

Part 573 Safety Recall Report

24V-655

Manufacturer Name : Phoenix Motorcars**Submission Date :** SEP 09, 2024**NHTSA Recall No. :** 24V-655**Manufacturer Recall No. :** SC-24-009**Manufacturer Information :****Population :**

Manufacturer Name : Phoenix Motorcars

Number of potentially involved : 483

Address : 401 S. Doubleday Avenue

Estimated percentage with defect : 5 %

Ontario CA 91761

Company phone : 987-0815

Vehicle Information :

Vehicle 1 : 2019-2021 Proterra Catalyst

Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES

Body Style : OTHER

Power Train : HYBRID ELECTRIC

Descriptive Information : The recalled population consists of 800V Catalyst (Model Year 2019-2021) and ZX5 (Model Year 2020-2022) transit buses with a certain electrical and software architecture. The recall population was determined through a review of Proterra's production records. Approximately a total of 483 vehicles are in the recall population across both products.

Production Dates : DEC 14, 2019 - NOV 08, 2021

VIN Range 1 : Begin :

NR

End : NR

 Not sequential

Vehicle 2 : 2020-2022 Proterra ZX5

Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES

Body Style : OTHER

Power Train : HYBRID ELECTRIC

Descriptive Information : The recalled population consists of 800V Catalyst (Model Year 2019-2021) and ZX5 (Model Year 2020-2022) transit buses with a certain electrical and software architecture. The recall population was determined through a review of Proterra's production records. Approximately a total of 483 vehicles are in the recall population across both products.

Production Dates : JUL 21, 2020 - JAN 31, 2023

VIN Range 1 : Begin :

NR

End : NR

 Not sequential

Description of Defect :

Description of the Defect : The electrical connectors and terminals at one rooftop passthrough at issue in this recall are toward the max current limit that the terminals are rated for with radiator fans running at 100% speed.

FMVSS 1 : NR

FMVSS 2 : NR

Description of the Safety Risk : Over time and with higher ambient temperatures, this circuit design can result in excessive heat at the terminals and eventually melting of wedgelocks, which could result in a thermal event, increasing the risk of a fire.

Description of the Cause : The electrical circuit was designed too close to the max current limit when accounting for additional environmental stressors.

Identification of Any Warning that can Occur : If the circuit experiences a loss of continuity due to thermal damage, a warning light(s) will appear in the driver's dash display when the fan is commanded on but the feedback from the fan indicates that it is off. The diagnostic codes associated with these warnings may be accessed by the operator using the Phoenix diagnostic tool and/or telemetry systems. The available diagnostic code history on vehicles that experienced a failure indicates that the operator will receive a warning light(s) and may access the relevant diagnostic codes to remove the vehicle from service and inspect the issue.

Involved Components :

Component Name 1 : RECEPTACLE, CONNECTOR, PASS-THRU, 48POS

Component Description : RECEPTACLE, CONNECTOR, PASS-THRU, 48POS

Component Part Number : 013978

Component Name 2 : RECEPTACLE, 48POS, A"-KEY"

Component Description : RECEPTACLE, 48POS, A"-KEY"

Component Part Number : 013979

Supplier Identification :

Component Manufacturer

Name : N/A
Address : NR
NR
Country : NR

Chronology :

On July 12th, 2021 Proterra received a complaint regarding a quality issue with this connector that resulted in smoke near the passthrough on a bus at a customer site. The Proterra Safety Committee met the same day and determined the issue did not meet the safety defect threshold; they requested a fleet check and root cause analysis.

The fleet check was issued to around 300 vehicles on August 9th, 2021 and 12 vehicles were found with discoloration on pins in the connector. Analysis of those failures yielded the conclusion that the connector was properly rated for the circuit, but it was close to the limit and based on the parts that were returned, it appeared that poor crimping of the harness could be increasing the load on that circuit. The supplier was informed, and a clean point was established by October 29th, 2021. The development of a software limit for the radiator fan speed would further significantly limit the probability of additional failures and this improvement was issued via service campaign on March 2nd, 2022.

This software update was overwritten on the next software service campaign on July 1st, 2022. Following that, Proterra recorded another 17 connectors with discolorations or other failures that were identified due to faults on the dash or during preventative maintenance.

A few days after Proterra's transit division was acquired by Phoenix, a second smoke incident was reported at Miami on January 15th, 2024. During that investigation it was discovered that the software was overwritten and needed to be redeployed. The newly formed Phoenix Safety Committee followed Proterra's precedent and decided this issue should continue to be addressed as a warranty matter on April 11th, 2024.

On August 13th, 2024 a video of an additional thermal incident at a customer site was provided to Phoenix. The Phoenix Safety Committee reevaluated all data on the potential impacts of this issue and voted to proceed with a voluntary recall on August 29th, 2024.

Description of Remedy :

Description of Remedy Program : Software update was previously released as a technical service bulletin. This bulletin will be redeployed as the recall remedy. The update will limit the radiator fan speed to 80% which reduces the load of each fan by approximately 46% and reduces the temperature at each terminal by approximately 71% above ambient without degrading performance of the cooling system. Phoenix will provide this software remedy free of charge to owners of vehicles within the recall population.

How Remedy Component Differs : Software version of the vehicle controller. Version 4.10.2 or above

from Recalled Component : contains the remedy and this version can be referenced on the dashboard of the vehicle.

Identify How/When Recall Condition was Corrected in Production : Model no longer in production

Recall Schedule :

Description of Recall Schedule : All affected vehicle owners will be notified of this campaign via 577-compliant owner letters.

Planned Dealer Notification Date : SEP 23, 2024 - SEP 30, 2024

Planned Owner Notification Date : SEP 23, 2024 - SEP 30, 2024

* NR - Not Reported