

**2017-2022MY Niro & 2018-2022 Niro Plug-in Hybrid  
Hydraulic Clutch Actuator  
Basis of Safety Defect Determination 573.6(c)(6)**

January 7, 2023	Kia North America (Kia NA) Safety Office receives Techline escalation case involving a complaint of hybrid warning light illumination and no start condition in a 2020MY Niro hybrid vehicle (Vehicle #1). Dealer identifies thermal damage to the hydraulic clutch actuator (HCA) connector and harness during diagnosis and repair. Kia NA Safety Office begins to evaluate the issue.
January 23, 2023	Kia NA Safety Office conducts preliminary data analysis of 2018-2022MY Niro and Niro Plug-in Hybrid vehicles and identifies an additional potentially related incident involving illumination of hybrid warning light and localized melting at the HCA connector in a 2019MY Niro Plug-in Hybrid (Vehicle #2). Kia NA Safety Office continues to monitor.
February 16 – April 3, 2023	Kia NA Safety Office begins collecting incident parts from Vehicle #1 and #2 as well as warranty-return parts with no visible thermal damage. Kia NA Safety Office expands data analysis to include all 2017-2022MY Niro hybrid and all 2018-2022MY Niro Plug-in Hybrid vehicles and identifies one (1) additional localized melting incident involving a 2018MY Niro hybrid vehicle is identified (Vehicle #3).
April 26, 2023	Kia NA Safety Office escalates HCA connector melting concern to SEL for further investigation.
May 9 – May 15, 2023	Kia NA Safety Office, Kia HQ, and the North America Quality Center (NAQC) team members perform x-ray image evaluation of the incident part for Vehicle #1. X-ray imaging identifies thermal damage to the HCA connector.
May 16 – July 10, 2023	Kia HQ and supplier work together and find corrosion in the PCB and localized melting of incident parts from Vehicles 1, 2 and 3. Kia HQ informs Kia NA Safety Office of results. Kia HQ continues to investigate issue. Kia NA Safety Office retains third-party engineering firm for investigation support on June 6, 2023 and ships warranty return parts that have no visible thermal damage for analysis.
July 12, 2023	Kia NA Safety Office presents HCA issue and investigation status to ODI during bi-monthly meeting.

July 21, 2023	Kia’s third-party engineering firm informs Kia NA Safety Office of its analysis and identifies evidence of fluid contamination on PCB.
July 24, 2023	Kia HQ completes its analysis and confirms 1) evidence of fluid contamination on PCB potentially from external sources but no evidence of internal leaks or brake fluid on the printed circuit board, 2) contaminated PCB can cause an electrical short circuit, and 3) PCB short circuit can lead to a fire as confirmed by duplication testing.
July 25, 2023	Kia NA Safety Office decides to recall all 2017-2022MY Niro hybrid and all 2018-2022MY Niro Plug-in Hybrid vehicles. No vehicle fires (three (3) confirmed and seven (7) potentially related but unconfirmed incidents of localized melting). No crashes, injuries or fatalities.