OCTOBER 10, 2021

Dr. Steven Cliff, Acting Administrator
National Highway Traffic Safety Administration (NHTSA)
Office of Defects Investigation (NVS-210)
United States Department of Transportation (DOT)
1200 New Jersey Avenue SE, West Building
Washington, D.C. 20590

RE: Petition for Defect Investigation of Hyundai and Kia
Petition for Public Meeting / Hearing
Sudden Uncommanded Acceleration (SUA), Loss of Motive Power, etc.

Administrator Dr. Cliff, NHTSA:

In line with NHTSA's mission and regulatory authority, we respectfully submit this Petition for Defect Investigation to your attention and request that NHTSA grant the petition. Petitioners have extensive knowledge from decades of automotive product liability experience. This experience includes extensive litigation against Hyundai and Kia. It is petitioners' opinion that this petition describes some of the most egregious violations of the U.S. Federal Motor Vehicle Safety Standards (FMVSS).

Upon information and belief, the subject population of Hyundai-Kia vehicles have a dangerous vulnerability with their electronic throttle control systems and that resulting runaway throttle conditions clearly pose an unreasonable risk to safety. These safety-related defects with the accelerator control systems described herein relate to design, manufacturing and performance problems that pose an unreasonable risk of accidents occurring. **Petitioners are aware of at least eight fatalities and numerous documented serious injuries directly caused by these defects.** From thousands of internal documents produced by these manufacturers during litigation discovery, petitioners have personal knowledge of substantial evidence of known defects. Petitioners have reviewed expansive internal confidential information that supports this petition.

This petition also requests that, per 49 C.F.R. §552.7, the U.S. Secretary of Transportation and Associate Administrator hold a public meeting, hearing or proceeding to allow parties to submit evidence and testify as to the reasons to grant the petition and conduct a formal investigation.

Petitioners respectfully request that NHTSA perform a comprehensive evaluation, technical review, engineering analysis and formal investigation of these safety-related defects in the subject generations of Kia and Hyundai vehicles. Petitioners reserve the right to amend this petition with additional information. We ask NHTSA to grant this defect petition.

Sincerely,

Tom Murray

Byron Bloch

Encl. Petition for Defect Investigation and Addendums per § 49 U.S.C. 30162 and 49 C.F.R. § 552 and Petition for Public Meeting/Hearing per § 49 U.S.C. 30162 and 49 C.F.R. §552.7

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PETITION FOR DEFECT INVESTIGATION

NHTSA Administrator:

In accordance with 49 U.S.C. § 30162 and 49 C.F.R. § 552, petitioners, on behalf of all Americans who own, lease and share the road with model years (MY) 2005-2016 Kia Optima, Kia Sorento, Hyundai Elantra, Hyundai Santa Fe, and Hyundai Sonata vehicles, hereby petitions the U.S. National Highway Traffic Safety Administration (NHTSA) to initiate a formal safety defect investigation into the excessive number of vehicle speed control issues and numerous serious "runaway throttle condition" incidents the owners and operators of these vehicles suffer. Petitioners provide substantial evidence that the accelerator control systems in the subject vehicle populations fail to meet standards, including U.S. Federal Motor Vehicle Safety Standards (e.g., FMVSS § 124), and contain defects which relate to motor vehicle safety.

Upon information and belief, petitioners are aware of at least eight documented U.S. fatalities and numerous injuries that have been directly caused by related runaway throttle condition occurrences resulting in crashes with these Kia and Hyundai vehicles. Numerous media reports of relevant cases describe some of the more severe incidents in the U.S., Korea and other jurisdictions. As described herein, American consumers provided NHTSA with hundreds of vehicle owner questionaries (VOQs). Hyundai and Kia American dealerships received countless related complaints from concerned customers with throttle control issues. Upon information and belief, Hyundai-Kia's corporate headquarters and domestic U.S. central offices have received thousands of such complaints.

South Korean manufacturers Kia and Hyundai have failed to meet the U.S. regulatory obligations, including 49 C.F.R. § 573.6. The known vulnerabilities of their Electronic Throttle Control (ETC) technology challenge these manufacturers to take action and address these unreasonable risks to safety. This petition will describe some of the relevant specific events, but more importantly, provides NHTSA with the sources of more comprehensive information and sufficient evidence to formally investigate the extensive nature and scope of these exceptionally dangerous safety-related chronic defect problems.

DESCRIPTION OF DEFECTS AND NONCOMPLIANCE

Subject Vehicle Population included in this Defect Petition (generation and approx. model years)*

Kia Optima / K5:	MG 2005-2010, TF 2010-2016
Kia Sorento:	BL 2006-2009, XM 2009-2015
Hyundai Elantra:	HD 2007-2010, MD/UD 2011-2016
Hyundai Santa Fe:	CM 2007-2012, DM/NC 2012-2016
Hyundai Sonata:	NF 2006-2010 and YF 2011-2015

*Upon information and belief, additional Models and Model Years may also be defective.

Summary of Alleged Defects with Kia and Hyundai Vehicles

According to NHTSA, "Acceleration control is one of the fundamental aspects of the driving task and is critical for the safe operation of a motor vehicle. Traditionally, a driver uses a pedal to control the amount of engine torque provided to accelerate the vehicle and maintain a desired speed, as well as to reduce or remove torque to slow the vehicle. Loss of acceleration control, which includes 'unintended acceleration' (UA), can have serious safety consequences."[1]

Vehicle Speed Control Problems

This petition provides a range of dangerous vehicle speed control problems with the subject population of Hyundai and Kia vehicles including sudden uncommanded acceleration, runaway throttle conditions, surging, stalling and loss of motive power. A pattern of public complaints is justified by the contents of internal documents demonstrating a clear picture of systemic problems. The complex, interrelated nature of the Electronic Throttle Control (ETC) system and componentry in these vehicles is believed to be the primary source of the defective conditions. The engineering and key componentry of the subject population vehicles are sometimes the same and installed across a range of various vehicle models and "corporate cousins" (e.g., Hyundai Santa Fe = Kia Sorento; Hyundai Sonata = Kia Optima).

Electronic Throttle Control (ETC) System in the Subject Kia and Hyundai Vehicles

According to the manufacturers' documentation, the Hyundai-Kia "Electronic Throttle Control (ETC) System consists of a throttle body with an integrated control motor and throttle position sensor (TPS). Instead of the traditional throttle cable, an Accelerator Position Sensor (APS) is used to receive driver input. The Engine Control Module (ECM) uses the APS signal to

[1] Source: NHTSA-2012-0038: https://www.nhtsa.gov/sites/nhtsa.gov/files/fmvss_124_bto_nprm_final.pdf

calculate the target throttle angle; the position of the throttle is then adjusted via ECM control of the ETC motor. The TPS signal is used to provide feedback regarding throttle position to the ECM. Using ETC, precise control over throttle position is possible; the need for external cruise control modules/cables is eliminated." As NHTSA is aware, there are numerous standards for Automotive Electronic Control Systems; the ETC system has a range of electrical, electronic, mechanical and software elements.[2]

Hyundai-Kia's engineering standards for their Electronic Throttle Control (ETC) systems include the phrase: "The monitoring concept has to prevent an ETC system from dangerous behavior like sudden unintended acceleration against the driver's intent." It specifies that "the ETC must have a failsafe function in hardware and software" to address "any faults that would cause a sudden acceleration or deceleration of the vehicle that the driver does not intend." ETC systems are designed with certain failsafe features, including redundant sensors and self-diagnostic capabilities. Petitioners provide evidence that the Hyundai-Kia ETC system failed to properly have these critical safety functions.

Hyundai-Kia produced Failure Modes Effects Analyses (FMEAs) that clearly indicate that failures of the ETC system arise to a level 10 severity – translating to a dangerous and potential for great harm or death. An FMEA level 10 on the severity evaluation criteria states that a potential failure mode affects safe vehicle operation and/or involves noncompliance with government regulation without warning. Petitioners believe these specific alleged defects meet NHTSA's criteria for granting a defect petition.

Sudden Uncommanded Acceleration (SUA) – Surging – Runaway Throttle Conditions

The term "unintended acceleration" refers broadly to any vehicle acceleration a driver did not purposely cause to occur. As used here, SUA is a broad term that encompasses any uncommanded acceleration, such as incidents at higher speeds and incidents where brakes were either ineffective, or partially or fully effective. These include occurrences at or near full throttle and high speeds and incidents of lesser throttle openings at various speeds. Essentially, this petition includes all incidents where the driver does not command the vehicle to accelerate or decelerate – but the vehicle (and ETC system) does so in a manner not commanded by the driver.

NHTSA has extensive knowledge from prior SUA investigations, including the issues surrounding Toyota and other manufacturers.[3] For example, Hyundai maintains records indicating that no later than 2009, Hyundai was informed of a "potentially dangerous and possibly fatal fault with the throttle sensor assembly." Hyundai-Kia's own documents show vehicles hesitate on acceleration and surge during steady throttle with no Diagnostic Trouble Codes (DTCs). Hyundai dealership employees have verified allegations.[4] Hyundai-Kia's technicians have replicated such a surge in a Hyundai-Kia vehicle.[5] Internal documents

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[2] https://www.nhtsa.gov/sites/nhtsa.gov/files/812285_electronicsreliabilityreport.pdf

[3] https://one.nhtsa.gov/About-NHTSA/Press-Releases/ci.NHTSA%E2%80%93NASA-Study-of-Unintended-Acceleration-in-Toyota-Vehicles.print

[4] Example: VOQ No. 10277696 – "Dealer test drove the vehicle and confirmed the failure."

[5] Example: VOQ No. 11093587 – Hyundai tech confirmed the complainant's concerns

demonstrate that electronic faults result in throttle increases and decreases. By 2012 at the latest, Hyundai-Kia had knowledge of intermittent problems with their ETC system.[6]

There are some instances where it is believed that a physically stuck throttle or accelerator entrapment condition occurs. These include entrapment of the accelerator pedal and the physical ETC throttle plate. To be clear, these don't include the allegations of floormats or foreign objects entrapping the accelerator pedal. Petitioners anticipate that Hyundai-Kia will respond that driver error, pedal misapplication, or pedal entrapment due to external objects are the likely cause of SUA incidents with their vehicles.

Independent studies of Hyundai-Kia vehicles have shown surges greater than normal idle speed control with no input to the accelerator pedal.[7] These incidents are well documented to show percent of throttle increase, duration and effect on vehicle dynamics.[8] Petitioners request that these studies be included in support of this petition for defect investigation.

Loss of Motive Power – Stalling at Speed – Sudden Uncommanded Deceleration

Public complaints and class action lawsuits claim that the subject Kia-Hyundai vehicles suffer from defects that can cause engine seizure, stalling, engine failure, and even non-collision engine fires. The manufacturers also have numerous records where drivers describe, while driving, a significant loss of motive power while in motion at any speed without warning to the driver. It is believed that some of these incidents are caused by problems identified by the ETC monitoring concept (described above). Some complaints describe dangerous conditions of loss of motive power at high speed while on a highway. These sudden uncommanded deceleration events demonstrate a known failure in the subject vehicles.

Specific Componentry Susceptible to Related Defects

The manufacturers' internal records demonstrate confirmed defects in the Electronic Throttle Control system (including ETC components, wiring harnesses, cruise control and idle speed control) resulting in unrequested throttle increase, or failure to decrease or sustain throttle, stuck at large throttle opening with no override available to driver. Some specific potential defects identified in VOQs to NHTSA and the manufacturers' documentation include, but are not limited to, the following concerns that may be contributing factors to the defective conditions:

Faulty accelerator pedal assembly (including "sticky pedal") – VOQ No. 10386844
Faulty accelerator position sensor (APS)[9] – VOQ No. 11184591
Faulty engine control module (ECM) / powertrain control module (PCM)
Faulty transmission torque converter – VOQ No. 11243941

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[6] Autowise.com – "Hyundai's Secret Acceleration Problems" - [redacted]

[7] Republic of Korea National Forensic Service (NFS) gave an oral presentation entitled, "*Experimental Study of Reappearance of Sudden Acceleration Incidents.*"

[8] *Forensic Science International* entitled. "Experimental study for the reproduction of sudden unintended acceleration incidents."

[redacted]

Faulty throttle actuator control module (TAC), air throttle plate actuator motor
Faulty electronic throttle body (ETB) – VOQ 11005375, 10386844
Faulty throttle position sensor (TPS) – TSBs and numerous VOQs, 10226077
Open or short in wiring harness, poor connection or damaged harness
Faulty vehicle speed sensor – VOQ No. 11228479
Faulty Stop Lamp Switch (brake lamp switch) – TSBs and numerous VOQs
Faulty Clock Spring spiral cable assembly wiring harness – VOQ No. 1139433
Faulty cruise remote control switch – VOQ Nos. 10610963, 10351699
Voltage drop, erratic voltage signals, crosstalk
Intermittent electrical faults with any of the above
Loss of electronic compatibility resulting in a runaway throttle condition
Faulty software, including failure of the software to detect issues and appropriately register diagnostic trouble codes (DTC) and responsive safety measures

Available Remedies / Feasible Alternative Design: Brake Throttle Override (BTO)

Petitioners allege that many of the subject population vehicles lack the necessary critical failsafe(s) available as alternative designs (e.g. "Smart Pedal" brake throttle override capability). Brake Throttle Override (BTO) gives the brake authority over the accelerator pedal to mitigate engine power. Kia and Hyundai have been aware of the brake over accelerator throttle technology available since the early 2000s.[10]

Kia and Hyundai apparently included brake throttle override ("Smart Pedal") technology in all their U.S. bound vehicles in May 2012.[11] Corporate representatives from the Hyundai Kia Research and Design Center in South Korea testified under oath that this was due to concerns about the U.S. investigation into Toyota's SUA issues and proposed new standards by the U.S. government. The actual effectiveness of the Hyundai-Kia BTO technology is unknown; rather, the novel technology may be a cause of the loss of motive power and sudden uncommanded deceleration.

In a public press release dated May 2, 2012, **Hyundai-Kia admitted, "With virtually all cars using electronic throttle control, there remains a remote possibility for an unforeseen electronic throttle control malfunction, causing a vehicle to accelerate contrary to driver input."**[12] "With Hyundai's brake pedal throttle override capability, any brake pedal input by the driver, even with a runaway throttle condition, completely **overrides any throttle malfunction**", said Robert Babcock, director of certification and compliance for the Hyundai-Kia America Technical Center, Inc. (HATCI). "It is no longer possible to have increasing engine power once the brake pedal is depressed by the drivers."[13]

[redacted]

Upon information and belief, Hyundai and Kia's current actions addressing these alleged defects are grossly insufficient.[14] Current TSBs and recalls are clearly inadequate, and petitioners request NHTSA investigate for scope and timeliness.

Noncompliance with Federal Motor Vehicle Safety Standards (e.g. FMVSS No. 124)

The FMVSS clearly establishes requirements for the return of a vehicle's throttle to the idle position when the driver removes the actuating force from the accelerator control, or in the event of a severance or disconnection in the accelerator control system. The stated purpose of this standard is to reduce deaths and injuries resulting from engine overspeed caused by malfunctions in the accelerator control system.

Petitioners and numerous independent consultants and vehicle safety experts have reviewed copious evidence and believe that certain model year (MY) 2005-2016 Hyundai and Kia motor vehicles do not fully comply with Federal Motor Vehicle Safety Standard (FMVSS) No. 124, Accelerator Control Systems.[15]

EXTERNAL SOURCES OF RELEVANT INFORMATION PERTAINING TO DEFECT

The severity of these runaway throttle incidents has been covered by dozens of media articles and news reports.[16] Incredibly, some of the more serious incidents include uncommanded wide-open throttle (WOT) incidents caused by runaway throttle conditions that lasted twenty (20) minutes or more at speeds exceeding one hundred (100) miles per hour (MPH).[17] [18] Numerous videos from alleged SUA incidents are included as an addendum.

NHTSA has received a compendium of approximately **1,167 vehicle owner questionnaires (VOQs) pertaining to vehicle speed control** with this population of U.S. vehicles. Petitioners have provided a subset of hundreds of these VOQs that appear highly relevant based on the limited information publicly available.[19]

Related consumer complaints have also been logged on various public customer websites. These include CarComplaints.com, CarProblemZoo.com[20], Edmunds.com and HyundaiProblems.com. For example, relevant generations of the Sonata, Elantra and Santa Fe were rated the "Worst Generations' and "Least Reliable Hyundai Models" on the HyundaiProblems.com public website.[21] While there are numerous other recent recalls [22] [23], there are none addressing these allegations.

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[14] https://autoservice.hyundaiusa.com/campaignhome/

[15] Federal Motor Vehicle Safety Standard (FMVSS) 124: https://www.law.cornell.edu/cfr/text/49/571.124

[16] [redacted]

[17] [redacted]

[18] [redacted]

[19] See Addendums 1 & 2: Vehicle Owner Questionnaires (VOQs) – ODI Numbers

[20] [redacted]

[21] http://www.hyundaiproblems.com/worst/#by-generation

[22] [redacted]

[23] https://jalopnik.com/there-are-now-five-different-recalls-on-the-hyundai-son-[redacted]

Petitioners also request that NHTSA seek and review related documentation from other government agencies, including the Korea Consumer Agency, Korean National Forensic Service, the Republic of Korea Prosecutors Office, Seoul Prosecutors Office[24], and the Republic of Korea Ministry of Land Infrastructure and Transport. In addition, Singapore's Land Transport Authority conducted an investigation regarding Hyundai vehicles following numerous reports of accidents involving sudden unintended acceleration (SUA).[25]

INTERNAL SOURCES OF RELEVANT INFORMATION PERTAINING TO DEFECT

This petition names specific entities involved with the design, manufacturing, testing, safety and compliance of the subject population Kia and Hyundai vehicles. Specifically, petitioners name: Kia Motors Corporation (KMC), Kia Motors America (KMA), Hyundai Motor Company (HMC), Hyundai Motor America (HMA), and the Hyundai-Kia America Technical Center, Inc. (HATCI); as well as Tier 1 component suppliers BorgWarner, Bosch, Continental, Delphi, KSR International and others. Upon information and belief, these automobile manufacturers and suppliers are clearly aware of these accelerator control issues and ETC component problems.

Upon information and belief, the various Hyundai and Kia entities possess documentation and substantial evidence of the root causes of these throttle problems and speed control issues. Petitioners request that NHTSA include these specific sources in the **Information Requests** sent to the Kia and Hyundai manufacturers. To summarize, these resources include:

Consumer Affairs complaints and communications
Techline records and Technical Assistance Case Reports
Warranty claims – acceptances and denials
Media reports, videos and the manufacturers' press releases
Failure Modes and Effects Analyses (FMEAs)
Procedures to Investigate Alleged Unintended Acceleration Case Handling
Checklists and protocols regarding SUA for dealerships and field engineers
Field Reports (Field Service Engineering FSE)
Case Summary Complaints
Service Campaigns and Product Improvement Campaigns
Legal Claims and related Litigation (incl. Class Actions)
Preliminary Investigation Reports
Settlements and Non-Disclosure Agreements (NDAs)
Consent Orders and Deferred Prosecution Agreements (DPAs)
Quality Assessments and Audit Reports
Dealer Audits and communication with U.S. dealers
Dealer advisory letters and attachments
Quality Information Reports (QIRs)
Product Quality Technical Reports and supporting data

[24] https://www.reuters.com/article/us-hyundai-motor-raid-idUSKCN1Q9071
[25] https://www.straitstimes.com/singapore/transport/lta-probes-unintended-acceleration-in-hyundai-cars

Quality defect notices to suppliers
Technical Service Bulletins (TSBs) and draft TSBs
Early Warning Reports (EWR) and EWR data
Company memos and emails between relevant departments

Hyundai and Kia have extensive relevant internal documentation that should be shared with NHTSA as part of the **Information Request** process for this defect investigation.

PROPOSED REMEDIAL ACTIONS

Petitioners have supported good faith belief that the existence of these defects poses an unreasonable risk to motor vehicle safety and, therefore, NHTSA should order the Kia and Hyundai manufacturers to conduct a comprehensive safety recall.[26] NHTSA should issue a recall order pursuant to 49 U.S.C. §§ 30118, 30119, and 30120. As the data shows, these are not isolated incidents. Kia and Hyundai have apparently attempted to cover up these defects and avoid the financial expenses related to such a recall. There is overwhelming objective evidence of these issues as outlined in this petition and appendices.

In the meantime, Hyundai and Kia have the knowledge and resources to immediately provide reasonable remedial solutions to address these problems related to loss of acceleration control. The manufacturers' Consumer Affairs, Parts, Legal, and Warranty departments can take preventative measures to mitigate potential risks and reduce the likelihood of future incidents. Petitioners hope Hyundai-Kia will take immediate comprehensive action.

Per the November 2020 Consent Orders[27], Hyundai and Kia should conduct an independent product safety and compliance committee to investigate the possible causes and scope of these issues along with identification of vehicles which may be affected. Hyundai-Kia should immediately notify their Chief Safety Officer, Director of Quality and Service Engineering, and North American Safety Decision Authority (NASDA). The safety data analytics infrastructure and test and inspection laboratories should assist with a Product Improvement Campaign.

Kia and Hyundai should file a Defect and Noncompliance Information Report ("DIR"), per 49 U.S.C. § 30118(c) and 49 C.F.R. § 573.6. The manufacturers should make best efforts through a customer awareness campaign. Kia and Hyundai should extend applicable warranties to cover ETC system componentry that poses a critical safety risk and issue a Service Campaign to provide a repair remedy free of charge to the vehicle owners.

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[26] https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/14895_odi_defectsrecallspubdoc_110520-v6a-tag.pdf
[27] https://www.nhtsa.gov/press-releases/nhtsa-announces-consent-orders-hyundai-and-kia-over-theta-ii-recall

CONCLUSION

In conclusion, petitioners request that the National Highway Traffic Safety Administration (NHTSA) perform a comprehensive evaluation, technical review, engineering analysis and formal investigation of these safety-related defects in the subject generations of Kia and Hyundai vehicles. Petitioners specifically request that NHTSA open a Preliminary Evaluation to assess the scope, frequency, root causes and potential safety-related consequences of the alleged defects relating to accelerator control systems in the Model Years (MY) 2005-2016 Kia Optima, Kia Sorento, Hyundai Elantra, Hyundai Santa Fe and Hyundai Sonata.

This petition is to also request that, per 49 U.S.C. § 30162(c) and 49 C.F.R. §552.7, the U.S. Secretary of Transportation and Associate Administrator hold a public meeting, hearing or proceeding to allow parties to submit evidence and testify as to the reasons to grant the petition and conduct a formal investigation. Please contact petitioners regarding the identities of potential independent experts, consultants and other witnesses that can testify to the subjects summarized in the petition and provide additional information to demonstrate that Kia and Hyundai have materially violated the U.S. Federal Motor Vehicle Safety Act.

While NHTSA and its Office of Defects Investigation (ODI) are responsible for investigating potential vehicle safety defects, petitioners respectfully request that this information be shared with other NHTSA departments (such as NHTSA's Automotive Electronics Reliability Research Program) and any other relevant State and Federal government agencies. Pursuant to 49 U.S.C. § 30162(d), petitioners formally request NHTSA respond to this petition within 120 days.

In the meantime, petitioners will do their part to inform the public of the dangerous risk these vehicles present and the need for Kia and Hyundai to recall and repair them as quickly as possible. Based on ODI's thorough review of the applicable materials, including the expected responses to Information Requests sent to multiple manufacturers, Vehicle Owner Questionnaires (VOQ), Consumer complaints and Early Warning Data, petitioners respectfully request that NHTSA grant the petition.

Thank you for the efforts of NHTSA to protect the public and your consideration of this petition. Please feel free to contact petitioners with any questions or if we may assist with any additional information.

Respectfully submitted,

Tom Murray
Thomas J. Murray & Associates LLC
[redacted]
Huron, Ohio
Office: [redacted]

Byron Bloch, Auto Safety Expert
Auto Safety Design, Inc.
[redacted]
Potomac, Maryland
Office: [redacted]

ADDENDUM 1:

NHTSA ODI Nos. for VOQs related to Sudden Uncommanded Acceleration (SUA)

10179108	10318420	10355301	10386558	10433996	10461298
10197228	10319590	10357204	10386732	10435104	10464743
10199385	10323171	10359050	10386844	10438620	10465259
10200857	10324512	10362186	10394141	10439287	10466316
10218079	10326723	10363854	10398893	10440320	10466559
10220219	10328626	10364258	10400980	10440638	10467753
10223543	10329669	10365910	10402092	10441290	10468079
10226077	10329744	10365910	10404570	10442429	10468204
10237754	10330562	10367294	10406461	10444795	10468830
10246859	10330998	10367569	10408943	10446155	10470060
10273584	10334059	10368441	10409959	10447708	10470459
10277696	10334435	10369495	10414039	10448296	10470577
10287363	10334523	10369819	10415164	10451805	10472663
10296110	10335214	10372736	10416529	10452802	10473691
10298626	10335780	10376214	10416947	10453768	10473846
10300021	10340860	10376241	10417315	10456186	10473946
10304034	10344255	10378338	10418142	10456569	10473983
10304948	10344318	10378434	10421268	10457628	10473983
10308252	10348164	10383859	10425437	10458372	10475468
10310482	10349191	10384268	10427867	10458486	10475682
10313584	10349198	10384876	10428125	10458613	10475751
10315266	10350654	10385408	10430856	10458614	10476103
10316139	10351647	10386369	10432454	10458935	10476644
10317413	10354327	10386536	10433016	10461009	10476799

ADDENDUM 1:

NHTSA ODI Nos. for VOQs related to Sudden Uncommanded Acceleration (SUA)

10478336	10501067	10520279	10559410	10584076	10618603
10478753	10501146	10521561	10559635	10584079	10618770
10479122	10501196	10522438	10560988	10585069	10620789
10479586	10501225	10523831	10561939	10586146	10625837
10481402	10502645	10525115	10562236	10586919	10625866
10482200	10504613	10533629	10562484	10588612	10627935
10482220	10504671	10534281	10562503	10588733	10628033
10482678	10504927	10535321	10562752	10592212	10629978
10484202	10504974	10542045	10563187	10592885	10630203
10484322	10505197	10543053	10563316	10593619	10630662
10485104	10505218	10543116	10563530	10594968	10630964
10486068	10505559	10545395	10566266	10595357	10631170
10486160	10505887	10546038	10567650	10595387	10631283
10489174	10505926	10547190	10573186	10595782	10631847
10490524	10507521	10547233	10574584	10596398	10632241
10490819	10508646	10547363	10575033	10598095	10632682
10491493	10508685	10549888	10575641	10606195	10639079
10492316	10509356	10551176	10576083	10607137	10639640
10493175	10509683	10554752	10576156	10607225	10640596
10496051	10509941	10557661	10577054	10607815	10640699
10497604	10510837	10557949	10578200	10610081	10641415
10499416	10512569	10558083	10578644	10610963	10643172
10499505	10512739	10558436	10583034	10615564	10643560
10500507	10514654	10559061	10583362	10617851	10649956

ADDENDUM 1:

NHTSA ODI Nos. for VOQs related to Sudden Uncommanded Acceleration (SUA)

10650833	10706152	10782840	10838313	10904321	10944629
10654681	10712673	10783170	10839639	10905115	10948916
10659495	10712711	10785569	10840227	10905623	10957517
10660606	10713354	10786620	10850765	10909786	10958268
10662447	10716930	10790119	10852590	10909830	10968290
10663356	10717040	10790745	10854342	10910025	10968711
10663971	10723980	10808749	10854933	10910674	10970020
10664604	10724875	10811303	10855265	10910746	10970732
10668775	10725566	10811628	10860276	10911295	10970888
10676776	10727021	10816429	10864334	10915037	10980235
10676928	10733593	10816893	10870298	10915620	10981535
10681600	10744137	10817678	10874626	10916130	10983615
10689498	10744787	10819683	10874808	10916773	10991605
10689527	10745882	10820598	10875403	10927256	10991684
10689747	10747832	10822671	10875726	10928670	10993138
10693361	10764580	10823248	10876777	10933759	10994511
10693481	10765193	10824058	10885136	10933823	10995239
10694826	10776493	10836925	10885791	10934066	11001968
10694858	10778263	10837416	10885836	10934828	11003436
10695003	10778589	10837525	10891549	10937252	11003751
10702695	10778658	10837681	10893966	10938450	11005375
10703717	10779302	10837729	10898429	10939844	11011407
10704353	10781147	10838282	10899427	10940163	11012407
10705215	10781991	10838296	10903360	10943801	11013874

ADDENDUM 1:

NHTSA ODI Nos. for VOQs related to Sudden Uncommanded Acceleration (SUA)

11014074	11115315	11244912	11374179
11018845	11115361	11245023	11386678
11023380	11122742	11254451	11398722
11031944	11129690	11255998	11403364
11033461	11130513	11258506	11407753
11035907	11141533	11279092	11415741
11041843	11141846	11282526	11427315
11046280	11144887	11288969	11428619
11058476	11150843	11292573	
11060787	11152555	11300717	**TOTAL:**
11062035	11155521	11302239	**566**
11065557	11156504	11302313	
11074522	11157246	11307829	
11074967	11161404	11325591	
11082569	11163836	11326063	
11084986	11165746	11329061	
11090188	11170180	11331748	
11093587	11182022	11337397	
11096524	11183745	11348479	
11099419	11184591	11353190	
11102736	11190292	11354461	
11103044	11195615	11363043	
11103811	11229352	11365373	
11112204	11241824	11373517	

ADDENDUM 2:

NHTSA ODI Nos. for VOQs related to Loss of Motive Power / Deceleration

10157418	10349504	10425243	10452900	10490074	10524942
10168515	10349711	10425504	10454845	10490213	10525493
10170330	10350167	10426280	10456589	10490552	10525696
10213705	10351172	10426280	10458183	10494473	10525696
10218584	10351814	10428731	10458745	10495248	10526018
10259826	10355627	10429434	10460952	10496958	10532486
10264212	10366069	10430318	10461647	10498098	10533837
10284992	10368096	10430318	10462448	10500116	10534127
10286003	10368748	10432365	10463574	10500512	10535516
10307723	10372497	10434824	10465588	10504228	10536047
10311204	10374588	10439066	10466784	10509328	10538652
10311265	10380656	10439694	10466784	10510125	10542633
10312691	10386145	10439949	10470941	10510798	10542899
10313623	10393818	10440956	10472024	10511064	10543290
10315756	10394162	10441579	10473189	10511183	10543442
10318521	10396149	10441585	10473959	10511707	10543446
10329738	10400554	10441602	10474245	10512364	10544690
10329754	10413914	10442225	10475333	10513166	10545704
10332397	10414229	10442732	10476966	10514334	10545748
10339261	10415858	10443998	10477225	10514899	10546268
10339977	10416730	10444451	10477408	10515593	10547400
10341859	10418591	10445974	10478437	10515914	10548375
10343514	10418624	10447468	10482859	10519845	10548956
10343692	10419279	10450431	10485254	10520324	10549464
10345212	10421469	10451024	10486720	10521182	10549692
10346765	10424139	10452185	10487336	10523771	10551431
10348098	10425220	10452627	10487712	10523792	10553006

ADDENDUM 2:

NHTSA ODI Nos. for VOQs related to Loss of Motive Power / Deceleration

10554575	10598194	10632817	10716099	10818695	10913728
10556649	10598802	10633447	10717793	10819926	10916616
10556954	10598934	10633591	10721462	10821940	10924553
10557535	10606605	10637573	10722346	10825925	10924860
10557899	10607288	10638668	10722697	10838462	10927051
10559169	10607349	10639198	10736133	10845628	10930134
10560329	10607870	10640491	10744337	10846204	10935927
10563656	10608491	10640945	10746837	10849932	10938643
10564663	10608626	10649826	10748014	10855303	10943804
10566936	10611285	10649926	10749220	10855364	10946950
10568520	10614449	10653074	10760307	10861429	10959736
10574573	10615186	10654195	10760741	10861623	10966114
10574730	10617093	10655281	10761063	10861976	10966322
10575658	10618711	10661015	10763887	10862064	10967355
10577185	10619151	10661756	10781342	10863981	10967418
10583930	10619533	10669952	10783786	10873091	10970982
10584639	10620642	10671394	10784959	10874172	10971223
10585396	10620866	10672033	10785744	10874404	10971860
10585835	10621237	10683940	10785820	10875330	10978923
10586755	10621620	10689482	10789431	10875673	10979806
10593145	10626110	10690780	10794478	10881467	10980537
10593684	10626529	10691536	10794672	10884095	10981483
10594823	10628327	10693229	10808593	10889338	10983158
10595116	10628371	10705807	10810139	10891641	10983614
10595594	10630403	10712447	10811749	10892633	10984539
10596070	10631067	10712912	10816108	10898090	10991263
10596575	10632129	10715557	10817720	10908017	10991302

ADDENDUM 2:

NHTSA ODI Nos. for VOQs related to Loss of Motive Power / Deceleration

10991620	11030404	11110771	11171873	11217300	11241077
10992318	11032118	11111155	11172982	11217359	11243050
10992951	11045387	11111322	11174898	11217830	11243592
10993030	11047857	11111349	11179741	11218733	11243598
10993311	11052176	11111932	11183369	11219768	11243903
10993695	11054236	11115258	11183623	11219990	11243941
10994318	11056356	11115845	11184591	11220030	11245382
11000005	11057110	11124003	11185742	11220228	11245928
11000338	11061109	11128829	11187486	11220673	11246220
11001242	11064295	11130983	11190183	11220953	11246227
11001798	11064696	11132911	11190429	11222084	11252838
11002850	11064959	11139710	11192200	11222701	11253762
11003323	11067110	11140274	11194067	11222725	11254549
11005028	11067178	11141434	11195570	11228287	11256062
11006342	11073341	11141610	11195804	11228890	11257857
11006507	11081628	11142542	11196922	11228909	11265942
11006660	11091713	11142903	11202799	11229483	11266533
11011693	11093570	11154360	11204253	11229698	11267058
11012531	11097764	11154465	11204921	11230844	11267705
11015068	11098892	11155443	11205076	11231283	11271038
11015244	11101127	11160859	11206916	11231538	11277425
11018784	11101845	11161386	11207118	11231988	11278151
11020070	11102825	11164438	11207459	11232190	11279229
11020595	11104046	11164542	11207664	11233435	11281270
11021818	11105323	11165687	11208093	11233615	11281519
11024206	11110417	11170444	11208318	11233751	11282911
11030375	11110474	11171544	11208566	11240841	11283083

ADDENDUM 2:

NHTSA ODI Nos. for VOQs related to Loss of Motive Power / Deceleration

11283209	11326079	11372834	11416050	11429870
11286250	11326267	11376263	11416566	11430511
11286348	11326462	11384089	11417793	11433583
11286525	11327011	11384280	11420433	11434273
11286858	11328158	11384495	11420836	11434884
11287006	11330348	11385158	11420898	11435074
11289122	11337577	11385612	11421578	11435608
11290316	11337590	11386185	11421674	
11292234	11338644	11386346	11422389	**TOTAL: 601**
11298169	11340426	11387026	11422628	
11298199	11341411	11387948	11422703	
11298540	11343129	11395125	11422734	
11298828	11344053	11396059	11423049	
11299475	11350434	11396084	11423215	
11299586	11352111	11396123	11423515	
11301278	11353406	11396695	11423664	
11309990	11353474	11397794	11425791	
11315760	11354575	11398882	11426222	
11317711	11354968	11399198	11426469	
11318137	11355363	11399979	11426637	
11320054	11355706	11400426	11426645	
11321262	11359972	11403734	11427080	
11322499	11360016	11405448	11427103	
11322738	11361104	11405864	11427800	
11323922	11363128	11408584	11428172	
11324543	11366400	11413006	11428802	
11325359	11366539	11415662	11428808	

ADDENDUM 3: Incident List of Alleged SUA Accidents for Defect Petition to NHTSA

DATE DOI	ODI No. NHTSA	YEAR	MAKE	MODEL	FIRST NAME	LAST NAME	CITY	STATE / COUNTRY	SUA DESCRIPTION
19-Aug-12	10473983	2011	KIA	Sorento	[redacted]		Ames	IA	SUA for 59 miles at 120 mph, lasted 35 minutes
2-Dec-12	n/a	2011	Hyundai	Elantra			Rockwall County	TX	SUA for 120 miles, over 100 mph, serious crash
6-May-12	n/a	2009	Hyundai	Sonata	n/a unknown	n/a unknown	Daegu	South Korea	SUA at 80 mph, 17 people injured, serious crash in Daegu
4-Jan-13	10492316	2012	Hyundai	Santa Fe	[redacted]		Fort Worth	TX	SUA in traffic, complained to TX Attorney General
13-Mar-15	n/a	2007	Hyundai	Santa Fe			St. Louis	MO	SUA on highway, 90 mph, Hyundai inspected
23-Aug-15	10787453	2007	Hyundai	Santa Fe			Sacramento	CA	Fatal SUA, 2 fatalities, at 72 mph, runaway throttle
31-Dec-15	10838313	2008	KIA	Optima			Winchester	TN	Fatal SUA, 3 fatalities, at 93 mph, runaway throttle
Mar-16	10839639	2013	Hyundai	Elantra			Coconut Creek	FL	SUA, over cement barrier, moderate crash into tree
Aug-16	n/a	n/a	Hyundai	Santa Fe			Busan	South Korea	Fatal SUA, 4 fatalities, severe crash in Busan, South Korea
7-Jul-17	11386678	2009	Hyundai	Santa Fe			Erie	PA	Fatal SUA, 3 fatalities, at 92 mph, runaway throttle
14-Dec-19	11289671	2016	Hyundai	Elantra	n/a unknown	n/a unknown	Warner Robins	GA	SUA, several times, lurch forward, RPMs 4,000 to 5,000 each time
3-Jul-20	n/a	2011	KIA	Sorento	[redacted]		Braselton	GA	SUA, without warning, in parking lot, serious accident and injuries