
(1)	LP34216	Clamp, 5"
(1)	90-0012	Clamp, 4"

## Background

The diagnostic codes and injector problems may be caused by carboxylate clogging of injector internal ports. This cleaning procedure should clean

the deposits, but it is not a permanent fix. If the problem returns, switching fuel sources may reduce the formation of deposits.

## Procedure

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**Please follow your dealership's safety procedures and precautions to ensure the vehicle can be safely repaired and maintained. Read all steps before beginning.**

*Please ensure you are using the latest version of the attached procedure. Please discard any printed versions you may have and refer to the bulletin link below each time.*

This procedure is in addition to other diagnostic and troubleshooting steps as specified in RMI or other service documentation and repair direction from

field service or the Vehicle Support Center.

**i** NOTE

If the vehicle has already had E290A completed and requires the cleaning again, contact the Vehicle Support Center (TCS365) for direction.

File claims for additional work using appropriate quick claim code from table in warranty section of bulletin.

1. RMI will refer you to this procedure for any active fault codes listed above.
2. Complete the attached cleaning procedure.

[EPA2021 MX13 MX11 Fuel Injector Cleaning Procedure](#)

**i** NOTE

On MY2023 vehicles, check component group **1020**. If software number is **2397180**, the vehicle has **NA31 RC1** software. **Do not** perform injector calibration on these vehicles. See [Software Change Notice RC1](#) for Model Year 2023 for more information.

3. Refer to [E300](#) for in-tank additive use and reimbursement of additive cost.
  - A. Print the Driver's information Packet (below)
  - B. Fill in the Chassis number and warranty expiration date/mileage.
  - C. Explain to the customer what they need to do and the expiration date/mileage that they need to meet.
  - D. Give the Driver's Information Packet with the expiration information filled in to the driver.
  - E. Advise the driver that the log sheet is necessary for in-tank fuel additive reimbursement through [E300](#) through their local dealer.

## Links

[E290 Fuel Injector Cleaning Procedure](#)

[E300 Driver Information Packet](#)

[E300 Fuel System Additives Bulletin](#)