## **Chronology of Defect Determination**

## July - August 2022

In late July 2022, during a shipping quality audit at its WV assembly plant, Hino discovered one vehicle where the anti-adjustment caps and back covers were not installed. Hino launched an investigation to determine the root cause of the missing caps and covers. Hino began with a check of all inventory vehicles equipped with LED Headlamps. Ultimately, 17 vehicles were inspected, and 4 vehicles had missing anti-adjustment caps or back covers. The root cause was unclear, therefore Hino continued to investigate.

## September 2022-February 2023

Hino began a field survey to confirm the status of suspect trucks and identify the scope of the issue. Hino inspected vehicles and identified one additional occurrence of missing anti-adjustment cap on an LED equipped vehicle manufactured in October of 2021.

Hino also continued its analysis of the six vehicles it had discovered with missing caps and covers. From checking production history and process, Hino determined that all had undergone hood or headlamp replacement.

## March 2023 – July 2023

Hino performed an audit at the Woodstock Ontario assembly plant to confirm the headlamp assembly and aiming process as well as their repair process. QA concluded that the Woodstock process was robust and that it was unlikely that the parts had failed to have been installed during the production or repair process.

Hino internal rule requires the use of a rebuild check sheet during the repair process, but the rule was neglected to be followed. After long term shutdown was finished in September 2021, The WV plant had implemented a new ATS (Automated Tracking System) to document vehicle production data. Due to confusion by the repair team, repairs were only documented in the ATS system, this created gaps in the repair process.

During this time, Hino also expanded its review. Hino trucks use two types of headlamps, LED and Halogen, the structure of the headlamps and adjustment lock out is different with each other, Hino continued investigation to confirm if the issue involved only trucks equipped with LED headlamps, or if Halogen vehicles

repaired during the same time frame were also suspect. Upon reviewing repair records for Halogen headlamps, it concluded that those vehicles were also potentially affected.

Hino also investigated the effects of the missing anti-adjustment caps or back covers. It concluded that improper installation of the caps of each type of headlamp will lead to a possibility of incorrect adjustment of the horizontal beam by a customer. Additionally, Hino confirmed the wiring structure of both headlamps and found that water may potentially intrude through the headlamp circuit from the back of the headlamp assembly and cause a short circuit if the back cover is missing.

On July 26, 2023, based on the investigation result explained above, Hino determined that subject vehicles may not meet certain requirements of FMVSS No. 108 and to conduct a voluntary non-compliance recall campaign for the vehicles that had hood or headlamp replacement without standard rework procedure prior to shipment.

As of July 25, 2023, Hino is not aware of any reports of incidents or accidents relevant to this failure from either field reports or warranty data.