

Problem Details:

- Shop call 510847 brought awareness to J1939 communications issues for vehicles built with Cummins engines, automated transmissions and Bendix side radar. The CAC is also receiving many complaints of new vehicles, arriving with the side radar being unplugged and/or fault codes generating when customers add components to our RP1226 customer connections.
- **Symptoms reported** when the issue is present, include **transmission shifting issues, no crank** and a common **fault code** seen includes **37/523615/31-Received Network Data In Error -XBR**

FSPRs, FRACAS, DPR, Zeus:

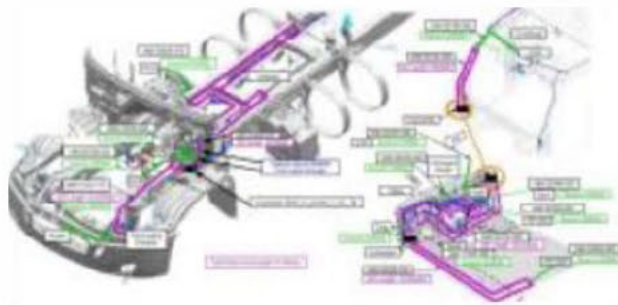
- FSPR **38389**, Shop Call **510847**, FRACAS **13879**

Affected Models / Truck options:

- P4 Vehicles with Cummins engine, Automated or Automatic Transmission and Side Radar contribute the most to the issue, however many other components or customer options connect to the J1939 backbone, also contribute to the overall issue.

Responsible Supplier:

- DTNA

**Production Containment:**
 No Yes

Creating **new harnesses** in parallel to field containment to optimize/reduce backbone length and breakout length.

Two step approach: **6/24/2024**– Side Radar length update (EWR P66298)

Q1-2025 – New backbone designed with length optimized for all devices (EWR P66298)

Field Containment (short term):
 No Yes

- Service Solution **SS 3142-FTL** published as a **3/20/2024**

Root Cause:
 No Yes

- Investigation has confirmed that the harness physical layer is causing reflections/Error Frame in J1939 CAN network. Reflections are normally caused by harnesses with too many unnecessary stubs, stub length too long (>1.6M) and too many individual stub lengths that are the same length.
- **Direct Cause:** CAN bus signal integrity is insufficient.

Long Term Corrective Action Plan:
 No Yes

- Current long term corrective action is to investigate a third-party communication network that would isolate customer devices from the vehicle powertrain components.

Long Term Field Plan:
 No Yes

- Freightliner Service Bulletin **54-366** Published on **10/29/24** for P4 vehicles that identifies problem vehicles, while providing corrective actions. The corrective action includes providing a dash, engine and chassis J1939 overlay harness.