



Updated: Jan. 18, 2023

STATUS: Open

BACKGROUND

- RMEP began building with the 6316754-fuel line in Dec. 2022 due to supplier change.
 - Previous part # was 5717302
- RMEP has built 629 engines with part # 6316754 for Paccar of Canada since December 2022 launch. 7 Engines were built for Kenworth Mexicana.
- Received reports of 6 engines with fuel leaks in transit from PACCAR to Customers.

FAULT CODE/FAIL MODE

- Fuel leak on remote fuel line (low pressure side).

CURRENT STATE

- Inspection hold and sorting started for suspect parts at RMEP by third party.
- Supplier sorting in house inventory to provide certified stock.
 - Paccar of Canada
 - 69 Engines reworked in house. 6 engines remain on containment hold
 - 554 engines were shipped prior to rework
 - Kenworth Mexicana
 - 7 Engines have been shipped prior to rework.
- Lineset at RMEP being managed by available inventory of 5717302.

ROOT CAUSE AND GOAL STATEMENT

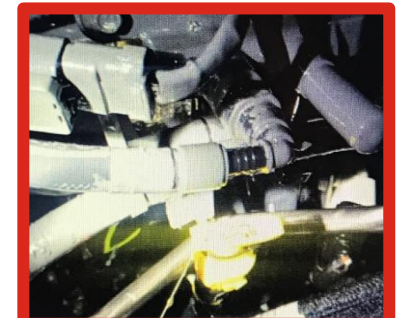
- TBD – Awaiting failed parts return.
- Suspect assignable cause is insufficient crimping. – Returned parts will be analyzed to validate suspect assignable cause.

Completed

- Containment hold initiated on in house engines to replace 6316754 remote fuel lines with 5717302 in house at RMEP
- Initiated lineset hold on production of engines at RMEP with 6316754 remote fuel lines.
- Inspection hold and quarantine of 6316754 inventory implemented.
- Inspection hold and quarantine of similar parts manufactured by same supplier.

NEXT STEPS

- Investigate similar parts manufactured by same supplier that have a tentative start date of 1/23/2023.
- Supplier evaluating improvements to pressure testing capabilities.
- CMI engineering to review testing requirements on print/design standards.
- Checks to be performed at Paccar & Kenworth Mexicana for engines built with 6316754 to screen product based on initial supplier investigation.
- Instructions to be provided to Cummins BIS team to perform the checks.



Krista M Pingleton

From: [REDACTED]
Sent: Monday, February 6, 2023 10:14 AM
To: [REDACTED]
Subject: FW: Remote fuel hose/ PN 6316754
Attachments: One Pager Fuel Hose 6316754 - Paccar Rev 1.pdf

FYI

[REDACTED]
Customer Quality Engineer - Senior

[REDACTED]
Cummins Inc.
9377 N US Highway 301
Whitakers, North Carolina 27891
United States

From: [REDACTED]
Sent: Wednesday, January 18, 2023 5:14 PM
To: [REDACTED]
[REDACTED]
[REDACTED]
Subject: Remote fuel hose/ PN 6316754

Hello [REDACTED],
Good afternoon. Please find the meeting notes below:

Date: 1/18/2023

- One pager shared for the 6 defects associated with the remote fuel filter line PN 6316754.
- Based on the discussion and the picture shared for the fuel hose below, we have requested a feedback from the supplier to let us know the acceptance criteria for the gap between the crimp and the fitting [REDACTED] [REDACTED] please hold off on the inspection until then. We will try to have the feedback from the supplier asap.



- [REDACTED], please go ahead and check one of the fuel hoses in the oven to see the effect of the temperature on the crimping.
- In case if the defective part is found, both the hoses are to be changed in that case for the engine.
- [REDACTED], please find the list of the affected ESN. Could you please provide the list of the ESN at the site and the ones released to the field.
- Instructions to be shared by [REDACTED] the checks that are to be performed with [REDACTED].

Thank you.

Please let me know if there are any questions.

Thank you.

[REDACTED]
Customer Quality Engineer - Senior

[REDACTED]
[REDACTED]
Cummins Inc.
9377 N US Highway 301
Whitakers, North Carolina 27891
United States

Screening Instructions- Remote Fuel Line

- Please refer to the file for the list of suspect engines which are shipped to PACCAR
- Please use the tracking info sheet
- Note down the ESN
- Confirm the P/N 6316754 on the remote fuel lines.
- Confirm the batch code on the fuel lines (2nd number on the tag which is referenced as S:477853. Refer to the Figure 1)
- Remove the remote fuel line from the engine. Beware of fuel spillage. Please ensure bucket is used for the excess fuel coming out from the fuel line.
- All the check are to be satisfied to deem the hose acceptable.
- **GAP CHECK**
 - Verify gap between the plastic connector and the hose end is not greater than 2mm (refer to fig 2).
 - Check both ends.
 - Record pass/fail in spreadsheet



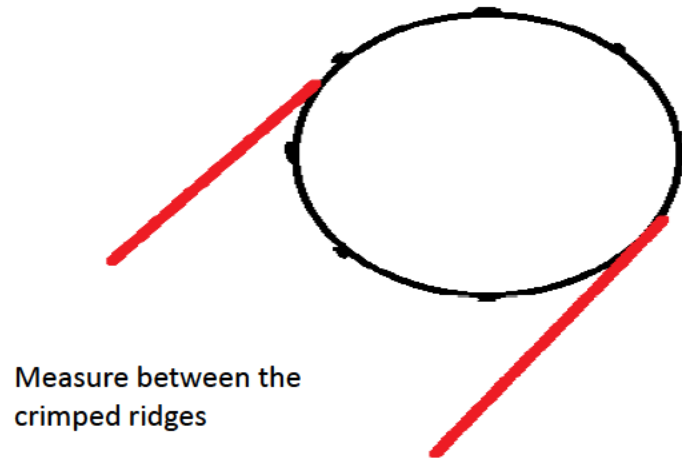
Figure 1



Figure 2

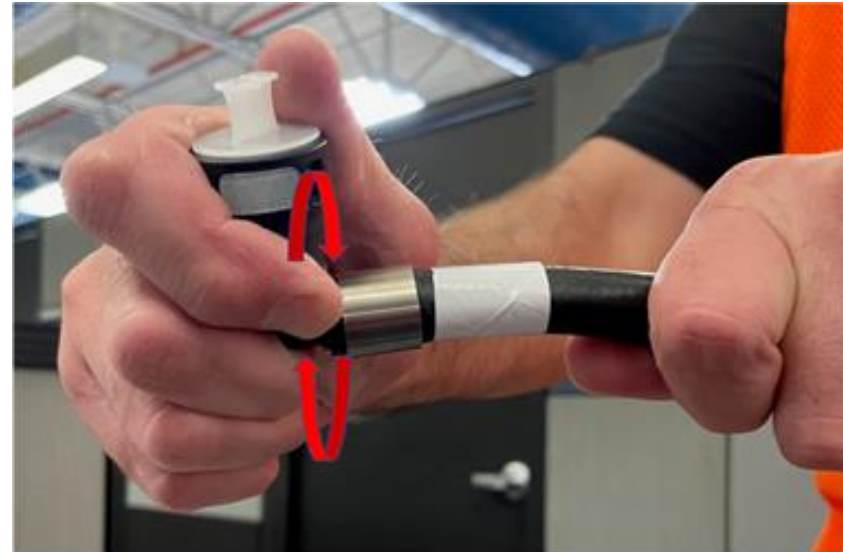
Measure with Calipers

- Measure the crimp diameter, between the ridges on the flat area of the crimped sleeve.
- Specification 18.7mm +/- 0.2mm (18.5 to 18.9mm)
- Record measurement of each end.



Twist Test

- Twist each end clockwise and counterclockwise by roughly 45 degrees
- If any rotation is observed from the plastic end connector in the hose the part should be rejected.
- Note on spreadsheet pass/fail



Failures detected

