# ATTACHMENT A

CHRONOLOGY OF EVENTS REGARDING HECU/ABS MODULE

NHTSA Recall No. 21E-039

## <u>June 2018</u>

Kia Motors Manufacturing Georgia (KMMG) notified Mando America Corporation (Mando) of a Quality Information Report (QIR) concerning 2014 Hyundai Santa Fe Sport vehicle's ABS module overheating, issued by Hyundai Motor America (HMA). Mando requested KMMG to recover the parts for analysis.

Mando received three (3) ABS modules from three (3) incident vehicles listed in the Hyundai's QIR. Mando did not observe any significant failure in the ABS modules that could lead to a fire and accordingly informed KMMG that a potential root cause of the issue cannot be determined by inspection (including tear down and visual inspection) of the component (*i.e.* ABS Modules) only. Mando suggested KMMG to conduct a vehicle inspection to identify a root cause of the issue.

### March 2019

Mando conducted a joint inspection with HMA and Hyundai Motor Company (HMC) on a repurchased 2015 Santa Fe Sport vehicle in order to identify a possible source of the engine compartment fire; however, the cause of such fire could not be determined due to the severe vehicle damage. HMC recovered the ABS module for further study by Mando.

From an additional inspection, Mando observed a leakage of brake fluid inside the ABS module recovered. Mando separately inspected its manufacturing process and history relative to this issue but found no quality deviation which could cause the leakage.

#### April 2019—December 2019

Mando received three (3) additional incident ABS modules from HMC and inspected those recovered parts.

Mando observed a leakage of brake fluid inside the three (3) ABS modules but could not find a correlation between the leakage and a compartment fire in the ABS module. Therefore, an approximate failure mechanism or the root cause for the fire was not able to be determined at that time.

#### <u>June 2020</u>

Kia Motors Corporation (KMC) sent Mando Corporation of Korea (Mando Korea) an ABS module involved in an electrical failure complained for 2015 Kia Sorento. Mando Korea evaluated the recovered ABS module with KMC. During the analysis, Mando Korea observed that the ABS module had a leakage of brake fluid and internal damages.

#### August 27, 2020

Kia Motors America (KMA) filed a Part 573 defect information report identifying a defect in certain Kia Optima and Kia Sorento vehicles manufactured at KMMG. (See Recall No. 20V-519).

HMA filed a Part 573 defect information report identifying a defect in certain Hyundai Santa Fe Sport vehicles manufactured at KMMG. (See Recall No. 20V-520).

# September 2020—Jan 2021

Mando proactively informed General Motors, LLC (GM) about the HMA and KMA recalls on Sep 3, 2020. GM conducted a safety investigation concerning their vehicles equipped with the same HECU. In January, GM informed Mando their conclusion that a field action is not necessary for the GM vehicles equipped with the Mando HECU.

# January 2021—Present

Mando Korea received four (4) ABS modules from KMC that were recovered through KMA's recall inspection procedure and found that the parts showed signs of internal leaks.

Further, Mando Korea and Mando are continuing an investigation with KMC to determine the root cause of the leakage. The investigation includes verifying component failures, brake system configurations, and user's driving conditions.

# <u>April 2021</u>

NHTSA requested Mando to submit a 573 Defect Report to identify the purchasers of the recalled HECU equipment. On April 30, 2021, although Mando has not identified a defect in their HECU, Mando filed a 573 Defect Report to NHTSA to identify the vehicle manufacturers who have purchased the recalled HECU equipment.

To date, Mando has not yet determined the presence of a defect in the HECU/ABS modules.