

of Transportation

National Highway Traffic Safety Administration 1200 New Jersey Avenue SE. Washington, DC 20590

E-MAIL AND CERTIFIED MAIL RETURN RECEIPT REQUESTED

Steven M. Kenner Global Director Automotive Safety Office Ford Motor Company 330 Town Center Drive, Suite 400 Dearborn, MI 48126 January 28, 2014

NVS-221AFi OA-114-140115A

Re: Model Year 2013 and 2014 Push-Button Start Vehicles

Dear Mr. Kenner:

The Office of Vehicle Safety Compliance ("OVSC") of the National Highway Traffic Safety Administration ("NHTSA") investigated vehicles manufactured by Ford Motor Company to the requirements of Federal Motor Vehicle Safety Standard ("FMVSS") No. 114, *Theft Protection and Rollaway Prevention*, found at 49 CFR § 571.114. Testing took place at Koons of Silver Spring in Kilver Spring Maryland on August 28, 2013.

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Dear Mr. Kenner:

The Office of Vehicle Safety Compliance ("OVSC") of the National Highway Traffic Safety Administration ("NHTSA") investigated vehicles manufactured by Ford Motor Company to the requirements of Federal Motor Vehicle Safety Standard ("FMVSS") No. 114, *Theft Protection and Rollaway Prevention*, found at 49 CFR § 571.114. Testing took place at Koons of Silver Spring, in Kilver Spring, Maryland on August 28, 2013.

MY	Make	Model
2013	Ford	Explorer
2013	Ford	Fusion
2013	Ford	Taurus
2013	Lincoln	MKX
2013	Lincoln	MKZ
2014	Ford	Escape
2014	Ford	Flex

OVSC performed tests using scenarios developed according to how we believed consumers could use vehicles equipped with KCCDs, focusing on Sections 5.1 and 5.2 of 49 CFR § 571.114. Since these systems operate differently depending on the manufacturer and, in some cases, the model, we ask that you review the results we obtained. In answering the items



below, include any differences noted should your company conduct similar tests and the possible reasons for those differences.

Unless otherwise stated in the text, the following definitions apply to the information request set forth below:

- <u>Manufacturer:</u> "Ford" "you", or "your" means <u>Ford Motor Company</u> including all of its divisions, subsidiaries and affiliated enterprises, including with respect to any of the foregoing within or outside of the United States, any parent corporation, any subsidiary or affiliate, or any subsidiary or affiliate of any parent corporation, and all of their headquarters, regional, zone and other offices and their employees, and all agents, contractors, consultants, attorneys and law firms and other persons engaged directly or indirectly (e.g., employee of a consultant) by or under the control of <u>Ford Motor Company</u>.
- **Document(s):** "Document(s)" is used in the broadest sense of the word and shall mean all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda, correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs, microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, pleadings, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative findings and all mechanical, magnetic, photographic and electronic records or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, CD-ROMs, compact disks, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by you, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document that contains any note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall be treated as a separate document subject to production. In all cases where original and any nonidentical copies are not available, "document(s)" also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or

photograph originally produced in color must be provided in color. The term "document" includes all documents described above whether verified by the manufacturer or not.

- <u>Consumer Complaint</u>: A "consumer complaint" is defined as a communication of any kind made by a consumer (or other person) to or with a manufacturer addressed to the company, an officer thereof, or an entity thereof that handles consumer matters, a manufacturer website that receives consumer complaints, a manufacturer electronic mail system that receives such information at the corporate level, or that are otherwise received by a unit within the manufacturer that receives consumer inquiries or complaints, including telephonic complaints, expressing dissatisfaction with a product, or relating the unsatisfactory performance of a product, or any actual or potential defect in a product, or any even that allegedly was caused by any actual or potential defect in a product.
- <u>Effective Range:</u> "Effective Range" means the maximum distance the Key Code Carrying Device can be from the Subject Vehicle where the vehicle is able to recognize the electronic key code associated with that particular vehicle.
- <u>Electronic Code:</u> "Electronic Code" shall have the meaning used in the definition of "key" in 49 CFR § 571.114, S.4.
- <u>Key:</u> "Key" means the electronic code which, when inserted into the starting system by electronic means, enables the vehicle operator to activate the engine or motor [*See* 49 CFR § 571.114, S.4].
- <u>Key Code Carrying Device (KCCD)</u>: "Key Code Carrying Device" means the physical device which is capable of electronically transmitting the key to the vehicle starting system without physical connection, other than its presence in the vehicle, between the device and the vehicle (i.e. the key fob).
- <u>Starting System:</u> "Starting System" means the vehicle system used in conjunction with the key code and the engine/motor start control to activate the engine, motor, or other system which provides propulsion to the motor vehicle.
- <u>Subject Vehicles:</u> "Subject Vehicles" means the vehicles listed after the first paragraph of this letter.
- "Starting the vehicle's motor" means the driver uses the motor start control to turn on power is "on" to the motor, resulting in input to the vehicle's wheels and vehicle movement as a result of the driver applying the accelerator pedal.
- "Stopping the vehicle's engine or motor" means the driver uses the engine/motor stop control to turn off power to the engine or motor and no input to the vehicle's wheels or vehicle movement will result from the driver application of the accelerator pedal.
- The term "you" or "your" refers to Ford.

- The singular includes the plural; the plural includes the singular. The masculine gender includes the feminine and neutral genders; and the neutral gender includes the masculine and feminine genders. "And" as well as "or" shall be construed either disjunctively or conjunctively, to bring within the scope of this information request all responses that might otherwise be construed to be outside its scope. "Each" shall be construed to include "every" and "every" shall be construed to include "each". "Any" shall be construed to include "all" and "all" shall be construed o include "any". The use of a verb in any tense shall be construed as the use of the verb in a past or present tense, whenever necessary to bring within the scope.
- The term "relate to" or "relating to" means constituting, comprising, containing, setting forth, showing, disclosing, describing, explaining, summarizing, concerning, or referring to, directly or indirectly.
- To "identify" or "state the identity of" a natural person means to state his/her full name, title, office, present work address and telephone number, and the name, address and telephone number of his/her present or last known employer, if any. once an individual has been so identified, he or she may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- To "identify" or "state the identity of" a person other than a natural person means to state its full name and the present or last known address and telephone number of its headquarters. Once such a "person" has been so identified, it may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- <u>Other Terms</u>: To the extent that they are used in these information requests, the terms "claim," "consumer complaint," "dealer field report," "field report," "make," "model," "model year," "notice," "property damage," "property damage claim," "type," "warranty," "warranty adjustment," and "warranty claim," whether used in singular or plural form, have the same meaning as found in 49 CFR 579.4.

Please respond to the following requests. Please repeat the applicable request verbatim above each response. Identify the source of the information and indicate the last date the information was fathered. Answer each question for each of the Subject Vehicles as well as any other MY 2013-2014 vehicles identified by <u>Ford</u> that have keyless ignition systems comparable to those in any of the Subject Vehicles. If any vehicles share the same starting system, they may be grouped together when responding. When grouping vehicles for responses please list all vehicles(by model year, make, and model) that each response is for.

1. For each of the subject vehicles, state the date when a starting system that allows the use of an electronic key fob (Key Code Carrying Device) was first introduced in production and state the number of vehicles manufactured by or for your company with that starting

system for sale in the U.S. from that date through the date of your response to this letter, broken down by model year.

- 2. Separately, for each of the Subject Vehicles, explain the operation of the starting system. Include in your response, the location and operation of the key code carrying device and the engine/motor start/stop device.
- 3. Describe in detail how the Subject Vehicles' engine/motor is started. Include in your response where the electronic key code is sent (i.e. immobilizer or engine control unit ("ECU")), the path the electronic key code takes to enable the driver to start the engine/motor (include a diagram showing the components and how they "connect" to each other), at what point the electronic key code is considered inserted into the starting system, and what conditions need to remain for the electronic key code to remain inserted.
 - a. If the driver remained present in the vehicle, but the KCCD is removed from the vehicle after the vehicle's engine/motor is stopped, can the engine/motor be restarted using the original electronic key code described in item 3 above? If your response is yes, for what period of time, and/or for what number of attempts is this possible?
- 4. Describe in detail how the Subject Vehicles' engine/motor is stopped or turned off. Include in your response, how hard and long the driver must press the start/stop button, to which device the code or other electrical signal is sent (i.e., immobilizer or engine control unit ("ECU")), and which devices are turned off or deactivated by the ECU (i.e., starter, fuel pump, fuel injection system, etc.). Specify when exactly those devices are turned off or deactivated (i.e. after the engine/motor stop control is pressed to turn off the engine/motor, after the driver's door is opened, etc.)
 - a. Describe any operating conditions during which the driver cannot stop or turn off the engine/motor by using the stop control. These conditions may include, for example, the vehicle's transmission is not in "park" or the vehicle's speed is almost zero mph (or less than a certain speed).
- 5. Separately for each of the Subject Vehicles, describe how the starting system operates in the following scenarios referencing the descriptions provided in your response to item 1. In each scenario, indicate when the electronic key code is first present in the Subject Vehicles, when it is recognized by the Subject Vehicles. In each scenario, describe when it is deactivated (engine/motor can no longer be started), and when it is purged from the Subject Vehicles, including the number of seconds it remains activated, if at all, after the driver turns the starting system off. In addition, in each scenario below, identify all audible and/or visual alerts made by the Subject Vehicles, specifically stating at what point each alert is made, what event triggered each alert, what event or factor each alert is

intended to warn the driver of, and the length/duration (audible) or location/wording (visual) of each alert:

- a) The driver turns the Subject Vehicle's engine/motor on while the transmission control is in the "park" position. The Subject Vehicle's ignition is turned off. The driver exits the vehicle with the key code carrying device on his person and moves outside of the effective range.
- b) The driver turns the Subject Vehicle's engine/motor on and places the transmission in "drive". The Subject Vehicle is then turned off. The driver exits the Subject Vehicle leaving the key code carrying device in the Subject Vehicle.
- c) The driver turns the Subject Vehicle's engine/motor on and places the transmission in "drive". The Subject Vehicle's engine/motor is then turned off with the transmission still in "drive". One minute elapses, after which the driver opens the driver's door and exits the Subject Vehicle, taking the key code carrying device with him outside of the effective range.

Provide responses for the following questions if they have not been previously answered. If the question has been previously answered, identify specifically, by question number and by line, where the response was previously provided:

- 6. Describe the circumstances under which the electronic code is purged or removed from the Subject Vehicles and/or is no longer recognized by the vehicle. Include in your response, where the key code carrying device must be located in terms of distance from the vehicle and how much time must have elapsed after the vehicle's engine/motor is turned off in order for the electronic key code to be purged or removed from the Subject Vehicles' memory.
- 7. What is the maximum effective range of the key code carrying device allowed for the electronic key code to be recognized by the Subject Vehicles? Explain the Subject Vehicles' response to the electronic code when they key code carrying device is moved beyond the maximum effective range.
- 8. Produce a copy of <u>Ford's</u> complete test procedure and test report concerning FMVSS No. 114 applicable to the Subject Vehicles. Produce all results of <u>Ford's</u> testing of the Subject Vehicles related to FMVSS No. 114 as well as copies of <u>Ford's</u> internal sign off sheet(s) indicating compliance with FMVSS No. 114. Produce a copy of <u>Ford's</u> complete test procedure concerning FMVSS No. 114 for the Subject Vehicles as it was provided to the manufacturer of the Subject Vehicles' starting system.

- 9. Separately for each of the Subject Vehicles, state the number of each of the following received by or of which <u>Ford</u> is otherwise aware, which relate to or may relate to the starting system in the Subject Vehicles:
 - a) Consumer complaints, including those from fleet operators;
 - b) Field reports, including, but not limited to field technical reports and dealer field reports;
 - c) Reports involving a crash, injury, or fatality;
 - d) Property damage claims;
 - e) Warrantee claims;
 - f) Third-party arbitration proceedings where <u>Ford</u> is or was a party to the arbitration;
 - g) Lawsuits, both pending and closed, in which <u>Ford</u> is or was defendant or codefendant; and,
 - h) Vehicle Owner Questionnaires (VOQs) provided to the National Highway Traffic Safety Administration (U.S.) and received or otherwise obtained by Ford.

If <u>Ford</u> cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other privilege, <u>Ford</u> does not submit one or more requested documents or items of information in response to this information request, <u>Ford</u> must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

The information requests set forth above are sent to <u>Ford</u> pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to require a manufacturer to make reports to NHTSA. It constitutes a new request for a report. A timely and complete response by <u>Ford</u> is required. <u>Ford</u>'s failure to respond promptly and fully to such a request could subject <u>Ford</u> to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30163. Under 49 U.S.C. § 30165(a)(3), any person who violates 49 U. S. C. § 30166 is liable for penalties up to and including \$7,000 per day for failure to provide requested information. The maximum for a related series of violations is currently \$17,350,000. 49 C.F.R.§ 578.6(a)(3). Other remedies and sanctions are available as well.

Additionally, we are requesting information to improve our understanding of the design standards and safety strategies that your company has in place to address the potential safety risks that may be present with push button start/stop vehicles. Your response to the following questions is optional:

10. What safety information does <u>Ford</u> request its dealership personnel to provide to customers purchasing a new or used vehicle with push button start/stop?

11. What safety information does <u>Ford</u> directly provide to a customer purchasing a new or used vehicle with push button start/stop, and through what means (i.e., owner's manual) is this information provided or communicated?

The address for mail or express delivery is: National Highway Traffic Safety Administration, Office of Vehicle Safety Compliance (NVS-221), Room W43-496 1200 New Jersey Avenue SE, Washington, DC 20590. All business confidential information must be submitted directly to the Office of Chief Counsel as described in the following paragraph and should not be sent to this office. In addition, do not submit any business confidential information in the body of the letter submitted to this office. Please refer to OA-114-140115A in Ford's response to this letter and in any confidentiality request submitted to the Office of Chief Counsel. Ford's response to this IR is due no later than 30 calendar days from the date indicated on this letter. If Ford finds that it is unable to provide all of the information requested within the time allotted, Ford must request an extension from Amina Fisher of my staff at (202) 366-5307 no later than five (5) business days before the response due date. If Ford is unable to provide all of the information requested by the original deadline, it must submit a partial response by the original deadline with whatever information Ford then has available, even if an extension has been granted.

If you have any technical questions concerning this matter, please call Amina Fisher of my staff at (202) 366-5307. Your cooperation and assistance is greatly appreciated.

Sincerely Le Sor 4.T.

Harry Thompson Chief, Crash Avoidance Division Office of Vehicle Safety Compliance

Enclosure - Data Sheets from field inspections

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST VEHIC VEHIC VEHIC VIN _ Autor Activ	DATE 08 28 13 CLE MODEL YEAR 2013 CLE MAKE Ford CLE MODEL Explorer IFM 5K7F97DG444391 matic transmission (confirm) YES ation of starting system (include key type) roximity Key fob ush button		
ls the	ere an installed rollaway prevention feature?	YES, describe NO UNSUR	E
1 2 3 4	Position vehicle on relatively flat grade; TEC Start vehicle; roll down driver's window; tu Pass fob out of open window to TECH 2 (ma Turn vehicle off; wait ~30 sec (some vehicle alerts activated	H 1 enter vehicle with key fob rn radio on; shift to Drive; release Parking Bra ike sure to move out of range of vehicle) is have emergency restart feature) Describe a	ake any
	AUDIBLE ¹ dB level: 65 dB Duration: 3scc Exterior dB level: 65 dB Duration: 3scc Duration: 65 dB	VISUAL Location: Juster Wording: Shift to Park	
5 6	If an audible alert sounds does the radio vo Reduced volume Rad Shift vehicle to Neutral (do not go to Park in Attempt to restart vehicle in Neutral. Does YES- electronic key code appears to (Complete 6.1)	Iume change? dio turns off INO change to radio volu the meantime) the vehicle restart? Describe any alerts activa still be in vehicle	ime ated
	NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle	
	AUDIBLE ¹ dB level: Duration: Exterior dB level: Duration:	VISUAL Location: cluster Wording: Shift to Park	

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

x

5.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again.TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	AUDIBLE ¹			VISUAL
dB level: GS dB Duration: continuous Exterior		Location: Wording:	cluster Shift to Park	
dB level: معری Duration:				

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent faiJure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

Vehicle 2013 Ford Explorer

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

Interior					VISUAL
dB level: Duration: Exterior dB level: Duration:	DONE	r. L	Location: Wording:	NONE	

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

		AUDIBLE ¹			VISUAL
Interior dB level: Duration:	56 dB 1 Sec		Location:	cluster	-
Exterior dB level:			Wording:	N.	Key Descored
Duration:	NONE		<u> </u>		

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST VEHI VEHI VIN Auto Activ	DATE 08 28 13 CLE MODEL YEAR 2013 CLE MAKE Ford CLE MODEL Fusion Energi 3FAG POSUOD R 246774 matic transmission (confirm) YES ration of starting system (include key type) proximity key fob push button	 NO
is the	ere an installed rollaway prevention feature?	YES , describe NO UNSURE
1 2 3 4	Position vehicle on relatively flat grade; TEC Start vehicle; roll down driver's window; tu Pass fob out of open window to TECH 2 (ma Turn vehicle off; wait ~30 sec (some vehicle alerts activated	CH 1 enter vehicle with key fob Irn radio on; shift to Drive; release Parking Brake ake sure to move out of range of vehicle) as have emergency restart feature) Describe any
	AUDIBLE ¹ Interior dB level: 61 dB Duration: 2 sec Exterior dB level: Duration:	VISUAL Location: cluster Wording: Transmission not in Park
5 6	If an audible alert sounds does the radio vo Reduced volume Rad Shift vehicle to Neutral (do not go to Park in Attempt to restart vehicle in Neutral. Does YES- electronic key code appears to (Complete 6.1)	olume change? dio turns off No change to radio volume n the meantime) the vehicle restart? Describe any alerts activated
	NO- electronic key code does not aj (Complete 6.1 - 8)	ppear to still be in the vehicle
	AUDIBLE ¹ Interior dB level: Duration: Exterior dB level: Duration:	VISUAL Location: Wording:

2013 Ford Fusion Vehicle

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	AUDIBLE ¹	VISUAL
dB level: GI dB Duration: communes	•	Location: cluster
Exterior		Wording: Transmission not in Park
dB level: NONE Duration:		

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park \Box

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES Key is not removed from the starting system until the transmission is shifted to P (can always be restarted until then) Vehicle 2013 Ford Fusion

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

AUDIBLE ¹		VISUAL
Interior		
dB level: 61 dB Duration: continuous until door Exterior opened then closed	Location: cluster Wording: Door fiar	
dB level: Duration:		

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

AUDIBLE ¹			VISUAL
Interior			
dB level: 61 dB	Location:	cluster	
Duration: continuous until door			
Exterior opened then closed	Wording:	No Key Detected	
dB level: 79 JB			
Duration: 2 sec			

1

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST DATE 08 05 13	
VEHICLE MODEL YEAR	
VEHICLE MAKE	
VEHICLE MODEL Tauras	
VIN 1FAHP2F81D6203554 C2013020	<u>>9</u>
Automatic transmission (confirm) YES	LI NO
Activation of starting system (include key type)	
proximity key tob	
push button	
Is there an installed rollaway prevention feature? no auto shift to park feature obscrib	YES, describe NO UNSURE
1 Position vehicle on relatively flat grade; TE	CH 1 enter vehicle with key fob
 Start vehicle; roll down driver's window; tu Bass feb out of open window to TECH 2 /m 	irn radio on; shift to Drive; release Parking Brake
4 Turn vehicle off: wait ~30 sec (some vehicle	es have emergency restart feature) Describe any
alerts activated	es have emergency restart reactive, bescribe any
3	×
	VISITAL
Interior	VISUAL
dB level: 47-50 dB	Location: cluster
Duration: continuous	
Exterior	Wording: Shift to Park
dB level:	
Duration:	
If an audible alert sounds does the radio vo	lume change?
Reduced volume	dio turns off 🛛 🗌 No change to radio volume
5 Shift vehicle to Neutral (do not go to Park i	n the meantime)
6 Attempt to restart vehicle in Neutral. Does	the vehicle restart? Describe any alerts activated.
VEC electronic kou codo appears to	still be in vahiele
(Complete 6.1)	
(complete 0.1)	
NO- electronic key code does not a	opear to still be in the vehicle 🛛 🗹
(Complete 6.1 - 8)	
	VISUAL
Interior	
dB level:	Location:
Duration:	NONE
Exterior NONE	Wording:
dB level:	
Duration:	
PHOTOGRAPHS: vehicle front; vehicle rear; certifica	ation placard; tire placard; tires showing make,
model, and size	

start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close 6.1 door. Describe any alerts activated.

AUDIBLE ¹	VISUAL
dB level: 47-50 dB Duration: continuous Exterior dB level: Duration: None	Location: cluster Wording: Shift to Park

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

> YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required R

NO- Go to 8, the vehicle appears to have locked itself in Park \Box

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

same 4 chime alert for door ajar NOTES as for what seems to be Shift to Park alert

5

6

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST DATE <u>08</u> VEHICLE MODEL Y VEHICLE MAKE <u>VEHICLE MODEL</u> VIN <u>21MD>BJK</u> Automatic transm Activation of start	28 (EAR Linco MK 9DE Dission ting sy	13 2013 51n 52 52 52 52 52 52 52 54 52 54 54 54 54 54 54 54 54 54 54 54 54 54	VES ude key type)	NO		s
push burron			_			······································
is there an installe	ed roll	laway prev	vention feature?	YES, describe	- INO	

1 Position vehicle on relatively flat grade; TECH 1 enter vehicle with key fob

2 Start vehicle; roll down driver's window; turn radio on; shift to Drive; release Parking Brake

3 Pass fob out of open window to TECH 2 (make sure to move out of range of vehicle)

4 Turn vehicle off; wait ~30 sec (some vehicles have emergency restart feature) Describe any alerts activated

AUDIBLE ¹	VISUAL		
dB level: 48 dB	Location: cluster		
Exterior dB level:	Wording: Shift to Park		
Duration:			
If an audible alert sounds does the radio vo	lume change? dio turns off INo change to radio volume		
Shift vehicle to Neutral (do not go to Park i Attempt to restart vehicle in Neutral. Does	Shift vehicle to Neutral (do not go to Park in the meantime) Attempt to restart vehicle in Neutral. Does the vehicle restart? Describe any alerts activated		
YES- electronic key code appears to still be in vehicle [] (Complete 6.1)			
NO- <i>electronic key code does not a</i> (Complete 6.1 - 8)	ppear to still be in the vehicle		
AUDIBLE ¹	VISUAL		
dB level: אסאד Duration:	Location: cluster		
Exterior	Wording: Shift to Park		
Duration:			

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior			AUDIBLE1			VISUAL
	dB level: Duration:	48 dB continuous		Location:	cluster	
Exterio	r			Wording:	Shift to Park	
	dB level: Duration:	NONE				

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

Vehicle 2013 Lincoln MKX

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

а.		

		AUDIBLE1	VISUAL
Interior			
dB level:	NONE		Location: cluster
Duration:			
Exterior			Wording: Frains is
dB level:			- Lhoine is on
Duration:	NONE		-> went away after driver door (appeared when door opened) closed

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

AUDIBLE ¹	VISUAL
dB-level: مەرەرى Duration:	Location: cluster
Exterior	Wording: Engine is on
dB level: 72 dB Duration: 2 horn beeps	No Key Detected

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST DATE 08 28 13	
VEHICLE MODEL VEAR 2013	
VEHICLE MAKE Lincoln	
VIN SLNGLZGE 8DR817657	
Automatic transmission (confirm) Z YES	
Activation of starting system (include key type)	
proximity key fob	
push button dear selectio	n controls are push buttons
Is there an installed rollaway prevention feature?	YES, describe INO UNSURE
Park position	
1 Position vehicle on relatively flat grade; TEC	H 1 enter vehicle with key fob
2 Start vehicle; roll down driver's window; tur	rn radio on; shift to Drive; release Parking Brake
3 Pass fob out of open window to TECH 2 (ma	ke sure to move out of range of vehicle)
4 Turn vehicle off; wait ~30 sec (some vehicle	s have emergency restart feature) Describe any
alerts activated	
AUDIBLE ¹	VISUAL
Interior	
dB level: 08 dB	Location: cluster
Duration: 1 sec	T P
Exterior	Wording: Transmission not in Park
dB level: NONE	Restart now or key is needed
Duration:	
If an audible alert sounds does the radio vo	lume change? dio turns off INO change to radio volume
Shift vehicle to Neutral (do not go to Park inAttempt to restart vehicle in Neutral. Does	n the meantime) the vehicle restart? Describe any alerts activated.
YES- electronic key code appears to (Complete 6.1)	still be in vehicle
NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle
AUDIBLE ¹	VISUAL
Interior	
dB level: 61 dB	Location: cluster
Duration: < 1 sec	,
Exterior	Wording: No Key Detected
dB level:	
Duration:	

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	AUDIBLE ¹		VISUAL
dB level: 6 Duration: Exterior) dB sec	Location: claster	
dB level: Duration:	NONE	worky Diaceta	

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES after the "Transmission not in Park" message appeared the vehicle's transmission automatically shifted to Park

Vehicle 2013 Lincoln MZZ

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

Interior		AUDIBLE ¹			VISUAL
dB level: Duration:			Location:	cluster	
Exterior dB level: Duration:	NOWE		Wording:	Engine is on	

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

	AUDIBLE ¹	VISUAL
Interior		
dB level:		Location: cluster
Duration:		
Exterior		Wording: Engine is on
dB level: 80 AB		
Duration: 5 sec		No Key Setucted

Vehicle 2013 Ford Escape

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST VEHIC VEHIC VEHIC VIN Autor Activa	DATE 08 28 13 CLE MODEL YEAR 2013 CLE MAKE Ford CLE MODEL Escape IFMCUDHXIDUC 52319 matic transmission (confirm) YES ation of starting system (include key type) roximity Key fob ush button	
ls the	re an installed rollaway prevention feature?	YES, describe
1 2 3 4	Position vehicle on relatively flat grade; TEC Start vehicle; roll down driver's window; tu Pass fob out of open window to TECH 2 (ma Turn vehicle off; wait ~30 sec (some vehicle alerts activated	CH 1 enter vehicle with key fob rn radio on; shift to Drive; release Parking Brake ake sure to move out of range of vehicle) es have emergency restart feature) Describe any
ſ	AUDIBLE ¹	VISUAL
	dB level: 50 dB Duration: 3هد Exterior dB level: مەنى Duration:	Location: cluster Wording: Transmission not in Park Select P
	If an audible alert sounds does the radio vo	lume change? dio turns off
5 6	Shift vehicle to Neutral (do not go to Park in Attempt to restart vehicle in Neutral. Does	n the meantime) the vehicle restart? Describe any alerts activated.
	YES- electronic key code appears to (Complete 6.1)	still be in vehicle
-	NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle

[10] M. M. W. W. W. Sandara, and a strange strangers and the sub-sub-sub-strangers of the strangers of the Statistical Action Strengtheory (Science) and Science St Science Strengtheory (Science) and Science Strengtheory (Sc	AUDIBLE ¹	VISUAL
Interior		
dB level:		Location: cluster
Duration:		
Exterior NONE		Wording: Transmission not in Park
dB level:		
Duration:		Select P

Vehicle 2013 Ford Escape

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

	AUDIBLE1	VISUAL
dB level:	50 dB	Location: cluster
Exterior	Conninuous	Wording: Transmission not in Park
dB level: Duration:	NONE	Suut P

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

Vehicle 2013 Ford Escorpe

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

					and the second s
Interior		AUDIBLE			VISUAL
dB level:			Location:		
Duration:				NONE	
Exterior	NONE		Wording:	100.02	
dB level:					
Duration:					
The second					and the second s

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

AUDIBLE ¹	VISUAL
Interior dB level: 61 dB driver door Duration: 1 sec opened then Exterior closed dB level: 76 dB Duration: 2 sec	Location: cluster Wording: Ford KeyFree Key not in Vehicle

FMVSS 114 – Theft Protection and Rollaway Prevention

TECT DATE 08 29 15	
VEHICLE MODEL YEAR 2014	
VEHICLE MAKE Ford	
VEHICLE MODEL Flex	
VIN 2FMHKGDTIEBD07490	
Automatic transmission (confirm) VES	
Activation of starting system (include key type)	
proximity Key fob	·
push button	
Is there an installed rollaway prevention feature?	YES, describe
 Position vehicle on relatively flat grade; TEC Start vehicle; roll down driver's window; tur Pass fob out of open window to TECH 2 (ma Turn vehicle off; wait ~30 sec (some vehicle alerts activated 	H 1 enter vehicle with key fob n radio on; shift to Drive; release Parking Brake ke sure to move out of range of vehicle) s have emergency restart feature) Describe any
AUDIBLE ¹ Interior dB level: 60 dB Duration: 3scc Exterior dB level: NODE	VISUAL Location: cluster Wording: Transmission not in Park
If an audible alert sounds does the radio vo Reduced volume Rad Shift vehicle to Neutral (do not go to Park in Attempt to restart vehicle in Neutral. Does	lume change? dio turns off INo change to radio volume in the meantime) the vehicle restart? Describe any alerts activate
YES- electronic key code appears to (Complete 6.1)	still be in vehicle
NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle
AUDIBLE ¹	VISUAL
dB level: Duration:	Location: Cluster
Exterior NONE dB level: Duration:	Wording: Troons mission not in Park

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

£

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior 68	AUDIBLE		VISUAL
dB level: 58 dB		Location:	cluster
Exterior		Wording:	Transmission not in Park
dB level: 79 dB Duration: 2 Sec			No Key Detected

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park \Box

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

		-
20111	L	Flag
6019	rond	1100

- Vehicle ___
- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

		AUDIBLE1			VISUAL
Interior					
dB level:	58 dB		Location:		
Duration:	2 sec			NONE	
Exterior			Wording:		
dB level: Duration:	DODE	2			

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

		AUDIBLE ¹				VISUAL
Interior dB level:	58 dB		Location:	dust	er	
Exterior dB level:	2 sec 79 dB		Wording:	No	Key	Detword
Duration:	2 sec					

1200 New Jersey Avenue SE. Washington, DC 20590



U.S. Department of Transportation

National Highway Traffic Safety Administration

E-MAIL AND CERTIFIED MAIL RETURN RECEIPT REQUESTED

Carmen Benavides Director Product Investigations and Safety Regulations General Motors LLC Mail Code 480-210-2V1 30001 Van Dyke Warren, MI 48090-9020

January 28, 2014

NVS-221AFi OA-114-140115B

Re: Model Year 2013 and 2014 Push-Button Start Vehicles

Dear M. Benavides:

The Office of Vehicle Safety Compliance ("OVSC") of the National Highway Traffic Safety Administration ("NHTSA") investigated vehicles manufactured by General Motors to the requirements of Federal Motor Vehicle Safety Standard ("FMVSS") No. 114, *Theft Protection and Rollaway Prevention*, found at 49 CFR § 571.114. Testing took place at <u>Fitz Auto Mall</u>, in <u>Rockville, Maryland</u> on <u>September 5</u>, 2013.

MŸ	Make	Model		
2013	Buick	Lacrosse		
2013	Buick	Verano		
2013	Cadillac	SRX		
2014	Buick	Regal		
2014	Cadillac	XTS		

OVSC performed tests using scenarios developed according to how we believed consumers could use vehicles equipped with KCCDs, focusing on Sections 5.1 and 5.2 of 49 CFR § 571.114. Since these systems operate differently depending on the manufacturer and, in some cases, the model, we ask that you review the results we obtained. In answering the items below, include any differences noted should your company conduct similar tests and the possible reasons for those differences.



Unless otherwise stated in the text, the following definitions apply to the information request set forth below:

- <u>Manufacturer:</u> "General Motors" "you", or "your" means <u>General Motors</u> including all of its divisions, subsidiaries and affiliated enterprises, including with respect to any of the foregoing within or outside of the United States, any parent corporation, any subsidiary or affiliate, or any subsidiary or affiliate of any parent corporation, and all of their headquarters, regional, zone and other offices and their employees, and all agents, contractors, consultants, attorneys and law firms and other persons engaged directly or indirectly (e.g., employee of a consultant) by or under the control of <u>General Motors</u>.
- **Document(s):** "Document(s)" is used in the broadest sense of the word and shall mean all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda, correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs, microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, pleadings, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative findings and all mechanical, magnetic, photographic and electronic records or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, CD-ROMs, compact disks, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by you, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document that contains any note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall be treated as a separate document subject to production. In all cases where original and any nonidentical copies are not available, "document(s)" also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or photograph originally produced in color must be provided in color. The term "document" includes all documents described above whether verified by the manufacturer or not.
- **Consumer Complaint:** A "consumer complaint" is defined as a communication of any kind made by a consumer (or other person) to or with a manufacturer addressed to the

company, an officer thereof, or an entity thereof that handles consumer matters, a manufacturer website that receives consumer complaints, a manufacturer electronic mail system that receives such information at the corporate level, or that are otherwise received by a unit within the manufacturer that receives consumer inquiries or complaints, including telephonic complaints, expressing dissatisfaction with a product, or relating the unsatisfactory performance of a product, or any actual or potential defect in a product, or any even that allegedly was caused by any actual or potential defect in a product.

- <u>Effective Range:</u> "Effective Range" means the maximum distance the Key Code Carrying Device can be from the Subject Vehicle where the vehicle is able to recognize the electronic key code associated with that particular vehicle.
- <u>Electronic Code:</u> "Electronic Code" shall have the meaning used in the definition of "key" in 49 CFR § 571.114, S.4.
- <u>Key:</u> "Key" means the electronic code which, when inserted into the starting system by electronic means, enables the vehicle operator to activate the engine or motor [*See* 49 CFR § 571.114, S.4].
- <u>Key Code Carrying Device (KCCD):</u> "Key Code Carrying Device" means the physical device which is capable of electronically transmitting the key to the vehicle starting system without physical connection, other than its presence in the vehicle, between the device and the vehicle (i.e. the key fob).
- <u>Starting System</u>: "Starting System" means the vehicle system used in conjunction with the key code and the engine/motor start control to activate the engine, motor, or other system which provides propulsion to the motor vehicle.
- <u>Subject Vehicles:</u> "Subject Vehicles" means the vehicles listed after the first paragraph of this letter.
- "Starting the vehicle's motor" means the driver uses the motor start control to turn on power is "on" to the motor, resulting in input to the vehicle's wheels and vehicle movement as a result of the driver applying the accelerator pedal.
- "Stopping the vehicle's engine or motor" means the driver uses the engine/motor stop control to turn off power to the engine or motor and no input to the vehicle's wheels or vehicle movement will result from the driver application of the accelerator pedal.
- The term "you" or "your" refers to General Motors.
- The singular includes the plural; the plural includes the singular. The masculine gender includes the feminine and neutral genders; and the neutral gender includes the masculine and feminine genders. "And" as well as "or" shall be construed either disjunctively or

conjunctively, to bring within the scope of this information request all responses that might otherwise be construed to be outside its scope. "Each" shall be construed to include "every" and "every" shall be construed to include "each". "Any" shall be construed to include "all" and "all" shall be construed o include "any". The use of a verb in any tense shall be construed as the use of the verb in a past or present tense, whenever necessary to bring within the scope of the document request all responses which might otherwise be construed to be outside its scope.

- The term "relate to" or "relating to" means constituting, comprising, containing, setting forth, showing, disclosing, describing, explaining, summarizing, concerning, or referring to, directly or indirectly.
- To "identify" or "state the identity of" a natural person means to state his/her full name, title, office, present work address and telephone number, and the name, address and telephone number of his/her present or last known employer, if any. once an individual has been so identified, he or she may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- To "identify" or "state the identity of" a person other than a natural person means to state its full name and the present or last known address and telephone number of its headquarters. Once such a "person" has been so identified, it may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- <u>Other Terms:</u> To the extent that they are used in these information requests, the terms "claim," "consumer complaint," "dealer field report," "field report," "make," "model," "model year," "notice," "property damage," "property damage claim," "type," "warranty," "warranty adjustment," and "warranty claim," whether used in singular or plural form, have the same meaning as found in 49 CFR 579.4.

Please respond to the following requests. Please repeat the applicable request verbatim above each response. Identify the source of the information and indicate the last date the information was fathered. Answer each question for each of the Subject Vehicles as well as any other MY 2013-2014 vehicles identified by <u>General Motors</u> that have keyless ignition systems comparable to those in any of the Subject Vehicles. If any vehicles share the same starting system, they may be grouped together when responding. When grouping vehicles for responses please list all vehicles(by model year, make, and model) that each response is for.

1. For each of the subject vehicles, state the date when a starting system that allows the use of an electronic key fob (Key Code Carrying Device) was first introduced in production and state the number of vehicles manufactured by or for your company with that starting system for sale in the U.S. from that date through the date of your response to this letter, broken down by model year.

- 2. Separately, for each of the Subject Vehicles, explain the operation of the starting system. Include in your response, the location and operation of the key code carrying device and the engine/motor start/stop device.
- 3. Describe in detail how the Subject Vehicles' engine/motor is started. Include in your response where the electronic key code is sent (i.e. immobilizer or engine control unit ("ECU")), the path the electronic key code takes to enable the driver to start the engine/motor (include a diagram showing the components and how they "connect" to each other), at what point the electronic key code is considered inserted into the starting system, and what conditions need to remain for the electronic key code to remain inserted.
 - a. If the driver remained present in the vehicle, but the KCCD is removed from the vehicle after the vehicle's engine/motor is stopped, can the engine/motor be restarted using the original electronic key code described in item 3 above? If your response is yes, for what period of time, and/or for what number of attempts is this possible?
- 4. Describe in detail how the Subject Vehicles' engine/motor is stopped or turned off. Include in your response, how hard and long the driver must press the start/stop button, to which device the code or other electrical signal is sent (i.e., immobilizer or engine control unit ("ECU")), and which devices are turned off or deactivated by the ECU (i.e., starter, fuel pump, fuel injection system, etc.). Specify when exactly those devices are turned off or deactivated (i.e. after the engine/motor stop control is pressed to turn off the engine/motor, after the driver's door is opened, etc.)
 - a. Describe any operating conditions during which the driver cannot stop or turn off the engine/motor by using the stop control. These conditions may include, for example, the vehicle's transmission is not in "park" or the vehicle's speed is almost zero mph (or less than a certain speed).
- 5. Separately for each of the Subject Vehicles, describe how the starting system operates in the following scenarios referencing the descriptions provided in your response to item 1. In each scenario, indicate when the electronic key code is first present in the Subject Vehicles, when it is recognized by the Subject Vehicles. In each scenario, describe when it is deactivated (engine/motor can no longer be started), and when it is purged from the Subject Vehicles, including the number of seconds it remains activated, if at all, after the driver turns the starting system off. In addition, in each scenario below, identify all audible and visual alerts made by the Subject Vehicles, specifically stating at what point each alert is made, what event triggered each alert, what event or factor each alert is intended to warn the driver of, and the length/duration (audible) or location/wording (visual) of each alert:

- a) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) while the transmission control is in the "park" position. The Subject Vehicle's ignition is turned off (activates the propulsion on/off control). The driver exits the vehicle with the key code carrying device on his person and moves outside of the effective range.
- b) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle is then turned off (activates the propulsion on/off control). The driver exits the Subject Vehicle leaving the key code carrying device in the Subject Vehicle.
- c) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle's engine/motor is then turned off (activates the propulsion system on/off control) with the transmission still in "drive". One minute elapses, after which the driver opens the driver's door and exits the Subject Vehicle, taking the key code carrying device with him outside of the effective range.

Provide responses for the following questions if they have not been previously answered. If the question has been previously answered, identify specifically, by question number and by line, where the response was previously provided:

- 6. Describe the circumstances under which the electronic code is purged or removed from the Subject Vehicles and/or is no longer recognized by the vehicle. Include in your response, where the key code carrying device must be located in terms of distance from the vehicle and how much time must have elapsed after the vehicle's engine/motor is turned off in order for the electronic key code to be purged or removed from the Subject Vehicles' memory.
- 7. What is the maximum effective range of the key code carrying device allowed for the electronic key code to be recognized by the Subject Vehicles? Explain the Subject Vehicles' response to the electronic code when they key code carrying device is moved beyond the maximum effective range.
- 8. Produce a copy of <u>General Motors'</u> complete test procedure and test report concerning FMVSS No. 114 applicable to the Subject Vehicles. Produce all results of <u>General Motors'</u> testing of the Subject Vehicles related to FMVSS No. 114 as well as copies of <u>General Motors'</u> internal sign off sheet(s) indicating compliance with FMVSS No. 114. Produce a copy of <u>General Motors'</u> complete test procedure concerning FMVSS No. 114 for the Subject Vehicles as it was provided to the manufacturer of the Subject Vehicles' starting system.

- 9. Separately for each of the Subject Vehicles, state the number of each of the following received by or of which <u>General Motors</u> is otherwise aware, which relate to or may relate to the starting system in the Subject Vehicles:
 - a) Consumer complaints, including those from fleet operators;
 - b) Field reports, including, but not limited to field technical reports and dealer field reports;
 - c) Reports involving a crash, injury, or fatality;
 - d) Property damage claims;
 - e) Warrantee claims;
 - f) Third-party arbitration proceedings where <u>General Motors</u> is or was a party to the arbitration;
 - g) Lawsuits, both pending and closed, in which <u>General Motors</u> is or was defendant or codefendant; and,
 - h) Vehicle Owner Questionnaires (VOQs) provided to the National Highway Traffic Safety Administration (U.S.) and received or otherwise obtained by <u>General Motors</u>.

If <u>General Motors</u> cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other privilege, <u>General Motors</u> does not submit one or more requested documents or items of information in response to this information request, <u>General Motors</u> must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

The information requests set forth above are sent to <u>General Motors</u> pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to require a manufacturer to make reports to NHTSA. It constitutes a new request for a report. A timely and complete response by <u>General Motors</u> is required. <u>General Motors</u>' failure to respond promptly and fully to such a request could subject <u>General Motors</u> to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30163. Under 49 U.S.C. § 30165(a)(3), any person who violates 49 U.S.C. § 30166 is liable for penalties up to and including \$7,000 per day for failure to provide requested information. The maximum for a related series of violations is currently \$17,350,000. 49 C.F.R.§ 578.6(a)(3). Other remedies and sanctions are available as well.
Additionally, we are requesting information to improve our understanding of the design standards and safety strategies that your company has in place to address the potential safety risks that may be present with push button start/stop vehicles. Your response to the following questions is optional:

10. What safety information does General Motors request its dealership personnel to provide to customers purchasing a new or used vehicle with push button start/stop?

11. What safety information does General Motors directly provide to a customer purchasing a new or used vehicle with push button start/stop, and through what means (i.e., owner's manual) is this information provided or communicated?

The address for mail or express delivery is: National Highway Traffic Safety Administration, Office of Vehicle Safety Compliance (NVS-221), Room W43-496, 1200 New Jersey Avenue SE. Washington, DC 20590. All business confidential information must be submitted directly to the Office of Chief Counsel as described in the following paragraph and should not be sent to this office. In addition, do not submit any business confidential information in the body of the letter submitted to this office. Please refer to OA-114-140115B in General Motors' response to this letter and in any confidentiality request submitted to the Office of Chief Counsel. General Motors' response to this IR is due no later than 30 calendar days from the date indicated on this letter. If General Motors finds that it is unable to provide all of the information requested within the time allotted, General Motors must request an extension from Amina Fisher of my staff at (202) 366-5307 no later than five (5) business days before the response due date. If General Motors is unable to provide all of the information requested by the original deadline, it must submit a partial response by the original deadline with whatever information General Motors then has available, even if an extension has been granted.

If you have any technical questions concerning this matter, please call Amina Fisher of my staff at (202) 366-5307. Your cooperation and assistance is greatly appreciated.

Sincerely,

1 - for H.T.

Harry Thompson Chief, Crash Avoidance Division Office of Vehicle Safety Compliance

Enclosure – Data Sheets from field inspections

Vehicle 2013 Brick La Crosse

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST VEHI VEHI VIN Auto Activ	DATE 09 05 13 CLE MODEL YEAB 2013 CLE MAKE Buick CLE MODEL CACrosse 1646656860 DF 245665 matic transmission (confirm) YES vation of starting system (include key type) proximity Key fob push button	□ NO			
ls the	ere an installed rollaway prevention feature?	🗌 YES,	describ	e ZNO	
1 2 3 4	Position vehicle on relatively flat grade; TEC Start vehicle; roll down driver's window; tu Pass fob out of open window to TECH 2 (ma Turn vehicle off; wait ~30 sec (some vehicle alerts activated	CH 1 enter rn radio on ake sure to es have em	vehicle ; shift to move o ergency	with key fo o Drive; rel out of range restart fea	b ease Parking Brake e of vehicle) ature) Describe any
	AUDIBLE ¹ dB level: 65 dB	Location	clus		VISUAL
	Duration: ק אנגאָ Exterior dB level: אסטד Duration:	Wording Pri	: No	remote ake	aletected
	If an audible alert sounds does the radio vo	lume chan dio turns o	ge? ff	No chai	nge to radio volume
5 6	Shift vehicle to Neutral (do not go to Park ir Attempt to restart vehicle in Neutral. Does	n the mean the vehicle	itime) e restart	? Describe	any alerts activated
	YES- electronic key code appears to (Complete 6.1)	still be in v	vehicle	Ø	
	NO- electronic key code does not ap (Complete 6.1 - 8)	opear to st	ill be in t	the vehicle	
	AUDIBLE ¹				VISUAL
	dB level: Duration: Exterior איסאב	Location Wording	: Non :	E	
0HO	dB level: Duration:	tion places	rd: tire r	placard: tir	es showing make

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing n model, and size

Vehicle 2013 Buick LaCrosse

7

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	AUDIBLE ¹	VISUAL
dB level: 65 dB Duration: 4 beeps Exterior		Location: cluster Wording: No remote detected
Duration:		Press brake to restart NOTHING SHYING SHIFT TO P

TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES electronic key remains in rehide

can be restarted w/o Key fob

Vehicle 2013 Buick LaCrosse

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

AUDIBLE Interior dB level: Duration: Exterior dB level: Duration:	Location: 、のいE Wording:
---	-------------------------------

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

Interior	VISUAL
dB level: 65 dB Duration: 4 bups	Location: cluster
Exterior dB level: שמסא Duration:	Wording: No remote detected. duration 10 sec

Vehicle 2013 Buick Verano

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST DATE 09 05 13	
VEHICLE MODEL YEAR 2013	
VEHICLE MODEL TERM	
VEHICLE MODEL Verano	
VIN 164 P55 5K804256434	
Automatic transmission (confirm) Z YES	
Activation of starting system (include key type)	
proximity key fob	
push button	
s there an installed rollaway prevention feature?	YES , describe NO UNSURE
1 Desition vehicle on relatively flat grade, T	CII 1 optor upbielo with low tob
2 Position vehicle on relatively hat grade; it Start vehicle: roll down driver's window: to	In radio on: shift to Driver release Parking Brake
Pass fob out of open window to TECH 2 (m	ake sure to move out of range of vehicle)
4 Turn vehicle off: wait ~30 sec (some vehicl	es have emergency restart feature) Describe any
alerts activated	
	VISUAL
Interior	
dB level: 65 dB	Location: cluster
Duration: y burgs	
Exterior	Wording: Ohifr to Park
dB level:	
If an audible alert sounds does the radio vo Reduced volume	olume change? Idio turns off INo change to radio volume
5 Shift vehicle to Neutral (do not go to Park i	in the meantime)
5 Attempt to restart vehicle in Neutral. Does	the vehicle restart? Describe any alerts activated
	*
YES- electronic key code appears to	o still be in vehicle
(Complete 6.1)	
NO- electronic key code does not a	ppear to still be in the vehicle
(Complete 6.1 - 8)	······
AUDIBLE ¹	VISUAL
Interior	
OB level: 05 ap	Location: (center) message center
Exterior	Wording:
dB leve).	disclosed 6 cm
Duration:	aispiayed o see
	NOIMING ONTING SHIFT TO P
2HOTOGRAPH5: vehicle front; vehicle rear; certific	ation placard; the placard; thes showing make,
IIUUEL AND SIZE	

Vehicle 2013 Buick Verano

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	AUDIBLEI	VISUAL
dB level: 65 dB Duration: 4 beeps		Location: cluster
Exterior		Wording: No remote detected
dB level: مەمەر Duration:		olispiayed 5 sec NOTHING Skying Skingt TD P

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES # though there is no message electronic key obes the vehicle is able to be not leave vehicle restarted w/o key fob after being shifted to Park

PG 3 of 3

Vehicle 2013 Buick Verano

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

Interior	AUDIBLE1		VISUAL
dB level: Duration: Exterior dB level: Duration:		Location: عدود Wording:	

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

	AUDIBLE1		VISUAL
Interior			
dB level: 65 dB		Location:	cluster
Duration: 4 beeps			
Exterior		Wording:	No remote detected
dB level: אמסטד Duration:			

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST	DATE 08 05 18	
VEHIC	CLE MODEL YEAR 2013	
VEHIC	CLE MAKE Cadillac	
VEHIC	CLE MODEL SRY	
VIN	364FNAE3306518925	
Autor Activa	matic transmission (confirm) YES ation of starting system (include key type)	
pu	5h Dutton	
ls the	re an installed rollaway prevention feature? no auto shift to park feature described	YES, describe
1	Position vehicle on relatively flat grade: TEC	H 1 enter vehicle with key fob
2	Start vehicle: roll down driver's window: tu	rn radio on: shift to Drive: release Parking Brake
3	Pass fob out of open window to TECH 2 (ma	ike sure to move out of range of vehicle)
4	Turn vehicle off; wait ~30 sec (some vehicle	s have emergency restart feature) Describe any
	alerts activated	
I		VICIAL
1	Interior	VISUAL
	dBlevel: 65 dB	location: cluster
	Duration: 4 sec.	
	Exterior	Wording: No remote detected
	dB level:	Press brake to start
	Duration:	NOTHING SAYING SHIFT TO P
5 6	If an audible alert sounds does the radio vo Reduced volume Alert plays - tower when Shift vehicle to Neutral (do not go to Park in Attempt to restart vehicle in Neutral. Does YES- electronic key code appears to (Complete 6.1) NO- electronic key code does not ap	lume change? dio turns off In No change to radio volume radio is on in the meantime) the vehicle restart? Describe any alerts activated. still be in vehicle opear to still be in the vehicle
Г	(Complete 6.1 - 8)	VISUAL
	Interior	
	dB level: 65 dB	Location: cluster
1	Duration: 4 sec	
	Exterior	Wording: No remote detected
	dB level:	
	Duration:	NOTHING SAYING SHIFT TO R

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

Start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close 6.1 door. Describe any alerts activated.

AUDIBLE ¹	VISUAL
dB level: 60 dB Duration: 6011048	Location: cluster
Exterior dB level: אי איב Duration:	Wording: No remote detected

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

> YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

FMVSS 114 – Theft Protection and Rollaway Prevention

тест	DATE 09 05 13	
VEHIC	TE MODEL YEAR 2013	
VEHIC	IF MAKE BUCK	
VEHIC	CLE MODEL Rega	
VIN _	-2646F 2646T 56Y9D9248274	
Autor Activa <u>7</u>	matic transmission (confirm) Z YES ation of starting system (include key type) proximity Key fob	
F	oush button	
ls the	re an installed rollaway prevention feature?	YES, describe NO UNSURE
1	Position vehicle on relatively flat grade; TEC	CH 1 enter vehicle with key fob
2	Start vehicle; roll down driver's window; tu	rn radio on; shift to Drive; release Parking Brake
3 4	Pass fob out of open window to TECH 2 (ma Turn vehicle off; wait ~30 sec (some vehicle alerts activated	ake sure to move out of range of vehicle) is have emergency restart feature) Describe any
ſ	AUDIBLE ¹	VISUAL
	dB level: 62 dB	Location: Cluster
	Exterior	Wording: No remote detected
	dB level:	
	Duration:	Press brake to restart
	If an audible alert sounds does the radio vo	lume change? dio turns off INO change to radio volume
5 6	Shift vehicle to Neutral (do not go to Park in Attempt to restart vehicle in Neutral. Does	n the meantime) the vehicle restart? Describe any alerts activated.
	YES- electronic key code appears to (Complete 6.1)	still be in vehicle
	NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle
ſ	AUDIBLE ¹	VISUAL
	Interior	
ļ	dB level: 68 dB NONE	Location: cluster
1	Duration: 4 bups no sound	Wording: Shift to P
	exterior after vehicle	worung. Croft to Lark
	Duration: NONE Park ?	ofter vehicle shifted to Fark the vehicle can be restarted
	Duration: NONE Park ? restarted	vehicle can be restarted

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

Vehicle 2013 Buick Regal

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	AUDIBLE ¹			VISUAL
dB level: 62 dB Duration: 4 bueps		Location:	cluster Shift	- P
dB level: NONE Duration:		Wording.	0 m Fr	to Fark

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES "Shift to Park" -> rehicle is able to be restarted w/o Key electronic

-electronic Key does not leave the vehicle

1

Vehicle 2013 Brick Regal

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

Interior		AUDIBLE1			VISUAL
dB level: Duration: Exterior dB level: Duration:	X Νο ΝΕ		Location: Wording:	NONE	

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

Interior	AUDIBLE1	VISUAL
dB level: Duration: Exterior שמסא dB level: Duration:		Location: <i>Cluster</i> Wording: No remote detected



National Highway Traffic Safety Administration

E-MAIL AND CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Robert Babcock Director Regulation and Certification Department Hyundai Motor Company 6800 Geddes Road Superior Township, MI 48198

January 28, 2014

NVS-221AFi OA-114-140115C

Re: Model Year 2013 and 2014 Push-Button Start Vehicles

Dear Mr. Babcock:

The Office of Vehicle Safety Compliance ("OVSC") of the National Highway Traffic Safety Administration ("NHTSA") investigated vehicles manufactured by Hyundai Motor Company to the requirements of Federal Motor Vehicle Safety Standard ("FMVSS") No. 114, *Theft Protection and Rollaway Prevention*, found at 49 CFR § 571.114. Testing took place at Kia of Silver Spring, in Silver Spring, Maryland on August 20, 2013; and Fitz Auto Mall, in Gaithersburg, Maryland on August 29, 2013.

MY	Make	Model
2013	Hyundai	Elantra
2013	Hyundai	Genesis
2013	Hyundai	Santa Fe
2013	Hyundai	Sonata
2013	Hyundai	Tucson
2013	Hyundai	Veloster

OVSC performed tests using scenarios developed according to how we believed consumers could use vehicles equipped with KCCDs, focusing on Sections 5.1 and 5.2 of 49 CFR § 571.114. Since these systems operate differently depending on the manufacturer and, in some cases, the model, we ask that you review the results we obtained. In answering the items below, include any differences noted should your company conduct similar tests and the possible reasons for those differences.



Unless otherwise stated in the text, the following definitions apply to the information request set forth below:

- <u>Manufacturer:</u> "Hyundai" "you", or "your" means <u>Hyundai</u> including all of its divisions, subsidiaries and affiliated enterprises, including with respect to any of the foregoing within or outside of the United States, any parent corporation, any subsidiary or affiliate, or any subsidiary or affiliate of any parent corporation, and all of their headquarters, regional, zone and other offices and their employees, and all agents, contractors, consultants, attorneys and law firms and other persons engaged directly or indirectly (e.g., employee of a consultant) by or under the control of <u>Hyundai</u>.
- **Document(s):** "Document(s)" is used in the broadest sense of the word and shall mean . all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda, correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs, microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, pleadings, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative findings and all mechanical, magnetic, photographic and electronic records or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, CD-ROMs, compact disks, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by you, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document that contains any note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall be treated as a separate document subject to production. In all cases where original and any nonidentical copies are not available, "document(s)" also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or photograph originally produced in color must be provided in color. The term "document" includes all documents described above whether verified by the manufacturer or not.
- <u>Consumer Complaint:</u> A "consumer complaint" is defined as a communication of any kind made by a consumer (or other person) to or with a manufacturer addressed to the

company, an officer thereof, or an entity thereof that handles consumer matters, a manufacturer website that receives consumer complaints, a manufacturer electronic mail system that receives such information at the corporate level, or that are otherwise received by a unit within the manufacturer that receives consumer inquiries or complaints, including telephonic complaints, expressing dissatisfaction with a product, or relating the unsatisfactory performance of a product, or any actual or potential defect in a product, or any even that allegedly was caused by any actual or potential defect in a product.

- <u>Effective Range:</u> "Effective Range" means the maximum distance the Key Code Carrying Device can be from the Subject Vehicle where the vehicle is able to recognize the electronic key code associated with that particular vehicle.
- <u>Electronic Code:</u> "Electronic Code" shall have the meaning used in the definition of "key" in 49 CFR § 571.114, S.4.
- <u>Key:</u> "Key" means the electronic code which, when inserted into the starting system by electronic means, enables the vehicle operator to activate the engine or motor [*See* 49 CFR § 571.114, S.4].
- <u>Key Code Carrying Device (KCCD)</u>: "Key Code Carrying Device" means the physical device which is capable of electronically transmitting the key to the vehicle starting system without physical connection, other than its presence in the vehicle, between the device and the vehicle (i.e. the key fob).
- <u>Starting System</u>: "Starting System" means the vehicle system used in conjunction with the key code and the engine/motor start control to activate the engine, motor, or other system which provides propulsion to the motor vehicle.
- <u>Subject Vehicles:</u> "Subject Vehicles" means the vehicles listed after the first paragraph of this letter.
- "Starting the vehicle's motor" means the driver uses the motor start control to turn on power is "on" to the motor, resulting in input to the vehicle's wheels and vehicle movement as a result of the driver applying the accelerator pedal.
- "Stopping the vehicle's engine or motor" means the driver uses the engine/motor stop control to turn off power to the engine or motor and no input to the vehicle's wheels or vehicle movement will result from the driver application of the accelerator pedal.
- The term "you" or "your" refers to <u>Hyundai</u>.
- The singular includes the plural; the plural includes the singular. The masculine gender includes the feminine and neutral genders; and the neutral gender includes the masculine and feminine genders. "And" as well as "or" shall be construed either disjunctively or

conjunctively, to bring within the scope of this information request all responses that might otherwise be construed to be outside its scope. "Each" shall be construed to include "every" and "every" shall be construed to include "each". "Any" shall be construed to include "all" and "all" shall be construed o include "any". The use of a verb in any tense shall be construed as the use of the verb in a past or present tense, whenever necessary to bring within the scope of the document request all responses which might otherwise be construed to be outside its scope.

- The term "relate to" or "relating to" means constituting, comprising, containing, setting forth, showing, disclosing, describing, explaining, summarizing, concerning, or referring to, directly or indirectly.
- To "identify" or "state the identity of" a natural person means to state his/her full name, title, office, present work address and telephone number, and the name, address and telephone number of his/her present or last known employer, if any. once an individual has been so identified, he or she may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- To "identify" or "state the identity of" a person other than a natural person means to state its full name and the present or last known address and telephone number of its headquarters. Once such a "person" has been so identified, it may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- <u>Other Terms:</u> To the extent that they are used in these information requests, the terms "claim," "consumer complaint," "dealer field report," "field report," "make," "model," "model year," "notice," "property damage," "property damage claim," "type," "warranty," "warranty adjustment," and "warranty claim," whether used in singular or plural form, have the same meaning as found in 49 CFR 579.4.

Please respond to the following requests. Please repeat the applicable request verbatim above each response. Identify the source of the information and indicate the last date the information was fathered. Answer each question for each of the Subject Vehicles as well as any other MY 2013-2014 vehicles identified by <u>Hyundai</u> that have keyless ignition systems comparable to those in any of the Subject Vehicles. If any vehicles share the same starting system, they may be grouped together when responding. When grouping vehicles for responses please list all vehicles(by model year, make, and model) that each response is for.

1. For each of the subject vehicles, state the date when a starting system that allows the use of an electronic key fob (Key Code Carrying Device) was first introduced in production and state the number of vehicles manufactured by or for your company with that starting system for sale in the U.S. from that date through the date of your response to this letter, broken down by model year.

- 2. Separately, for each of the Subject Vehicles, explain the operation of the starting system. Include in your response, the location and operation of the key code carrying device and the engine/motor start/stop device.
- 3. Describe in detail how the Subject Vehicles' engine/motor is started. Include in your response where the electronic key code is sent (i.e. immobilizer or engine control unit ("ECU")), the path the electronic key code takes to enable the driver to start the engine/motor (include a diagram showing the components and how they "connect" to each other), at what point the electronic key code is considered inserted into the starting system, and what conditions need to remain for the electronic key code to remain inserted.
 - a. If the driver remained present in the vehicle, but the KCCD is removed from the vehicle after the vehicle's engine/motor is stopped, can the engine/motor be restarted using the original electronic key code described in item 3 above? If your response is yes, for what period of time, and/or for what number of attempts is this possible?
- 4. Describe in detail how the Subject Vehicles' engine/motor is stopped or turned off. Include in your response, how hard and long the driver must press the start/stop button, to which device the code or other electrical signal is sent (i.e., immobilizer or engine control unit ("ECU")), and which devices are turned off or deactivated by the ECU (i.e., starter, fuel pump, fuel injection system, etc.). Specify when exactly those devices are turned off or deactivated (i.e. after the engine/motor stop control is pressed to turn off the engine/motor, after the driver's door is opened, etc.)
 - a. Describe any operating conditions during which the driver cannot stop or turn off the engine/motor by using the stop control. These conditions may include, for example, the vehicle's transmission is not in "park" or the vehicle's speed is almost zero mph (or less than a certain speed).
- 5. Separately for each of the Subject Vehicles, describe how the starting system operates in the following scenarios referencing the descriptions provided in your response to item 1. In each scenario, indicate when the electronic key code is first present in the Subject Vehicles, when it is recognized by the Subject Vehicles. In each scenario, describe when it is deactivated (engine/motor can no longer be started), and when it is purged from the Subject Vehicles, including the number of seconds it remains activated, if at all, after the driver turns the starting system off. In addition, in each scenario below, identify all audible and visual alerts made by the Subject Vehicles, specifically stating at what point each alert is made, what event triggered each alert, what event or factor each alert is intended to warn the driver of, and the length/duration (audible) or location/wording (visual) of each alert:

5

- a) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) while the transmission control is in the "park" position. The Subject Vehicle's ignition is turned off (activates the propulsion on/off control). The driver exits the vehicle with the key code carrying device on his person and moves outside of the effective range.
- b) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle is then turned off (activates the propulsion on/off control). The driver exits the Subject Vehicle leaving the key code carrying device in the Subject Vehicle.
- c) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle's engine/motor is then turned off (activates the propulsion system on/off control) with the transmission still in "drive". One minute elapses, after which the driver opens the driver's door and exits the Subject Vehicle, taking the key code carrying device with him outside of the effective range.

Provide responses for the following questions if they have not been previously answered. If the question has been previously answered, identify specifically, by question number and by line, where the response was previously provided:

- 6. Describe the circumstances under which the electronic code is purged or removed from the Subject Vehicles and/or is no longer recognized by the vehicle. Include in your response, where the key code carrying device must be located in terms of distance from the vehicle and how much time must have elapsed after the vehicle's engine/motor is turned off in order for the electronic key code to be purged or removed from the Subject Vehicles' memory.
- 7. What is the maximum effective range of the key code carrying device allowed for the electronic key code to be recognized by the Subject Vehicles? Explain the Subject Vehicles' response to the electronic code when they key code carrying device is moved beyond the maximum effective range.
- 8. Produce a copy of <u>Hyundai's</u> complete test procedure and test report concerning FMVSS No. 114 applicable to the Subject Vehicles. Produce all results of <u>Hyundai's</u> testing of the Subject Vehicles related to FMVSS No. 114 as well as copies of <u>Hyundai's</u> internal sign off sheet(s) indicating compliance with FMVSS No. 114. Produce a copy of <u>Hyundai's</u> complete test procedure concerning FMVSS No. 114 for the Subject Vehicles as it was provided to the manufacturer of the Subject Vehicles' starting system.

- 9. Separately for each of the Subject Vehicles, state the number of each of the following received by or of which <u>Hyundai</u> is otherwise aware, which relate to or may relate to the starting system in the Subject Vehicles:
 - a) Consumer complaints, including those from fleet operators;
 - b) Field reports, including, but not limited to field technical reports and dealer field reports;
 - c) Reports involving a crash, injury, or fatality;
 - d) Property damage claims;
 - e) Warrantee claims;
 - f) Third-party arbitration proceedings where <u>Hyundai</u> is or was a party to the arbitration;
 - g) Lawsuits, both pending and closed, in which <u>Hyundai</u> is or was defendant or codefendant; and,
 - h) Vehicle Owner Questionnaires (VOQs) provided to the National Highway Traffic Safety Administration (U.S.) and received or otherwise obtained by <u>Hyundai</u>.

If <u>Hyundai</u> cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other privilege, <u>Hyundai</u> does not submit one or more requested documents or items of information in response to this information request, <u>Hyundai</u> must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

The information requests set forth above are sent to <u>Hyundai</u> pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to require a manufacturer to make reports to NHTSA. It constitutes a new request for a report. A timely and complete response by <u>Hyundai</u> is required. <u>Hyundai's</u> failure to respond promptly and fully to such a request could subject <u>Hyundai</u> to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30165(a)(3), any person who violates 49 U. S. C. § 30166 is liable for penalties up to and including \$7,000 per day for failure to provide requested information. The maximum for a related series of violations is currently \$17,350,000. 49 C.F.R.§ 578.6(a)(3). Other remedies and sanctions are available as well.

The National Traffic and Motor Vehicle Safety Act, as amended, 49 U.S.C. § 30101 et seq., requires that a manufacturer conduct a notification and remedy campaign when it decides in good faith an item of motor vehicle equipment does not comply with an applicable motor vehicle safety standard. 49 U.S.C. § 30118-30120. In our view, this means a recall should occur when the manufacturer decides or should have decided that its equipment is noncompliant. The first step of this process is the filing of a noncompliance report in accordance with 49 CFR 573. "Defect and Noncompliance Reports" (copy enclosed). We have also enclosed a copy of the "Part 573 Helmet Noncompliance Report Guide" to assist you in the preparation of this report. A Part 573 report must be followed by a noncompliance notification in accordance with 49 CFR Part 577 (copy enclosed). It is recommended that you send a draft copy of this notification to the agency for review before sending it to your customers. Failure to conduct a notification and remedy campaign within a reasonable time warrants NHTSA to seek civil penalties under 49 U.S.C. § 30165. In addition, 49 U.S C. § 30165 authorizes a civil penalty up to \$7,000 for each violation of an applicable motor vehicle safety standard. A separate violation occurs for each item of motor vehicle equipment not in compliance with a maximum penalty of \$17,350,000.

Additionally, we are requesting information to improve our understanding of the design standards and safety strategies that your company has in place to address the potential safety risks that may be present with push button start/stop vehicles. Your response to the following questions is optional:

10. What safety information does <u>Hyundai</u> request its dealership personnel to provide to customers purchasing a new or used vehicle with push button start/stop?

11. What safety information does <u>Hyundai</u> directly provide to a customer purchasing a new or used vehicle with push button start/stop, and through what means (i.e., owner's manual) is this information provided or communicated?

The address for mail or express delivery is: National Highway Traffic Safety Administration, Office of Vehicle Safety Compliance (NVS-221), Room W43-496, 1200 New Jersey Avenue SE, Washington, DC 20590. All business confidential information must be submitted directly to the Office of Chief Counsel as described in the following paragraph and should not be sent to this office. In addition, do not submit any business confidential information in the body of the letter submitted to this office. Please refer to <u>OA-114-140115C</u> in <u>Hyundai's</u> response to this letter and in any confidentiality request submitted to the Office of Chief Counsel. <u>Hyundai's</u> response to this IR is due no later than 30 calendar days from the date indicated on this letter. If <u>Hyundai</u> finds that it is unable to provide all of the information requested within the time allotted, <u>Hyundai</u> must request an extension from Amina Fisher of my staff at (202) 366-5307 no later than five (5) business days before the response due date. If <u>Hyundai</u> is unable to provide all of the information requested by the original deadline, it must submit a partial response by the original deadline with whatever information <u>Hyundai</u> then has available, even if an extension has been granted.

If you have any technical questions concerning this matter, please call Amina Fisher of my staff at (202) 366-5307. Your cooperation and assistance is greatly appreciated.

Sincerely, ik for H.T. min

Harry Thompson Chief, Crash Avoidance Division Office of Vehicle Safety Compliance

Enclosure - Data Sheets from field inspections

FMVSS 114 – Theft Protection and Rollaway Prevention

VENICLE MODEL YEAR 2013 VENICLE MAKE Hymolai VENICLE MODEL Elanta VIN KMH035LE0DU066779 Automatic transmission (confirm) YES NO	
VEHICLE MODEL YEAR VEHICLE MAKE VEHICLE MODEL VINKUHD35LEODU056779 Automatic transmission (confirm) ZYES NO	
VEHICLE MARE <u>Flanta</u> VEHICLE MODEL <u>Flanta</u> VIN <u>KMHD35LEODU066779</u> Automatic transmission (confirm) YES NO	
VIN KUHD35LEODUC 56779 Automatic transmission (confirm) YES NO	
Automatic transmission (confirm) ZYES INO	
Activation of starting system (include key type)	
proximing Kun fob	
outh button	,
Is there an installed rollaway prevention feature? U YES, describe YO UNSU	RE
1 Position vehicle on relatively flat grade: TECH 1 enter vehicle with key feb	
 Start vehicle: roll down driver's window: turn radio on: shift to Drive: release Parking R 	rako
 Bass fob out of open window to TECH 2 (make sure to move out of range of vehicle) 	anc
4 Turn vehicle off: wait ~30 sec (some vehicles have emergency restart feature) Describe	anv
alerts activated	u.,
Interior	L
dB level: 1010 dB Location: cluster	
Duration: 10 Bec	
Exterior Wording: No Key (telltale)	ł
dB level: NONE	
Duration: Shift to Park	
If an audible alert sounds does the radio volume change?	
Reduced volume Radio turns off No change to radio vo	lume
5 Shift vehicle to Neutral (do not go to Park in the meantime)	
6 Attempt to restart vehicle in Neutral. Does the vehicle restart? Describe any alerts acti	vated
YES- electronic key code appears to still be in vehicle	
(Complete 6.1)	
NO- electronic key code does not appear to still be in the vehicle	
(Lomplete 6.1 - 8)	— <u>1</u>
AUDIBLE ¹ VISUA	L
Interior	
Duration: Location: cluster	
Exterior Wording: 1) Key (relitede)	
dB level	
Duration:	ł
DUCTOCRABUS, unbiale front, vehicle rear; certification placard; tire placard; tires showing ma	ke

model, and size

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

AL	JDIBLE ¹	VISUAL
dB level: 66 dB Duration: 10 sec	Location:	cluster
Exterior dB level: 74 dB	Wording:	Key is not in rehicle
Duration: 6 sec	NOTHING S	SALANG SHIFT TO P

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park \Box

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES Vehicle must be turned back on in order to be able to shift back into Park

Vehicle 2013 Hyundai Elantra

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

Interior		AUDIBLE1			VISUAL
dB level: Duration:			Location:	NONE	
Exterior dB level: Duration:	NONE		Wording:		

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

Interior	AUDIBLE1	VISUAL
dB level: 66 dB Duration: 10 sec		Location:
Exterior dB level: 74 dB Duration: 6 sec		Wording: Key not in vehicle

Vehicle 2013 Hyundai Genesis

FMVSS 114 – Theft Protection and Rollaway Prevention

EST DATE 08 29 13	·		
EHICLE MODEL YEAR _2013			
EHICLE MAKE			
EHICLE MODEL Genesis			
/IN			
Automatic transmission (confirm) 🖆 YES	LI NO		
Activation of starting system (include key type)		5	
proximing key fob			
s there an installed rollaway prevention feature?	YES, describ	e 🗹 NO	
Position vehicle on relatively flat grade; TEC	CH 1 enter vehicle v	with key fob	
Start vehicle; roll down driver's window; tu	rn radio on; shift to	o Drive; relea	se Parking Brake
Pass fob out of open window to TECH 2 (ma	ake sure to move o	ut of range o	of vehicle)
 Turn vehicle off; wait ~30 sec (some vehicle alerts activated 	es have emergency	restart featu	ire) Describe any
AUDIBLE ¹			VISUAL
dBlevel: 63 dB	Location: - hum		
Duration: 8	LOCATION. CIUS	(er	
Exterior	Wording: A20	Kein (tellto	
dB level:		-ug (cuita	
Duration:	Shift i	duration	8 sec
If an audible alert sounds does the radio vo	dio turns off	No chang	e to radio volume
5 Shift vehicle to Neutral (do not go to Park i 5 Attempt to restart vehicle in Neutral. Does	n the meantime) the vehicle restart	? Describe a	ny alerts activated
YES- electronic key code appears to (Complete 6.1)	o still be in vehicle		
NO- <i>electronic key code does not a</i> (Complete 6.1 - 8)	ppear to still be in	the vehicle	2
AUDIBLE			VISUAL
Interior			
dB level: 65 45	Location: elus	5567	
Duration: 3 Sec.	Wording 12	Ken (soll	nle
Exterior	Wording. No	my [telle	
		1	1
dB level: אסאס Duration:	Shift to 40	Juration 8	Bec

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	AUDIBLE ¹		VISUAL
dB level:	63 dB	Location: cluster	
Exterior Ar	util door closed	Wording: Key not in rehick	
dB level: Duration:	64 dB See	NOTHING BAYING SHIPT TO P	

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

Vehicle 2013 Hyundai Genesis

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

Interior	AUDIBLE ¹		VISUAL
dB level: Duration: Exterior مەمەر dB level: Duration:		Location: Wording:	

12 TECH 1 re-enter vehicle

1

- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

	AUDIBLE ¹	VISUAL
Interior		
dB level: 63 dB		Location: duster
Duration: 8 sec		
Exterior		Wording: Key not in verticle
dBlevel: 64 dB		
Duration: 5 acc		

7

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST VEHI VEHI VEHI VIN Auto Activ	DATE 08 05 13 CLE MODEL YEAR 2013 CLE MAKE Hyundai CLE MODEL Santa Fe 5x4203LB706077779 C201341 matic transmission (confirm) YES vation of starting system (include key type) roximity Key fob	200 NO
P	oush button	
ls the	ere an installed rollaway prevention feature? no auto shift to park feature describe	A YES, describe NO UNSURE
1 2 3 4	Position vehicle on relatively flat grade; TEC Start vehicle; roll down driver's window; tur Pass fob out of open window to TECH 2 (ma Turn vehicle off; wait ~30 sec (some vehicle alerts activated	H 1 enter vehicle with key fob rn radio on; shift to Drive; release Parking Brake ake sure to move out of range of vehicle) is have emergency restart feature) Describe any
	Interior	VISUAL
	Duration: 9 sec	
	Exterior	Wording: Shift to "P" position
	dB level: Duration:	displayed for le sec
	If an audible alert sounds does the radio vo	lume change? dio turns off INO change to radio volume
5 6	Shift vehicle to Neutral (do not go to Park ir Attempt to restart vehicle in Neutral. Does	the meantime) the vehicle restart? Describe any alerts activated.
	YES- electronic key code appears to (Complete 6.1)	still be in vehicle
	NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle
	AUDIBLE ¹	VISUAL
	dB level:	Location:
	Duration:	NONE
	Exterior NoNE	Wording:
	dB level: Duration:	
PHO	TOGRAPHS: vehicle front; vehicle rear; certifica	tion placard; tire placard; tires showing make,
mode	el, and size	

6.1 Start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

AUDIBLE ¹	VISUAL
dB level: 60 dB Duration: continuous	Location: cluster
Exterior dB level: 77 d B	Wording: Key not in rehicle
Duration: 5 sec	NOTHING SAVING SHIFT TO P

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

Vehicle 2013 Hyundai Sonata

FMVSS 114 - Theft Protection and Rollaway Prevention

TEST	DATE 08 29 13	
VEHI	CLE MODEL YEAR 2013	
VEHI	CLE MAKE Hogundai	
VEHI	CLE MODEL Sonata	
VIN	SNPEC4ACXDH79318	
Auto Activ	matic transmission (confirm) Z YES ation of starting system (include key type) roximing Ky fob	□ NO
	oush button	
ls the	ere an installed rollaway prevention feature?	YES, describe NO UNSURE
1 2 3 4	Position vehicle on relatively flat grade; TEC Start vehicle; roll down driver's window; tu Pass fob out of open window to TECH 2 (ma Turn vehicle off; wait ~30 sec (some vehicle alerts activated	CH 1 enter vehicle with key fob rn radio on; shift to Drive; release Parking Brake ake sure to move out of range of vehicle) es have emergency restart feature) Describe any
	AUDIBLE ¹	VISUAL
,	dB level: 40 dB Duration: 10 sec	Location: cluster
	Exterior	Wording: No Ken (reutrale)
	dB level:	
	Duration:	Shift to Park
ļ	If an audible alert sounds does the radio vo	Iume change? dio turns off INO change to radio volume
5 6	Shift vehicle to Neutral (do not go to Park ir Attempt to restart vehicle in Neutral. Does	n the meantime) the vehicle restart? Describe any alerts activated
	YES- electronic key code appears to (Complete 6.1)	still be in vehicle
	NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle
	AUDIBLE ¹	VISUAL
	Interior	
	dB level: 40 dB	Location: claser
	Duration: 10 sec	Wording: 12 Kass (Buildenie)
		wording. No kay clanary
	Duration:	Shift to Park
DHU.	TOGRAPHS: vehicle front: vehicle rear: certifica	ation placard: tire placard: tires showing make.

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

l

2013 Hyundai Sonata Vehicle

Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. 6.1 TECH 1 exit vehicle and close door. Describe any alerts activated.

AUDIBLE ¹	VISUAL
dB level: too low to measure Duration: K sec Exterior 5	Location: cluster Wording: Key not in vehicle
dB level: 66 dB Duration: 5 sec	NOTHING SHYING SHIFT TO P

- 7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?
 - YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park \Box

Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

8

Vehicle 2013 Hyundai Sonata

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

	AUDIBLE		VISUAL
Interior			
dB level:		Location:	
Duration:		NONE	
Exterior	NONE	Wording:	
dB level:			
Duration:	-		

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

	AUDIBLE ¹		VISUAL
dB level: Duration: مرمحه		Location: cluster	
Exterior		Wording: Key not in vehicle	
Duration: 6 sec	_		

Vehicle 2013 Hyundai Tucson

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST VEHIC	DATE 08 29 13 CLE MODEL YEAR 2013	·	
VEHIC	CLE MODEL Tucson		
VIN .	KM8JU3ACODU678924		
Autor Activ	matic transmission (confirm) YES ation of starting system (include key type) roximity Ky fob ush batton		
is the	ere an installed rollaway prevention feature?	YES, describe] UNSURE
1 2 3 4	Position vehicle on relatively flat grade; TEC Start vehicle; roll down driver's window; tu Pass fob out of open window to TECH 2 (ma Turn vehicle off; wait ~30 sec (some vehicle alerts activated	CH 1 enter vehicle with key fob rn radio on; shift to Drive; release Pa ake sure to move out of range of veh as have emergency restart feature) D	arking Brake licle) Describe any
	AUDIBLE ¹		VISUAL
	dBlevel: 70 dB	Location: cluster	
	Exterior	Wording: No key (telltale)	1
	dB level: NONE		ł
ĺ	Duration:	NOTHING SAYING SHIFT TO P	
	If an audible alert sounds does the radio vo	lume change? dio turns off INO change to r	adio volume
5 6	Shift vehicle to Neutral (do not go to Park in Attempt to restart vehicle in Neutral. Does	n the meantime) the vehicle restart? Describe any ale	erts activated
	YES- electronic key code appears to (Complete 6.1)	still be in vehicle	
	NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle	đ
	AUDIBLE ¹		VISUAL
	Interior	Incation: shates	
	Duration: 16 440		
	Exterior	Wording: No Key (telltale)	
	dB level: NONE	, v	
	Duration:	NOTHING SHILDG SHIFT TO P	
DHO	TOGRAPHS: vehicle front: vehicle rear: certifica	ation placard: tire placard: tires show	ving make.

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	AUDIBLE ¹	VISUAL
dB level: 70 dB Duration: 15 sec		Location: cluster
Exterior dB level:	,	Wording: Key out
Duration:		NOTHING SAYING SHIFT TO P

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park 🗌

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

AUI Interior dB level: Duration: Exterior dB level: Duration:	DIBLE ¹ Location:	VISUAL
---	---------------------------------	--------

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

		AUDIBLE ¹			VISUAL
Interior)		
dB level:			Location:	clubter	
Duration:					
Exterior	NONE		Wording:	Key out	
dB level:				-	
Duration:					

model, and size

FMVSS 114 – Theft Protection and Rollaway Prevention

тест	DATE 08 29 15				
VEHIC	CLE MODEL YEAR 2013				
VEHIC	CLE MAKE Houndai				
VEHIC	CLE MODEL Veloster				
VIN .	KMHTCGAE4DUIG8249				
Autor Activ	matic transmission (confirm) VES ation of starting system (include key type)	<u> </u>			
<u>_</u> P	ush button				
Is the	ere an installed rollaway prevention feature?	YES, describe	[]NO		
1 2 3	Position vehicle on relatively flat grade; TEC Start vehicle; roll down driver's window; tu Pass fob out of open window to TECH 2 (ma	H 1 enter vehicle wi m radio on; shift to l	th key fob Drive; release	Parking Brake	
4	Turn vehicle off; wait ~30 sec (some vehicle alerts activated	s have emergency r	estart feature) Describe any	
	AUDIBLE ¹			VISUAL	
1	dB level: 56 dB	Location: claste	.		
	Duration: 6 sec	Mandines At M			
	Exterior dB level:	wording: No H	y (telltale)		
	Duration:	Shift to F	ark		
	If an audible alert sounds does the radio vo	lume change? dio turns off	No change t	o radio volume	
5 6	Shift vehicle to Neutral (do not go to Park ir Attempt to restart vehicle in Neutral. Does	n the meantime) the vehicle restart?	Describe any	alerts activated.	
	YES- electronic key code appears to still be in vehicle [] (Complete 6.1)				
	NO- <i>electronic key code does not ap</i> (Complete 6.1 - <i>8)</i>	opear to still be in th	e vehicle	B	
ĺ	AUDIBLE ¹			VISUAL	
	Interior	Location: Just			
	Duration: Cosec		LT		
	Exterior	Wording: No	Key (tell ta	le)	
	dB level: אסאב Duration:	Shift t	o Park		
PHO.	TOGRAPHS: vehicle front; vehicle rear; certifica	ation placard; tire pl	acard; tires sh	nowing make,	
6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	AUDIBLE1	VISUAL
dB level: 64 dB Duration: 6 sec		Location: cinster
Exterior		Wording: Key not in vehicle
dB level: රජ dB		
Duration: 6540		NOTHING SKYING SHIFT TO P

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES	Vehicle in	must order	be to	turned back on be shifted back into Park	

Vehicle 2013 Hyundai Veloster

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

Interior		AUDIBLE1	Location			VISUAL
Duration: Exterior	NONE		Wording:	NONE		
dB level: Duration:				_	¥	

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

Interior	AUDIBLE1	VISUAL
dB level: 64 dB Duration: 6 sec		Location: cluster
Exterior dB level: (e% dB Duration: (e sec		Wording: Key not in vehicle



National Highway Traffic Safety Administration 1200 New Jersey Avenue SE. Washington, DC 20590

E-MAIL AND CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Robert Babcock Director Regulation and Certification Department Kia Motor Company 6800 Geddes Road Superior Township, MI 48198 January 28, 2014

NVS-221AFi OA-114-140115G

Re: Model Year 2013 and 2014 Push-Button Start Vehicles

Dear Mr. Babcock:

The Office of Vehicle Safety Compliance ("OVSC") of the National Highway Traffic Safety Administration ("NHTSA") investigated vehicles manufactured by Kia Motor Company to the requirements of Federal Motor Vehicle Safety Standard ("FMVSS") No. 114, *Theft Protection and Rollaway Prevention*, found at 49 CFR § 571.114. Testing took place at <u>Kia of Silver Spring</u>, in <u>Silver Spring</u>, Maryland on <u>August 20</u>, 2013; and <u>Fitz Auto Mall</u>, in <u>Gaithersburg, Maryland</u> on <u>August 29</u>, 2013.

MY	Make	Model
2013	Kia	Optima
2013	Kia	Soul !
2014	Kia	Sorento

OVSC performed tests using scenarios developed according to how we believed consumers could use vehicles equipped with KCCDs, focusing on Sections 5.1 and 5.2 of 49 CFR § 571.114. Since these systems operate differently depending on the manufacturer and, in some cases, the model, we ask that you review the results we obtained. In answering the items below, include any differences noted should your company conduct similar tests and the possible reasons for those differences.



Unless otherwise stated in the text, the following definitions apply to the information request set forth below:

- <u>Manufacturer:</u> "Kia" "you", or "your" means <u>Kia</u> including all of its divisions, subsidiaries and affiliated enterprises, including with respect to any of the foregoing within or outside of the United States, any parent corporation, any subsidiary or affiliate, or any subsidiary or affiliate of any parent corporation, and all of their headquarters, regional, zone and other offices and their employees, and all agents, contractors, consultants, attorneys and law firms and other persons engaged directly or indirectly (e.g., employee of a consultant) by or under the control of <u>Kia</u>.
- **Document(s):** "Document(s)" is used in the broadest sense of the word and shall mean . all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda, correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs, microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, pleadings, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative findings and all mechanical, magnetic, photographic and electronic records or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, CD-ROMs, compact disks, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by you, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document that contains any note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall be treated as a separate document subject to production. In all cases where original and any nonidentical copies are not available, "document(s)" also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or photograph originally produced in color must be provided in color. The term "document" includes all documents described above whether verified by the manufacturer or not.
- **Consumer Complaint:** A "consumer complaint" is defined as a communication of any kind made by a consumer (or other person) to or with a manufacturer addressed to the

company, an officer thereof, or an entity thereof that handles consumer matters, a manufacturer website that receives consumer complaints, a manufacturer electronic mail system that receives such information at the corporate level, or that are otherwise received by a unit within the manufacturer that receives consumer inquiries or complaints, including telephonic complaints, expressing dissatisfaction with a product, or relating the unsatisfactory performance of a product, or any actual or potential defect in a product, or any even that allegedly was caused by any actual or potential defect in a product.

- <u>Effective Range:</u> "Effective Range" means the maximum distance the Key Code Carrying Device can be from the Subject Vehicle where the vehicle is able to recognize the electronic key code associated with that particular vehicle.
- <u>Electronic Code:</u> "Electronic Code" shall have the meaning used in the definition of "key" in 49 CFR § 571.114, S.4.
- <u>Key:</u> "Key" means the electronic code which, when inserted into the starting system by electronic means, enables the vehicle operator to activate the engine or motor [*See* 49 CFR § 571.114, S.4].
- <u>Key Code Carrying Device (KCCD)</u>: "Key Code Carrying Device" means the physical device which is capable of electronically transmitting the key to the vehicle starting system without physical connection, other than its presence in the vehicle, between the device and the vehicle (i.e. the key fob).
- <u>Starting System:</u> "Starting System" means the vehicle system used in conjunction with the key code and the engine/motor start control to activate the engine, motor, or other system which provides propulsion to the motor vehicle.
- <u>Subject Vehicles:</u> "Subject Vehicles" means the vehicles listed after the first paragraph of this letter.
- "Starting the vehicle's motor" means the driver uses the motor start control to turn on power is "on" to the motor, resulting in input to the vehicle's wheels and vehicle movement as a result of the driver applying the accelerator pedal.
- "Stopping the vehicle's engine or motor" means the driver uses the engine/motor stop control to turn off power to the engine or motor and no input to the vehicle's wheels or vehicle movement will result from the driver application of the accelerator pedal.
- The term "you" or "your" refers to <u>Kia</u>.
- The singular includes the plural; the plural includes the singular. The masculine gender includes the feminine and neutral genders; and the neutral gender includes the masculine and feminine genders. "And" as well as "or" shall be construed either disjunctively or

conjunctively, to bring within the scope of this information request all responses that might otherwise be construed to be outside its scope. "Each" shall be construed to include "every" and "every" shall be construed to include "each". "Any" shall be construed to include "all" and "all" shall be construed o include "any". The use of a verb in any tense shall be construed as the use of the verb in a past or present tense, whenever necessary to bring within the scope of the document request all responses which might otherwise be construed to be outside its scope.

- The term "relate to" or "relating to" means constituting, comprising, containing, setting forth, showing, disclosing, describing, explaining, summarizing, concerning, or referring to, directly or indirectly.
- To "identify" or "state the identity of" a natural person means to state his/her full name, title, office, present work address and telephone number, and the name, address and telephone number of his/her present or last known employer, if any. once an individual has been so identified, he or she may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- To "identify" or "state the identity of" a person other than a natural person means to state its full name and the present or last known address and telephone number of its headquarters. Once such a "person" has been so identified, it may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- <u>Other Terms:</u> To the extent that they are used in these information requests, the terms "claim," "consumer complaint," "dealer field report," "field report," "make," "model," "model year," "notice," "property damage," "property damage claim," "type," "warranty," "warranty adjustment," and "warranty claim," whether used in singular or plural form, have the same meaning as found in 49 CFR 579.4.

Please respond to the following requests. Please repeat the applicable request verbatim above each response. Identify the source of the information and indicate the last date the information was fathered. Answer each question for each of the Subject Vehicles as well as any other MY 2013-2014 vehicles identified by <u>Kia</u> that have keyless ignition systems comparable to those in any of the Subject Vehicles. If any vehicles share the same starting system, they may be grouped together when responding. When grouping vehicles for responses please list all vehicles(by model year, make, and model) that each response is for.

1. For each of the subject vehicles, state the date when a starting system that allows the use of an electronic key fob (Key Code Carrying Device) was first introduced in production and state the number of vehicles manufactured by or for your company with that starting system for sale in the U.S. from that date through the date of your response to this letter, broken down by model year.

- 2. Separately, for each of the Subject Vehicles, explain the operation of the starting system. Include in your response, the location and operation of the key code carrying device and the engine/motor start/stop device.
- 3. Describe in detail how the Subject Vehicles' engine/motor is started. Include in your response where the electronic key code is sent (i.e. immobilizer or engine control unit ("ECU")), the path the electronic key code takes to enable the driver to start the engine/motor (include a diagram showing the components and how they "connect" to each other), at what point the electronic key code is considered inserted into the starting system, and what conditions need to remain for the electronic key code to remain inserted.
 - a. If the driver remained present in the vehicle, but the KCCD is removed from the vehicle after the vehicle's engine/motor is stopped, can the engine/motor be restarted using the original electronic key code described in item 3 above? If your response is yes, for what period of time, and/or for what number of attempts is this possible?
- 4. Describe in detail how the Subject Vehicles' engine/motor is stopped or turned off. Include in your response, how hard and long the driver must press the start/stop button, to which device the code or other electrical signal is sent (i.e., immobilizer or engine control unit ("ECU")), and which devices are turned off or deactivated by the ECU (i.e., starter, fuel pump, fuel injection system, etc.). Specify when exactly those devices are turned off or deactivated (i.e. after the engine/motor stop control is pressed to turn off the engine/motor, after the driver's door is opened, etc.)
 - a. Describe any operating conditions during which the driver cannot stop or turn off the engine/motor by using the stop control. These conditions may include, for example, the vehicle's transmission is not in "park" or the vehicle's speed is almost zero mph (or less than a certain speed).
- 5. Separately for each of the Subject Vehicles, describe how the starting system operates in the following scenarios referencing the descriptions provided in your response to item 1. In each scenario, indicate when the electronic key code is first present in the Subject Vehicles, when it is recognized by the Subject Vehicles. In each scenario, describe when it is deactivated (engine/motor can no longer be started), and when it is purged from the Subject Vehicles, including the number of seconds it remains activated, if at all, after the driver turns the starting system off. In addition, in each scenario below, identify all audible and visual alerts made by the Subject Vehicles, specifically stating at what point each alert is made, what event triggered each alert, what event or factor each alert is intended to warn the driver of, and the length/duration (audible) or location/wording (visual) of each alert:

- a) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) while the transmission control is in the "park" position. The Subject Vehicle's ignition is turned off (activates the propulsion on/off control). The driver exits the vehicle with the key code carrying device on his person and moves outside of the effective range.
- b) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle is then turned off (activates the propulsion on/off control). The driver exits the Subject Vehicle leaving the key code carrying device in the Subject Vehicle.
- c) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle's engine/motor is then turned off (activates the propulsion system on/off control) with the transmission still in "drive". One minute elapses, after which the driver opens the driver's door and exits the Subject Vehicle, taking the key code carrying device with him outside of the effective range.

Provide responses for the following questions if they have not been previously answered. If the question has been previously answered, identify specifically, by question number and by line, where the response was previously provided:

- 6. Describe the circumstances under which the electronic code is purged or removed from the Subject Vehicles and/or is no longer recognized by the vehicle. Include in your response, where the key code carrying device must be located in terms of distance from the vehicle and how much time must have elapsed after the vehicle's engine/motor is turned off in order for the electronic key code to be purged or removed from the Subject Vehicles' memory.
- 7. What is the maximum effective range of the key code carrying device allowed for the electronic key code to be recognized by the Subject Vehicles? Explain the Subject Vehicles' response to the electronic code when they key code carrying device is moved beyond the maximum effective range.
- 8. Produce a copy of <u>Kia's</u> complete test procedure and test report concerning FMVSS No. 114 applicable to the Subject Vehicles. Produce all results of <u>Kia's</u> testing of the Subject Vehicles related to FMVSS No. 114 as well as copies of <u>Kia's</u> internal sign off sheet(s) indicating compliance with FMVSS No. 114. Produce a copy of <u>Kia's</u> complete test procedure concerning FMVSS No. 114 for the Subject Vehicles as it was provided to the manufacturer of the Subject Vehicles' starting system.

- 9. Separately for each of the Subject Vehicles, state the number of each of the following received by or of which <u>Kia</u> is otherwise aware, which relate to or may relate to the starting system in the Subject Vehicles:
 - a) Consumer complaints, including those from fleet operators;
 - b) Field reports, including, but not limited to field technical reports and dealer field reports;
 - c) Reports involving a crash, injury, or fatality;
 - d) Property damage claims;
 - e) Warrantee claims;
 - f) Third-party arbitration proceedings where <u>Kia</u> is or was a party to the arbitration;
 - g) Lawsuits, both pending and closed, in which <u>Kia</u> is or was defendant or codefendant; and,
 - h) Vehicle Owner Questionnaires (VOQs) provided to the National Highway Traffic Safety Administration (U.S.) and received or otherwise obtained by <u>Kia</u>.

If <u>Kia</u> cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other privilege, <u>Kia</u> does not submit one or more requested documents or items of information in response to this information request, <u>Kia</u> must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

The information requests set forth above are sent to <u>Kia</u> pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to require a manufacturer to make reports to NHTSA. It constitutes a new request for a report. A timely and complete response by <u>Kia</u> is required. <u>Kia's</u> failure to respond promptly and fully to such a request could subject <u>Kia</u> to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30163. Under 49 U.S.C. § 30165(a)(3), any person who violates 49 U. S. C. § 30166 is liable for penalties up to and including \$7,000 per day for failure to provide requested information. The maximum for a related series of violations is currently \$17,350,000. 49 C.F.R.§ 578.6(a)(3). Other remedies and sanctions are available as well.

Additionally, we are requesting information to improve our understanding of the design standards and safety strategies that your company has in place to address the potential safety risks that may be present with push button start/stop vehicles. Your response to the following questions is optional:

10. What safety information does <u>Kia</u> request its dealership personnel to provide to customers purchasing a new or used vehicle with push button start/stop?

11. What safety information does <u>Kia</u> directly provide to a customer purchasing a new or used vehicle with push button start/stop, and through what means (i.e., owner's manual) is this information provided or communicated?

The address for mail or express delivery is: National Highway Traffic Safety Administration, Office of Vehicle Safety Compliance (NVS-221), Room W43-496, 1200 New Jersey Avenue SE, Washington, DC 20590. All business confidential information must be submitted directly to the Office of Chief Counsel as described in the following paragraph and should not be sent to this office. In addition, do not submit any business confidential information in the body of the letter submitted to this office. Please refer to <u>OA-114-140115G</u> in <u>Kia's</u> response to this letter and in any confidentiality request submitted to the Office of Chief Counsel. <u>Kia's</u> response to this IR is due no later than 30 calendar days from the date indicated on this letter. If <u>Kia</u> finds that it is unable to provide all of the information requested within the time allotted, <u>Kia</u> must request an extension from Amina Fisher of my staff at (202) 366-5307 no later than five (5) business days before the response due date. If <u>Kia</u> is unable to provide all of the information requested by the original deadline, it must submit a partial response by the original deadline with whatever information <u>Kia</u> then has available, even if an extension has been granted.



If you have any technical questions concerning this matter, please call Amina Fisher of my staff at (202) 366-5307. Your cooperation and assistance is greatly appreciated.

Sincerely,

file for H.T. Mulle C

Harry Thompson Chief, Crash Avoidance Division Office of Vehicle Safety Compliance

Enclosure - Data Sheets from field inspections

Vehicle 2013 Kia Optima Ex

FMVSS 114 – Theft Protection and Rollaway Prevention

	,
TEST DATE 08 20 13	
VEHICLE MODEL YEAR	
VEHICLE MAKE	
VEHICLE MODEL Optima Ex	
VIN # 3XXGN4A79 DG 1730 53	
Automatic transmission (confirm)	
Preximity	
fromming Rey for	
push button Start	
Is there an installed rollaway prevention feature	e? YES, describe NO UNSURE
1 Position vehicle on relatively flat grade:	TECH 1 enter vehicle with key fob
 Start vehicle; roll down driver's window 	; turn radio on; shift to Drive; release Parking Brake
3 Pass fob out of open window to TECH 2	(make sure to move out of range of vehicle)
4 Turn vehicle off; wait ~30 sec (some veh	icles have emergency restart feature) Describe any
alerts activated	
AUDIBLE	1 VISUAL
Interior	C 1// 640 -
dB level: 62 dB	Location:
Duration: 17 sec	Wanding Course position
dR lovel:	wording: Shift to P pocition
Duration:	displayed for 10 sec
If an audible alert sounds does the radio	volume change?
Reduced volume	Radio turns off I No change to radio volum
	ul in the mean time)
5 Shift vehicle to Neutral (do not go to Pa	rk in the meantime)
Attempt to restart venicle in Neutral. Do	Jes the vehicle restart? Describe any alerts activate
YES- electronic key code appear	s to still be in vehicle
(Complete 6.1)	
NO- electronic key code does no	t appear to still be in the vehicle
(Complete 6.1 - 8)	4
AUDIBLE	1 VISUAL
Interior	
dB level: 62 dB	Location: cluster
Duration: 17 sec	
Exterior	Wording: Shift to P position
dB level:	displayed for 10 sec
Duration:	

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

v w/ transmission not in Park

6.1 Start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	VISUAL
dB level: 62 dB Duration: 17 sec	Location: cluster
Exterior dB level: 71 dB	Wording: Shift to P position
Duration: 7 sec	displayed for 10 sec

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

FMVSS 114 – Theft Protection and Rollaway Prevention

09	3 20 13			
	VEAD 2013			
VEHICLE MAKE -	Kia			
VEHICLE MODEL	Soul !			
VIN KNOSTZA	6707767013			
Automatic transi	mission (confirm) 🗹 YES	🗆 NO		
Activation of sta	rting system (include key type)			
proximity	key fob			
push buttor	start			
Is there an instal	led rollaway prevention feature?	YES, describe		UNSURE
1 Position 2 Start vel 3 Pass fob 4 Turn vel alerts ac	vehicle on relatively flat grade; TEG Nicle; roll down driver's window; tu out of open window to TECH 2 (m Nicle off; wait ~30 sec (some vehicle tivated	CH 1 enter vehicle with orn radio on; shift to D ake sure to move out es have emergency res	h key fob rive; release Pa of range of vel start feature) D	arking Brake nicle) Describe any
Interior df Di Exterior df Di	AUDIBLE ¹ B level: 41-45 dB uration: 10 sec B level: NONE uration:	Location: ມວນຮ Wording:		VISUAL
If an aud 5 Shift ver 6 Attempt	lible alert sounds does the radio vo Reduced volume nicle to Neutral (do not go to Park i to restart vehicle in Neutral. Does	olume change? dio turns off n the meantime) the vehicle restart? D	No change to r	radio volume erts activated
, ,	YES- electronic key code appears to (Complete 6.1)	still be in vehicle		
	NO- electronic key code does not a (Complete 6.1 - 8)	ppear to still be in the	vehicle	₫
Interior	AUDIBLE ¹			VISUAL
di	3 level: 4) - 45 dB	Location: -slast	e cluster	
D	uration: 10 Sec			
Exterior		Wording: Key	OUT	
dl	Blevel: 77 00			
D		NOTHING SAVING S	SHIFT TO P	

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

Vehicle 2013 Kia Soul

w/transmission not in Park

6.1 Start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	AUDIBLE1	VISUAL
dB level: 41 - 46 dB Duration: 10 sec		Location: cluster
Exterior		Wording: Key out
dB level: 77 dB		
Duration: 5 sec		NOTHING SAYING SHIFT TO P

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

Vehicle 2014 Kia Sorento

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D8 05 13 VEHICLE MODEL YEAR 2014 VEHICLE MAKE Kia VEHICLE MODEL Sorento VIN 5x9 KTCA64EG469047 Caoi4 Automatic transmission (confirm) YES Activation of starting system (include key type) proximity key fob	4200 NO
Is there an installed rollaway prevention feature? no auto shift to park feature descr	YES, describe NO UNSURE
 Position vehicle on relatively flat grade; TEG Start vehicle; roll down driver's window; tu Pass fob out of open window to TECH 2 (m Turn vehicle off; wait ~30 sec (some vehicle alerts activated 	CH 1 enter vehicle with key fob Irn radio on; shift to Drive; release Parking Brake ake sure to move out of range of vehicle) es have emergency restart feature) Describe any
AUDIBLE ¹ Interior dB level: 65 dB Duration: 10 sec Exterior dB level: NONE Duration:	VISUAL Location: cluster Wording: Shift to "P" position displayed for 2 Bec
 Shift vehicle to Neutral (do not go to Park i Attempt to restart vehicle in Neutral. Does YES- electronic key code appears to (Complete 6.1) 	dio turns off INO change to radio volume n the meantime) the vehicle restart? Describe any alerts activated o still be in vehicle
NO- <i>electronic key code does not a</i> (Complete 6.1 - 8)	ppear to still be in the vehicle
AUDIBLE ¹ Interior dB level:	VISUAL Location: cluster
Duration: Exterior NONE dB level: Duration:	Wording: Key not in vehicle vehicle
PHOTOGRAPHS: vehicle front; vehicle rear; certifica	ation placard; tire placard; tires showing make,

6.1 Start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

	AUDIBLE1	VISUAL
dB level: රජ යපි Duration: 10 දෙ		Location: duster
Exterior dB level: 77 dB Duration: 5 sec		Wording: Shift to "P" position displayed for 2 sec

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park \Box

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES



National Highway Traffic Safety Administration 1200 New Jersey Avenue SE. Washington, DC 20590

<u>E-MAIL AND CERTIFIED MAIL</u> <u>RETURN RECEIPT</u> REQUESTED

Ms. Tracy Woodard Director Government Affairs Office Nissan North America, Inc. One Nissan Way PO Box 685001 Franklin, TN 37068-5001 January 28, 2014

NVS-221AFi OA-114-140115D

Re: Model Year 2013 and 2014 Push-Button Start Vehicles

Dear Ms. Woodard:

The Office of Vehicle Safety Compliance ("OVSC") of the National Highway Traffic Safety Administration ("NHTSA") investigated vehicles manufactured by Nissan North America to the requirements of Federal Motor Vehicle Safety Standard ("FMVSS") No. 114, *Theft Protection and Rollaway Prevention*, found at 49 CFR § 571.114. Testing took place at <u>Herb</u> <u>Gordon Nissan</u>, in <u>Silver Spring, Maryland on August 21</u>, 2013.

MY	Make	Model	
2013	Nissan	Cube	
2013	Nissan	Juke	
2013	Nissan	Murano	
2014	Nissan	Altima	
2014	Nissan	Sentra	
2014	Nissan	Versa Note	

OVSC performed tests using scenarios developed according to how we believed consumers could use vehicles equipped with KCCDs, focusing on Sections 5.1 and 5.2 of 49 CFR § 571.114. Since these systems operate differently depending on the manufacturer and, in some cases, the model, we ask that you review the results we obtained. In answering the items below, include any differences noted should your company conduct similar tests and the possible reasons for those differences.



Unless otherwise stated in the text, the following definitions apply to the information request set forth below:

- <u>Manufacturer:</u> "<u>Nissan</u>" "you", or "your" means <u>Nissan</u> including all of its divisions, subsidiaries and affiliated enterprises, including with respect to any of the foregoing within or outside of the United States, any parent corporation, any subsidiary or affiliate, or any subsidiary or affiliate of any parent corporation, and all of their headquarters, regional, zone and other offices and their employees, and all agents, contractors, consultants, attorneys and law firms and other persons engaged directly or indirectly (e.g., employee of a consultant) by or under the control of <u>Nissan</u>.
- **Document(s):** "Document(s)" is used in the broadest sense of the word and shall mean all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda. correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs. microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, pleadings, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative findings and all mechanical, magnetic, photographic and electronic records or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, CD-ROMs, compact disks, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by you, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document that contains any note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall be treated as a separate document subject to production. In all cases where original and any nonidentical copies are not available, "document(s)" also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or photograph originally produced in color must be provided in color. The term "document" includes all documents described above whether verified by the manufacturer or not.
- <u>Consumer Complaint</u>: A "consumer complaint" is defined as a communication of any kind made by a consumer (or other person) to or with a manufacturer addressed to the

company, an officer thereof, or an entity thereof that handles consumer matters, a manufacturer website that receives consumer complaints, a manufacturer electronic mail system that receives such information at the corporate level, or that are otherwise received by a unit within the manufacturer that receives consumer inquiries or complaints, including telephonic complaints, expressing dissatisfaction with a product, or relating the unsatisfactory performance of a product, or any actual or potential defect in a product, or any even that allegedly was caused by any actual or potential defect in a product.

- <u>Effective Range:</u> "Effective Range" means the maximum distance the Key Code Carrying Device can be from the Subject Vehicle where the vehicle is able to recognize the electronic key code associated with that particular vehicle.
- <u>Electronic Code:</u> "Electronic Code" shall have the meaning used in the definition of "key" in 49 CFR § 571.114, S.4.
- <u>Key:</u> "Key" means the electronic code which, when inserted into the starting system by electronic means, enables the vehicle operator to activate the engine or motor [*See* 49 CFR § 571.114, S.4].
- <u>Key Code Carrying Device (KCCD)</u>: "Key Code Carrying Device" means the physical device which is capable of electronically transmitting the key to the vehicle starting system without physical connection, other than its presence in the vehicle, between the device and the vehicle (i.e. the key fob).
- <u>Starting System:</u> "Starting System" means the vehicle system used in conjunction with the key code and the engine/motor start control to activate the engine, motor, or other system which provides propulsion to the motor vehicle.
- <u>Subject Vehicles:</u> "Subject Vehicles" means the vehicles listed after the first paragraph of this letter.
- "Starting the vehicle's motor" means the driver uses the motor start control to turn on power is "on" to the motor, resulting in input to the vehicle's wheels and vehicle movement as a result of the driver applying the accelerator pedal.
- "Stopping the vehicle's engine or motor" means the driver uses the engine/motor stop control to turn off power to the engine or motor and no input to the vehicle's wheels or vehicle movement will result from the driver application of the accelerator pedal.
- The term "you" or "your" refers to Nissan.
- The singular includes the plural; the plural includes the singular. The masculine gender includes the feminine and neutral genders; and the neutral gender includes the masculine and feminine genders. "And" as well as "or" shall be construed either disjunctively or

conjunctively, to bring within the scope of this information request all responses that might otherwise be construed to be outside its scope. "Each" shall be construed to include "every" and "every" shall be construed to include "each". "Any" shall be construed to include "all" and "all" shall be construed o include "any". The use of a verb in any tense shall be construed as the use of the verb in a past or present tense, whenever necessary to bring within the scope of the document request all responses which might otherwise be construed to be outside its scope.

- The term "relate to" or "relating to" means constituting, comprising, containing, setting forth, showing, disclosing, describing, explaining, summarizing, concerning, or referring to, directly or indirectly.
- To "identify" or "state the identity of" a natural person means to state his/her full name, title, office, present work address and telephone number, and the name, address and telephone number of his/her present or last known employer, if any. once an individual has been so identified, he or she may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- To "identify" or "state the identity of" a person other than a natural person means to state its full name and the present or last known address and telephone number of its headquarters. Once such a "person" has been so identified, it may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- <u>Other Terms:</u> To the extent that they are used in these information requests, the terms "claim," "consumer complaint," "dealer field report," "field report," "make," "model," "model year," "notice," "property damage," "property damage claim," "type," "warranty," "warranty adjustment," and "warranty claim," whether used in singular or plural form, have the same meaning as found in 49 CFR 579.4.

Please respond to the following requests. Please repeat the applicable request verbatim above each response. Identify the source of the information and indicate the last date the information was fathered. Answer each question for each of the Subject Vehicles as well as any other MY 2013-2014 vehicles identified by <u>Nissan</u> that have keyless ignition systems comparable to those in any of the Subject Vehicles. If any vehicles share the same starting system, they may be grouped together when responding. When grouping vehicles for responses please list all vehicles(by model year, make, and model) that each response is for.

1. For each of the subject vehicles, state the date when a starting system that allows the use of an electronic key fob (Key Code Carrying Device) was first introduced in production and state the number of vehicles manufactured by or for your company with that starting system for sale in the U.S. from that date through the date of your response to this letter, broken down by model year.

- 2. Separately, for each of the Subject Vehicles, explain the operation of the starting system. Include in your response, the location and operation of the key code carrying device and the engine/motor start/stop device.
- 3. Describe in detail how the Subject Vehicles' engine/motor is started. Include in your response where the electronic key code is sent (i.e. immobilizer or engine control unit ("ECU")), the path the electronic key code takes to enable the driver to start the engine/motor (include a diagram showing the components and how they "connect" to each other), at what point the electronic key code is considered inserted into the starting system, and what conditions need to remain for the electronic key code to remain inserted.
 - a. If the driver remained present in the vehicle, but the KCCD is removed from the vehicle after the vehicle's engine/motor is stopped, can the engine/motor be restarted using the original electronic key code described in item 3 above? If your response is yes, for what period of time, and/or for what number of attempts is this possible?
- 4. Describe in detail how the Subject Vehicles' engine/motor is stopped or turned off. Include in your response, how hard and long the driver must press the start/stop button, to which device the code or other electrical signal is sent (i.e., immobilizer or engine control unit ("ECU")), and which devices are turned off or deactivated by the ECU (i.e., starter, fuel pump, fuel injection system, etc.). Specify when exactly those devices are turned off or deactivated (i.e. after the engine/motor stop control is pressed to turn off the engine/motor, after the driver's door is opened, etc.)
 - a. Describe any operating conditions during which the driver cannot stop or turn off the engine/motor by using the stop control. These conditions may include, for example, the vehicle's transmission is not in "park" or the vehicle's speed is almost zero mph (or less than a certain speed).
- 5. Separately for each of the Subject Vehicles, describe how the starting system operates in the following scenarios referencing the descriptions provided in your response to item 1. In each scenario, indicate when the electronic key code is first present in the Subject Vehicles, when it is recognized by the Subject Vehicles. In each scenario, describe when it is deactivated (engine/motor can no longer be started), and when it is purged from the Subject Vehicles, including the number of seconds it remains activated, if at all, after the driver turns the starting system off. In addition, in each scenario below, identify all audible and visual alerts made by the Subject Vehicles, specifically stating at what point each alert is made, what event triggered each alert, what event or factor each alert is intended to warn the driver of, and the length/duration (audible) or location/wording (visual) of each alert:

- a) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) while the transmission control is in the "park" position. The Subject Vehicle's ignition is turned off (activates the propulsion on/off control). The driver exits the vehicle with the key code carrying device on his person and moves outside of the effective range.
- b) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle is then turned off (activates the propulsion on/off control). The driver exits the Subject Vehicle leaving the key code carrying device in the Subject Vehicle.
- c) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle's engine/motor is then turned off (activates the propulsion system on/off control) with the transmission still in "drive". One minute elapses, after which the driver opens the driver's door and exits the Subject Vehicle, taking the key code carrying device with him outside of the effective range.

Provide responses for the following questions if they have not been previously answered. If the question has been previously answered, identify specifically, by question number and by line, where the response was previously provided:

- 6. Describe the circumstances under which the electronic code is purged or removed from the Subject Vehicles and/or is no longer recognized by the vehicle. Include in your response, where the key code carrying device must be located in terms of distance from the vehicle and how much time must have elapsed after the vehicle's engine/motor is turned off in order for the electronic key code to be purged or removed from the Subject Vehicles' memory.
- 7. What is the maximum effective range of the key code carrying device allowed for the electronic key code to be recognized by the Subject Vehicles? Explain the Subject Vehicles' response to the electronic code when they key code carrying device is moved beyond the maximum effective range.
- 8. Produce a copy of <u>Nissan's</u> complete test procedure and test report concerning FMVSS No. 114 applicable to the Subject Vehicles. Produce all results of <u>Nissan's</u> testing of the Subject Vehicles related to FMVSS No. 114 as well as copies of <u>Nissan's</u> internal sign off sheet(s) indicating compliance with FMVSS No. 114. Produce a copy of <u>Nissan's</u> complete test procedure concerning FMVSS No. 114 for the Subject Vehicles as it was provided to the manufacturer of the Subject Vehicles' starting system.

- 9. Separately for each of the Subject Vehicles, state the number of each of the following received by or of which <u>Nissan</u> is otherwise aware, which relate to or may relate to the starting system in the Subject Vehicles:
 - a) Consumer complaints, including those from fleet operators;
 - b) Field reports, including, but not limited to field technical reports and dealer field reports;
 - c) Reports involving a crash, injury, or fatality;
 - d) Property damage claims;
 - e) Warrantee claims;
 - f) Third-party arbitration proceedings where <u>Nissan</u> is or was a party to the arbitration;
 - g) Lawsuits, both pending and closed, in which <u>Nissan</u> is or was defendant or codefendant; and,
 - h) Vehicle Owner Questionnaires (VOQs) provided to the National Highway Traffic Safety Administration (U.S.) and received or otherwise obtained by <u>Nissan</u>.

If <u>Nissan</u> cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other privilege, <u>Nissan</u> does not submit one or more requested documents or items of information in response to this information request, <u>Nissan</u> must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

The information requests set forth above are sent to <u>Nissan</u> pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to require a manufacturer to make reports to NHTSA. It constitutes a new request for a report. A timely and complete response by <u>Nissan</u> is required. <u>Nissan's</u> failure to respond promptly and fully to such a request could subject <u>Nissan</u> to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30163. Under 49 U.S.C. § 30165(a)(3), any person who violates 49 U. S. C. § 30166 is liable for penalties up to and including \$7,000 per day for failure to provide requested information. The maximum for a related series of violations is currently \$17,350,000. 49 C.F.R.§ 578.6(a)(3). Other remedies and sanctions are available as well.

Additionally, we are requesting information to improve our understanding of the design standards and safety strategies that your company has in place to address the potential safety risks that may be present with push button start/stop vehicles. Your response to the following questions is optional:

10. What safety information does <u>Nissan</u> request its dealership personnel to provide to customers purchasing a new or used vehicle with push button start/stop?

11. What safety information does <u>Nissan</u> directly provide to a customer purchasing a new or used vehicle with push button start/stop, and through what means (i.e., owner's manual) is this information provided or communicated?

The address for mail or express delivery is: National Highway Traffic Safety Administration, Office of Vehicle Safety Compliance (NVS-221), Room W43-496, 1200 New Jersey Avenue SE, Washington, DC 20590. All business confidential information must be submitted directly to the Office of Chief Counsel as described in the following paragraph and should not be sent to this office. In addition, do not submit any business confidential information in the body of the letter submitted to this office. Please refer to <u>OA-114-140115D</u> in <u>Nissan's</u> response to this letter and in any confidentiality request submitted to the Office of Chief Counsel. <u>Nissan's</u> response to this IR is due no later than 30 calendar days from the date indicated on this letter. If <u>Nissan</u> finds that it is unable to provide all of the information requested within the time allotted, <u>Nissan</u> must request an extension from Amina Fisher of my staff at (202) 366-5307 no later than five (5) business days before the response due date. If <u>Nissan</u> is unable to provide all of the information requested by the original deadline, it must submit a partial response by the original deadline with whatever information <u>Nissan</u> then has available, even if an extension has been granted.

If you have any technical questions concerning this matter, please call Amina Fisher of my staff at (202) 366-5307. Your cooperation and assistance is greatly appreciated.

Sincerely,

AF For H.T. mu

Harry Thompson Chief, Crash Avoidance Division Office of Vehicle Safety Compliance

Enclosure – Data Sheets from field inspections

TEST DATE __

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FMVSS 114 – Theft Protection and Rollaway Prevention 08 21 2013 VEHICLE MODEL YEAR VEHICLE MAKE _ Nissan VEHICLE MODEL Cube SL VIN JN8AZ2KEGDT304427 YES YES Automatic transmission (confirm) Activation of starting system (include key type) proximity key fob push button Is there an installed rollaway prevention feature? YES, describe **NO** The vehicle can not be turned off unless the transmission is in the Por D position Position vehicle on relatively flat grade; TECH 1 enter vehicle with key fob Start vehicle; roll down driver's window; turn radio on; shift to Drive; release Parking Brake Pass fob out of open window to TECH 2 (make sure to move out of range of vehicle) Turn vehicle off; wait ~30 sec (some vehicles have emergency restart feature) Describe any alerts activated AUDIBLE¹ VISUAL

Interior			
dB level: ଜя ቀይ	Location:	cluster	
Duration: continuous			
Exterior	Wording:	P. 1	
dB level: אסטעד Duration:		Shift '	
If an audible alert sounds does the radio vo Reduced volume	lume change dio turns off	?	to radio volume
Shift vehicle to Neutral (do not go to Park i Attempt to restart vehicle in Neutral. Does	n the meanti the vehicle r	me) estart? Describe an	y alerts activated.
YES- electronic key code appears to (Complete 6.1)	o still be in ve	hicle	
NO- <i>electronic key code does not a</i> (Complete 6.1 - <i>8)</i>	opear to still	be in the vehicle	<u>d</u>
			VISUAL

AUDIDLE	IBORL	
Interior		
dB level: 69 dB	Location: cluster	
Duration: continuous	2	
Exterior	Wording:	
dB level:	Shift	
Duration:	orange "key" light	

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

- Start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close 6.1 door. Describe any alerts activated.

AUDIBLE ¹	VISUAL
dB level: 69 dB Duration: continuous Exterior > fone speeds up when driver exits dB level: 68 dB Duration: continuous	Location: cluster Wording: Shift

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

> YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

PG1of2

TEST DATE 08 21 13 VEHICLE MODEL YEAR 2013 VEHICLE MAKE Dissan VEHICLE MODEL Juke SL VIN JN8AF5MV5D7225013 Automatic transmission (confirm) YES NO Activation of starting system (include key type) NO	
VEHICLE MODEL YEAR ZOIS VEHICLE MAKE Dissan VEHICLE MODEL Juke SL VIN JNBAF5MV5DT225013 Automatic transmission (confirm) YES NO Activation of starting system (include key type)	
VEHICLE MAKE <u>Juke SL</u> VEHICLE MODEL <u>Juke SL</u> VIN <u>JN8AF5MV5DT225013</u> Automatic transmission (confirm) VES NO Activation of starting system (include key type)	
VEHICLE MODEL Unke SL VIN JNBAF5MV3DT225013 Automatic transmission (confirm) VES NO Activation of starting system (include key type)	
VIN <u>JN8AF5MV5DT226015</u> Automatic transmission (confirm) VES NO Activation of starting system (include key type)	
Automatic transmission (confirm) YES NO Activation of starting system (include key type)	
proximity key tob	
push burton	
Is there an installed rollaway prevention feature? 🔲 YES, describe 🗌 NO 🗌 UN	SURE
 Position vehicle on relatively flat grade; TECH 1 enter vehicle with key fob Start vehicle; roll down driver's window; turn radio on; shift to Drive; release Parking Pass fob out of open window to TECH 2 (make sure to move out of range of vehicle) Turn vehicle off; wait ~30 sec (some vehicles have emergency restart feature) Descr alerts activated 	g Brake ibe any
AUDIBLE ¹ VISU Interior dB level: 31 dB Duration: continuous Exterior dB level: Duration: NONE Duration: NONE	UAL
If an audible alert sounds does the radio volume change? Reduced volume Shift vohicle to Neutral (do not go to Park in the meantime)	volume
6 Attempt to restart vehicle in Neutral. Does the vehicle restart? Describe any alerts a YES- electronic key code appears to still be in vehicle	ctivated
NO- electronic key code does not appear to still be in the vehicle (Complete 6.1 - 8)	5
AUDIBLE ² VIS	UAL
dB level: 31 dB Location: cluster	}
Duration: continuous	
Exterior Wording: ?	
dB level: NONE Shift T Duration:	

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

Start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close 6.1 door. Describe any alerts activated.

AUDIBLE ¹		VISUAL
dB level: 31 dB Duration: continuous Exterior -> tone openes up when olviver dB level: 68 dB Duration: continuous	Location: cluster Wording: P Shift	

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

> YES- Apparent faiJure, the vehicle's transmission does not appear to have shifted to park as required Ø

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

08

Automatic transmission (confirm)

VEHICLE MODEL YEAR _2013 VEHICLE MAKE Nissan VEHICLE MODEL Murano VIN UNBAZIMODWODW301504

TEST DATE _

-provin

push button

21 13

in proximity Key fob

FMVSS 114 - Theft Protection and Rollaway Prevention YES YES D NO Activation of starting system (include key type) Is there an installed rollaway prevention feature? YES, describe []NO UNSURE

- 1 Position vehicle on relatively flat grade; TECH 1 enter vehicle with key fob
- 2 Start vehicle; roll down driver's window; turn radio on; shift to Drive; release Parking Brake Pass fob out of open window to TECH 2 (make sure to move out of range of vehicle) 3
- 4 Turn vehicle off; wait ~30 sec (some vehicles have emergency restart feature) Describe any alerts activated

	AUDIBLE ¹	VISUAL
	dB level: 65 dB Duration: continuous	Wording: P
	dB level: אסאב Duration:	Shift 7
	If an audible alert sounds does the radio vo	lume change? dio turns off I No change to radio volume
5 6	Shift vehicle to Neutral (do not go to Park ir Attempt to restart vehicle in Neutral. Does) the meantime) the vehicle restart? Describe any alerts activated
	YES- electronic key code appears to (Complete 6.1)	still be in vehicle
	NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle
	AUDIBLE ¹	VISUAL
	dB level: 55 dB	Location: eluster
	Duration: 3 sec Exterior	Wording: Warning no Key
	dB level: אסאב Duration:	P Shift [†]

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

- Start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close 6.1 door. Describe any alerts activated.

AUDIBLE ¹	VI	SUAL
dB level: 65 dB Duration: continuous	Location: cluster	
Exterior > tone speeds up when dB level: 68 dB driver Duration: continuous	Wording: 𝒫 Shift ↑	

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

> YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

FM	VSS 114 – Theft Protection and Rolla	way Prevention	
TEST	DATE 08 21 13		
VEHI	CLE MODEL YEAR _2014		
VEHI	CLE MAKE Nissan		
VEHI	CLE MODEL _ Kitima		
VIN	BOBALELLABENAAA INHALSAPSC 115666		
Auto	matic transmission (confirm) ZYES	D NO	
Activ	vation of starting system (include key type)	Shores Marine Pear	
F	proximity Key fob		
<u> </u>		······································	
	pash button		······
ls the	ere an installed rollaway prevention feature? The vehicle can not be turned off unless t	YES, describe NO he transmission is in the P	UNSURE or N Position
1	Position vehicle on relatively flat grade: TEC	"H 1 enter vehicle with key fab	
2	Start vehicle: roll down driver's window: tu	rn radio on: shift to Drive: relea	se Parking Brake
2	Pass fob out of open window to TECH 2 (m:	the sure to move out of range of	se raiking brake
л л	Turn vehicle off: wait ~30 sec (some vehicle	shave emergency restart feat	re) Describe any
4	alerts activated	is have emergency restart react	ne) bescribe any
	alerts activated		
		p	
	AUDIBLE ¹		VISUAL
	Interior		
	dB level: 05 dB	Location: cluster	
į	Duration: continuous		
l	Exterior	Wording: P	
	dB level:	Shift ^r	
	Duration:	-	
1	If an audible alert sounds does the radio vo	lume change? dio turns off	e to radio volume
5	Shift vehicle to Neutral (do not go to Park i	the meantime)	
5	Attempt to restart vahicle in Neutral Does	the vehicle restart? Describe a	alerts activated
0	Attempt to restart venicie in weatrai. Does	the vehicle restarts beschibe a	ly alerts delivated.
	YES- electronic key code appears to (Complete 6.1)	still be in vehicle	
	NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle	Ø
ĺ	AUDIBLE ¹		VISUAL
	Interior		4
	dB level: 65 2B	Location: cluster	
	Duration: continuous		
	Exterior	Wording: P	
	dB level:	Shift [†]	
1	Duration:	· 4-	

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

- v w/transmission not in Park Start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close 6.1 door. Describe any alerts activated.

AUDIBLE ¹	VISUAL
dB level: 65 dB Duration: continuous	Location: cluster
Exterior tone speeds up when driver dB level: 68 dB exits vehicle	Wording: P
Duration: continuous	

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

> YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required \mathbf{Z}

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

Vehicle 2013 Nissan Sentra 6L

FMVSS 114 – Theft Protection and Rollaway Prevention

TECT	DATE 08 21 13		
VEH	ICLE MODEL YEAR 2013		
VEH	ICLE MAKE Dissan		
VEH	ICLE MODEL Sentra SL		
VIN	3N1487 APG01684499		
Auto Activ	omatic transmission (confirm) I YES vation of starting system (include key type) proximity ky fob		
	push button	-	
ls th	ere an installed rollaway prevention feature?	YES , describe NO	
1 2 3 4	Position vehicle on relatively flat grade; TEG Start vehicle; roll down driver's window; tu Pass fob out of open window to TECH 2 (ma Turn vehicle off; wait ~30 sec (some vehicle alerts activated	CH 1 enter vehicle with key fob rn radio on; shift to Drive; release ake sure to move out of range of es have emergency restart feature	e Parking Brake vehicle) e) Describe any
	AUDIBLE ¹ Interior dB level: 59 aB Duration: continuous	Location: cluster	VISUAL
	Exterior dB level: NONE Duration:	Wording: F Shift T	Ŧ
	If an audible alert sounds does the radio vo Reduced volume	lume change? dio turns off	to radio volume
5 6	Shift vehicle to Neutral (do not go to Park in Attempt to restart vehicle in Neutral. Does	n the meantime) the vehicle restart? Describe any	alerts activated
	YES- electronic key code appears to (Complete 6.1)	still be in vehicle	
	NO- electronic key code does not a _l (Complete 6.1 - 8)	opear to still be in the vehicle	<u> </u>
	AUDIBLE ¹		VISUAL
	dB level: 59 dB Duration: continuous	Location: cluster	
	Exterior dB level: Duration:	Wording: P Shifi [†]	

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close 6.1 door. Describe any alerts activated.

AUDIBLE ¹			VISUAL
dB level: 59 dB Duration: continuous Exterior → tone spieds up when dB level: 68 dB driver exits Duration: continuous	Location: Wording:	cluster P † Shift	v

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

> YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required 🛛 🗹

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

FMVSS 114	- Theft Protection and Rol	laway Prev	vention	
TEST DATE	08 21 13			
VEHICLE MOD	ELYEAR 2014 E Wissan			
VEHICLE MOD	EL Versa Note			
VIN BNICE	2CP3EL356500	<u>_</u>		
Automatic tra	tarting system (include key type)	LINO		
proximity	Key fob			
push but	ton			
ls there an ins	talled rollaway prevention feature? chicle can not be turned off unle	YES, (ss the trans	describe NO mission is in the	UNSURE Por N position
1 Positic 2 Start v 3 Pass fo 4 Turn v alerts	on vehicle on relatively flat grade; T rehicle; roll down driver's window; ob out of open window to TECH 2 (r rehicle off; wait ~30 sec (some vehic activated	ECH 1 enter vo turn radio on; nake sure to r cles have eme	ehicle with key fob shift to Drive; relea move out of range c rgency restart featu	ise Parking Brake of vehicle) Ire) Describe any
Interior Exterior	AUDIBLE ¹ dB level: 65 dB Duration: continuous dB level: אוסטד Duration:	Location: Wording:	cluster P Shift	VISUAL
lf an a	udible alert sounds does the radio Reduced volume	volume chang ladio turns off	;e? f	e to radio volume
5 Shift v 6 Attem	ft vehicle to Neutral (do not go to Park in the meantime) empt to restart vehicle in Neutral. Does the vehicle restart? Describe any alerts activated.			
YES- electronic key code appears to still be in vehicle [] (Complete 6.1) NO- electronic key code does not appear to still be in the vehicle (Complete 6.1 - 8)				
Interior	dB level: US dB	Location:	cluster	
Extorio	Duration: continuous	Wording	2	
Exterior	dB level: Duration:	wording.	shift [†]	
			1	-)

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size
y w/ transmission not in Park Start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close 6.1 door. Describe any alerts activated.

AUDIBLE ¹	VISUAL
dB level: 05 dB Duration: continuous Exterior → tone speeds up when drin dB level: 08 dB	Vording: P
Duration: continuous	

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

> YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required 2

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES



of Transportation

National Highway Traffic Safety Administration 1200 New Jersey Avenue SE. Washington, DC 20590

E-MAIL AND CERTIFIED MAIL RETURN RECEIPT REQUESTED

John Frooshani Safety Activities Manager Government Relations Subaru of America, Inc./ FUSA 5950 Symphony Woods Drive Suite 410 Columbia, MD 21044

January 28, 2014

NVS-221AFi OA-114-140115E

Re: Model Year 2013 and 2014 Push-Button Start Vehicles

Dear Mr. Frooshani:

The Office of Vehicle Safety Compliance ("OVSC") of the National Highway Traffic Safety Administration ("NHTSA") investigated vehicles manufactured by Subaru to the requirements of Federal Motor Vehicle Safety Standard ("FMVSS") No. 114, *Theft Protection and Rollaway Prevention*, found at 49 CFR § 571.114. Testing took place at <u>Fitz Auto Mall</u>, in <u>Gaithersburg, Maryland</u> on <u>August 29</u>, 2013.

MY	Make	Model
2013	Subaru	BRZ
2013	Subaru	Forester

OVSC performed tests using scenarios developed according to how we believed consumers could use vehicles equipped with KCCDs, focusing on Sections 5.1 and 5.2 of 49 CFR § 571.114. Since these systems operate differently depending on the manufacturer and, in some cases, the model, we ask that you review the results we obtained. In answering the items below, include any differences noted should your company conduct similar tests and the possible reasons for those differences.



Unless otherwise stated in the text, the following definitions apply to the information request set forth below:

- <u>Manufacturer:</u> "Subaru" "you", or "your" means <u>Subaru</u> including all of its divisions, subsidiaries and affiliated enterprises, including with respect to any of the foregoing within or outside of the United States, any parent corporation, any subsidiary or affiliate, or any subsidiary or affiliate of any parent corporation, and all of their headquarters, regional, zone and other offices and their employees, and all agents, contractors, consultants, attorneys and law firms and other persons engaged directly or indirectly (e.g., employee of a consultant) by or under the control of <u>Subaru</u>.
- **Document(s):** "Document(s)" is used in the broadest sense of the word and shall mean all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda, correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs. microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, pleadings, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative findings and all mechanical, magnetic, photographic and electronic records or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, CD-ROMs, compact disks, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by you, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document that contains any note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall be treated as a separate document subject to production. In all cases where original and any nonidentical copies are not available, "document(s)" also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or photograph originally produced in color must be provided in color. The term "document" includes all documents described above whether verified by the manufacturer or not.
- <u>Consumer Complaint</u>: A "consumer complaint" is defined as a communication of any kind made by a consumer (or other person) to or with a manufacturer addressed to the

company, an officer thereof, or an entity thereof that handles consumer matters, a manufacturer website that receives consumer complaints, a manufacturer electronic mail system that receives such information at the corporate level, or that are otherwise received by a unit within the manufacturer that receives consumer inquiries or complaints, including telephonic complaints, expressing dissatisfaction with a product, or relating the unsatisfactory performance of a product, or any actual or potential defect in a product, or any even that allegedly was caused by any actual or potential defect in a product.

- <u>Effective Range:</u> "Effective Range" means the maximum distance the Key Code Carrying Device can be from the Subject Vehicle where the vehicle is able to recognize the electronic key code associated with that particular vehicle.
- <u>Electronic Code:</u> "Electronic Code" shall have the meaning used in the definition of "key" in 49 CFR § 571.114, S.4.
- <u>Key:</u> "Key" means the electronic code which, when inserted into the starting system by electronic means, enables the vehicle operator to activate the engine or motor [*See* 49 CFR § 571.114, S.4].
- <u>Key Code Carrying Device (KCCD)</u>: "Key Code Carrying Device" means the physical device which is capable of electronically transmitting the key to the vehicle starting system without physical connection, other than its presence in the vehicle, between the device and the vehicle (i.e. the key fob).
- <u>Starting System</u>: "Starting System" means the vehicle system used in conjunction with the key code and the engine/motor start control to activate the engine, motor, or other system which provides propulsion to the motor vehicle.
- <u>Subject Vehicles:</u> "Subject Vehicles" means the vehicles listed after the first paragraph of this letter.
- "Starting the vehicle's motor" means the driver uses the motor start control to turn on power is "on" to the motor, resulting in input to the vehicle's wheels and vehicle movement as a result of the driver applying the accelerator pedal.
- "Stopping the vehicle's engine or motor" means the driver uses the engine/motor stop control to turn off power to the engine or motor and no input to the vehicle's wheels or vehicle movement will result from the driver application of the accelerator pedal.
- The term "you" or "your" refers to <u>Subaru</u>.
- The singular includes the plural; the plural includes the singular. The masculine gender includes the feminine and neutral genders; and the neutral gender includes the masculine and feminine genders. "And" as well as "or" shall be construed either disjunctively or

conjunctively, to bring within the scope of this information request all responses that might otherwise be construed to be outside its scope. "Each" shall be construed to include "every" and "every" shall be construed to include "each". "Any" shall be construed to include "all" and "all" shall be construed o include "any". The use of a verb in any tense shall be construed as the use of the verb in a past or present tense, whenever necessary to bring within the scope of the document request all responses which might otherwise be construed to be outside its scope.

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- To "identify" or "state the identity of" a natural person means to state his/her full name, title, office, present work address and telephone number, and the name, address and telephone number of his/her present or last known employer, if any. once an individual has been so identified, he or she may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
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- <u>Other Terms:</u> To the extent that they are used in these information requests, the terms "claim," "consumer complaint," "dealer field report," "field report," "make," "model," "model year," "notice," "property damage," "property damage claim," "type," "warranty," "warranty adjustment," and "warranty claim," whether used in singular or plural form, have the same meaning as found in 49 CFR 579.4.

Please respond to the following requests. Please repeat the applicable request verbatim above each response. Identify the source of the information and indicate the last date the information was fathered. Answer each question for each of the Subject Vehicles as well as any other MY 2013-2014 vehicles identified by <u>Subaru</u> that have keyless ignition systems comparable to those in any of the Subject Vehicles. If any vehicles share the same starting system, they may be grouped together when responding. When grouping vehicles for responses please list all vehicles(by model year, make, and model) that each response is for.

1. For each of the subject vehicles, state the date when a starting system that allows the use of an electronic key fob (Key Code Carrying Device) was first introduced in production and state the number of vehicles manufactured by or for your company with that starting system for sale in the U.S. from that date through the date of your response to this letter, broken down by model year.

- 2. Separately, for each of the Subject Vehicles, explain the operation of the starting system. Include in your response, the location and operation of the key code carrying device and the engine/motor start/stop device.
- 3. Describe in detail how the Subject Vehicles' engine/motor is started. Include in your response where the electronic key code is sent (i.e. immobilizer or engine control unit ("ECU")), the path the electronic key code takes to enable the driver to start the engine/motor (include a diagram showing the components and how they "connect" to each other), at what point the electronic key code is considered inserted into the starting system, and what conditions need to remain for the electronic key code to remain inserted.
 - a. If the driver remained present in the vehicle, but the KCCD is removed from the vehicle after the vehicle's engine/motor is stopped, can the engine/motor be restarted using the original electronic key code described in item 3 above? If your response is yes, for what period of time, and/or for what number of attempts is this possible?
- 4. Describe in detail how the Subject Vehicles' engine/motor is stopped or turned off. Include in your response, how hard and long the driver must press the start/stop button, to which device the code or other electrical signal is sent (i.e., immobilizer or engine control unit ("ECU")), and which devices are turned off or deactivated by the ECU (i.e., starter, fuel pump, fuel injection system, etc.). Specify when exactly those devices are turned off or deactivated (i.e. after the engine/motor stop control is pressed to turn off the engine/motor, after the driver's door is opened, etc.)
 - a. Describe any operating conditions during which the driver cannot stop or turn off the engine/motor by using the stop control. These conditions may include, for example, the vehicle's transmission is not in "park" or the vehicle's speed is almost zero mph (or less than a certain speed).
- 5. Separately for each of the Subject Vehicles, describe how the starting system operates in the following scenarios referencing the descriptions provided in your response to item 1. In each scenario, indicate when the electronic key code is first present in the Subject Vehicles, when it is recognized by the Subject Vehicles. In each scenario, describe when it is deactivated (engine/motor can no longer be started), and when it is purged from the Subject Vehicles, including the number of seconds it remains activated, if at all, after the driver turns the starting system off. In addition, in each scenario below, identify all audible and visual alerts made by the Subject Vehicles, specifically stating at what point each alert is made, what event triggered each alert, what event or factor each alert is intended to warn the driver of, and the length/duration (audible) or location/wording (visual) of each alert:

- a) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) while the transmission control is in the "park" position. The Subject Vehicle's ignition is turned off (activates the propulsion on/off control). The driver exits the vehicle with the key code carrying device on his person and moves outside of the effective range.
- b) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle is then turned off (activates the propulsion on/off control). The driver exits the Subject Vehicle leaving the key code carrying device in the Subject Vehicle.
- c) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle's engine/motor is then turned off (activates the propulsion system on/off control) with the transmission still in "drive". One minute elapses, after which the driver opens the driver's door and exits the Subject Vehicle, taking the key code carrying device with him outside of the effective range.

Provide responses for the following questions if they have not been previously answered. If the question has been previously answered, identify specifically, by question number and by line, where the response was previously provided:

- 6. Describe the circumstances under which the electronic code is purged or removed from the Subject Vehicles and/or is no longer recognized by the vehicle. Include in your response, where the key code carrying device must be located in terms of distance from the vehicle and how much time must have elapsed after the vehicle's engine/motor is turned off in order for the electronic key code to be purged or removed from the Subject Vehicles' memory.
- 7. What is the maximum effective range of the key code carrying device allowed for the electronic key code to be recognized by the Subject Vehicles? Explain the Subject Vehicles' response to the electronic code when they key code carrying device is moved beyond the maximum effective range.
- 8. Produce a copy of <u>Subaru's</u> complete test procedure and test report concerning FMVSS No. 114 applicable to the Subject Vehicles. Produce all results of <u>Subaru's</u> testing of the Subject Vehicles related to FMVSS No. 114 as well as copies of <u>Subaru's</u> internal sign off sheet(s) indicating compliance with FMVSS No. 114. Produce a copy of <u>Subaru's</u> complete test procedure concerning FMVSS No. 114 for the Subject Vehicles as it was provided to the manufacturer of the Subject Vehicles' starting system.

- 9. Separately for each of the Subject Vehicles, state the number of each of the following received by or of which <u>Subaru</u> is otherwise aware, which relate to or may relate to the starting system in the Subject Vehicles:
 - a) Consumer complaints, including those from fleet operators;
 - b) Field reports, including, but not limited to field technical reports and dealer field reports;
 - c) Reports involving a crash, injury, or fatality;
 - d) Property damage claims;
 - e) Warrantee claims;
 - f) Third-party arbitration proceedings where <u>Subaru</u> is or was a party to the arbitration;
 - g) Lawsuits, both pending and closed, in which <u>Subaru</u> is or was defendant or codefendant; and,
 - h) Vehicle Owner Questionnaires (VOQs) provided to the National Highway Traffic Safety Administration (U.S.) and received or otherwise obtained by <u>Subaru</u>.

If <u>Subaru</u> cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other privilege, <u>Subaru</u> does not submit one or more requested documents or items of information in response to this information request, <u>Subaru</u> must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

The information requests set forth above are sent to <u>Subaru</u> pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to require a manufacturer to make reports to NHTSA. It constitutes a new request for a report. A timely and complete response by <u>Subaru</u> is required. <u>Subaru's</u> failure to respond promptly and fully to such a request could subject <u>Subaru</u> to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30165 (a)(3), any person who violates 49 U.S. C. § 30166 is liable for penalties up to and including \$7,000 per day for failure to provide requested information. The maximum for a related series of violations is currently \$17,350,000. 49 C.F.R.§ 578.6(a)(3). Other remedies and sanctions are available as well.

10. What safety information does <u>Subaru</u> request its dealership personnel to provide to customers purchasing a new or used vehicle with push button start/stop?

11. What safety information does <u>Subaru</u> directly provide to a customer purchasing a new or used vehicle with push button start/stop, and through what means (i.e., owner's manual) is this information provided or communicated?

The address for mail or express delivery is: National Highway Traffic Safety Administration, Office of Vehicle Safety Compliance (NVS-221), Room W43-496, 1200 New Jersey Avenue SE, Washington, DC 20590. All business confidential information must be submitted directly to the Office of Chief Counsel as described in the following paragraph and should not be sent to this office. In addition, do not submit any business confidential information in the body of the letter submitted to this office. Please refer to <u>OA-114-140115E</u> in <u>Subaru's</u> response to this letter and in any confidentiality request submitted to the Office of Chief Counsel. <u>Subaru's</u> response to this letter. If <u>Subaru</u> finds that it is unable to provide all of the information requested within the time allotted, <u>Subaru</u> must request an extension from Amina Fisher of my staff at (202) 366-5307 no later than five (5) business days before the response due date. If <u>Subaru</u> is unable to provide all of the information requested by the original deadline, it must submit a partial response by the original deadline with whatever information <u>Subaru</u> then has available, even if an extension has been granted.

If you have any technical questions concerning this matter, please call Amina Fisher of my staff at (202) 366-5307. Your cooperation and assistance is greatly appreciated.

Sincerely,

for H.T

Harry Thompson Chief, Crash Avoidance Division Office of Vehicle Safety Compliance

Enclosure - Data Sheets from field inspections

Vehicle 2013 Subaru BRZ

FN	AVS	511	4 -	Theft	Protection	and	Rollaway	Prevention

TEST DATE 08 29 13 VEHICLE MODEL YEAR 2013 VEHICLE MAKE Ouborn VEHICLE MODEL BRZ VIN JF1ZCAC14D261147 Automatic transmission (confirm) YES Activation of starting system (include key type) proximity Key fob	□ NO
Is there an installed rollaway prevention feature?	YES, describe NO UNSURE
 Position vehicle on relatively flat grade; TEC Start vehicle; roll down driver's window; tur Pass fob out of open window to TECH 2 (ma Turn vehicle off; wait ~30 sec (some vehicle alerts activated 	H 1 enter vehicle with keγ fob on radio on; shift to Drive; release Parking Brake ke sure to move out of range of vehicle) s have emergency restart feature) Describe any
AUDIBLE ¹ Interior dB level: Duration: Exterior dB level: dB level: Duration: If an audible alert sounds does the radio yo	VISUAL Location: cluster Wording: (No Key telltone) NOTHING SAYING SHIFT TO P
 Reduced volume Rad Shift vehicle to Neutral (do not go to Park ir Attempt to restart vehicle in Neutral. Does YES- electronic key code appears to (Complete 6.1) 	dio turns off No change to radio volume the meantime) the vehicle restart? Describe any alerts activated. still be in vehicle
NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle
AUDIBLE ¹	VISUAL
dB level: Duration:	Location: cluster
dB level: Duration:	NOTHING SAYING SHIFT TO P

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

AUDIBLE ¹	VISUAL
dB level: 63 dB Duration: Onfinuous	Location: cluster
Exterior	Wording: (No Ken trittake)
dB level: 63 dB Duration: <i>continuou</i> S	NOTHING SAYING SHIFT TO P

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

> YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

electronic NOTES

Key

remain in ignition system until relaced in Park (can always be restarted until then)

8

Vehicle 2013 Subaru B22

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

		AUDIBLE ¹			VISUAL
Interior					
dB level:			Location:		
Duration:				NONE	
Exterior	NONE		Wording:		
dB level:					
Duration:					

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

AUDIBLE ¹	VISUAL
Duration: first beep 71 dB, next two unmeasur- Duration: aby 1000	Location: cluster
Exterior 3 bups	Wording: No Key (telltale)
dB level: Duration:	

Vehicle 2013 Subaru Forester

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST DATE 08 05 13 VEHICLE MODEL YEAR 2013 VEHICLE MAKE Subaru VEHICLE MODEL Forester VIN JF26JAPCIE H437964 Automatic transmission (confirm) YES NO Activation of starting system (include key type) proximity Key fob push button
Is there an installed rollaway prevention feature?
 Position vehicle on relatively flat grade; TECH 1 enter vehicle with key fob Start vehicle; roll down driver's window; turn radio on; shift to Drive; release Parking Brake Pass fob out of open window to TECH 2 (make sure to move out of range of vehicle) Turn vehicle off; wait ~30 sec (some vehicles have emergency restart feature) Describe any alerts activated
AUDIBLE ¹ VISUAL Interior dB level: Location: mag canter Duration: Exterior NOVE dB level: Wording: Shift to Park Duration: displayed for 1 sec
If an audible alert sounds does the radio volume change?
 Shift vehicle to Neutral (do not go to Park in the meantime) Attempt to restart vehicle in Neutral. Does the vehicle restart? Describe any alerts activated.
YES- electronic key code appears to still be in vehicle [] (Complete 6.1)
NO- electronic key code does not appear to still be in the vehicle (Complete 6.1 - 8)
AUDIBLE ¹ VISUAL
dB level: Location: meg center
Exterior NONE Wording: Shift to Park dB level: Duration: displayed for 1 sec
PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

Vehicle 2013 Subara Forester

- Start vehicle then turn vehicle off; wait ~30 sec again. TECH 1 exit vehicle and close 6.1 door. Describe any alerts activated.

Interior		VISUAL
dB level: Duration:		Location: mag center
Exterior dB level:	NONE	Wording: Door is open
Duration:		 NOTHING SKYING SHIFT TO P

only audible alert seemed to be

for for door open (same alert while vehicle running) TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

Does the Parking Brake appear to be on? (Check for Parking Brake Light) 8

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES push bu	itton had	red	light	when	turned	off	not	in	park
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mg center screens stayed on

7

1200 New Jersey Avenue SE. Washington, DC 20590



National Highway Traffic Safety Administration

E-MAIL AND CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Abbas Saadatt	January 28, 2014
Vice President	•
Vehicle Safety and Compliance Liaison Office	NVS-221AFi
Toyota Motor Engineering and Manufacturing North America, Inc.	OA-114-140115F
19001 South Western Avenue	
Mail Stop S-104	
Torrance, CA 90501	

Re: Model Year 2013 and 2014 Push-Button Start Vehicles

Dear Mr. Saadatt

The Office of Vehicle Safety Compliance ("OVSC") of the National Highway Traffic Safety Administration ("NHTSA") investigated vehicles manufactured by Toyota to the requirements of Federal Motor Vehicle Safety Standard ("FMVSS") No. 114, *Theft Protection and Rollaway Prevention*, found at 49 CFR § 571.114. Testing took place at <u>Fitz Auto Mall</u>, in <u>Gaithersburg, Maryland</u> on <u>September 4</u>, 2013.

MY	Make	Model
2012	Toyota	RAV4
2013	Toyota	Avalon
2013	Toyota	Highlander
2013	Toyota	Prius C
2013	Toyota	Prius V

OVSC performed tests using scenarios developed according to how we believed consumers could use vehicles equipped with KCCDs, focusing on Sections 5.1 and 5.2 of 49 CFR § 571.114. Since these systems operate differently depending on the manufacturer and, in some cases, the model, we ask that you review the results we obtained. In answering the items below, include any differences noted should your company conduct similar tests and the possible reasons for those differences.



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- **Document(s):** "Document(s)" is used in the broadest sense of the word and shall mean all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda, correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs, microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, pleadings, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative findings and all mechanical, magnetic, photographic and electronic records or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, CD-ROMs, compact disks, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by you, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document that contains any note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall be treated as a separate document subject to production. In all cases where original and any nonidentical copies are not available, "document(s)" also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or photograph originally produced in color must be provided in color. The term "document" includes all documents described above whether verified by the manufacturer or not.
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company, an officer thereof, or an entity thereof that handles consumer matters, a manufacturer website that receives consumer complaints, a manufacturer electronic mail system that receives such information at the corporate level, or that are otherwise received by a unit within the manufacturer that receives consumer inquiries or complaints, including telephonic complaints, expressing dissatisfaction with a product, or relating the unsatisfactory performance of a product, or any actual or potential defect in a product, or any even that allegedly was caused by any actual or potential defect in a product.

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- To "identify" or "state the identity of" a natural person means to state his/her full name, title, office, present work address and telephone number, and the name, address and telephone number of his/her present or last known employer, if any. once an individual has been so identified, he or she may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- To "identify" or "state the identity of" a person other than a natural person means to state its full name and the present or last known address and telephone number of its headquarters. Once such a "person" has been so identified, it may thereafter be identified by name alone so long as reference is made to the paragraph in which the complete identity is given.
- <u>Other Terms:</u> To the extent that they are used in these information requests, the terms "claim," "consumer complaint," "dealer field report," "field report," "make," "model," "model year," "notice," "property damage," "property damage claim," "type," "warranty," "warranty adjustment," and "warranty claim," whether used in singular or plural form, have the same meaning as found in 49 CFR 579.4.

Please respond to the following requests. Please repeat the applicable request verbatim above each response. Identify the source of the information and indicate the last date the information was fathered. Answer each question for each of the Subject Vehicles as well as any other MY 2013-2014 vehicles identified by <u>Toyota</u> that have keyless ignition systems comparable to those in any of the Subject Vehicles. If any vehicles share the same starting system, they may be grouped together when responding. When grouping vehicles for responses please list all vehicles(by model year, make, and model) that each response is for.

1. For each of the subject vehicles, state the date when a starting system that allows the use of an electronic key fob (Key Code Carrying Device) was first introduced in production and state the number of vehicles manufactured by or for your company with that starting system for sale in the U.S. from that date through the date of your response to this letter, broken down by model year.

- 2. Separately, for each of the Subject Vehicles, explain the operation of the starting system. Include in your response, the location and operation of the key code carrying device and the engine/motor start/stop device.
- 3. Describe in detail how the Subject Vehicles' engine/motor is started. Include in your response where the electronic key code is sent (i.e. immobilizer or engine control unit ("ECU")), the path the electronic key code takes to enable the driver to start the engine/motor (include a diagram showing the components and how they "connect" to each other), at what point the electronic key code is considered inserted into the starting system, and what conditions need to remain for the electronic key code to remain inserted.
 - a. If the driver remained present in the vehicle, but the KCCD is removed from the vehicle after the vehicle's engine/motor is stopped, can the engine/motor be restarted using the original electronic key code described in item 3 above? If your response is yes, for what period of time, and/or for what number of attempts is this possible?
- 4. Describe in detail how the Subject Vehicles' engine/motor is stopped or turned off. Include in your response, how hard and long the driver must press the start/stop button, to which device the code or other electrical signal is sent (i.e., immobilizer or engine control unit ("ECU")), and which devices are turned off or deactivated by the ECU (i.e., starter, fuel pump, fuel injection system, etc.). Specify when exactly those devices are turned off or deactivated (i.e. after the engine/motor stop control is pressed to turn off the engine/motor, after the driver's door is opened, etc.)
 - a. Describe any operating conditions during which the driver cannot stop or turn off the engine/motor by using the stop control. These conditions may include, for example, the vehicle's transmission is not in "park" or the vehicle's speed is almost zero mph (or less than a certain speed).
- 5. Separately for each of the Subject Vehicles, describe how the starting system operates in the following scenarios referencing the descriptions provided in your response to item 1. In each scenario, indicate when the electronic key code is first present in the Subject Vehicles, when it is recognized by the Subject Vehicles. In each scenario, describe when it is deactivated (engine/motor can no longer be started), and when it is purged from the Subject Vehicles, including the number of seconds it remains activated, if at all, after the driver turns the starting system off. In addition, in each scenario below, identify all audible and visual alerts made by the Subject Vehicles, specifically stating at what point each alert is made, what event triggered each alert, what event or factor each alert is intended to warn the driver of, and the length/duration (audible) or location/wording (visual) of each alert:

- a) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) while the transmission control is in the "park" position. The Subject Vehicle's ignition is turned off (activates the propulsion on/off control). The driver exits the vehicle with the key code carrying device on his person and moves outside of the effective range.
- b) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle is then turned off (activates the propulsion on/off control). The driver exits the Subject Vehicle leaving the key code carrying device in the Subject Vehicle.
- c) The driver enters the vehicle with the key code carrying device on his person. The driver turns the Subject Vehicle's engine/motor on (activates the propulsion system on/off control) and places the transmission in "drive". The Subject Vehicle's engine/motor is then turned off (activates the propulsion system on/off control) with the transmission still in "drive". One minute elapses, after which the driver opens the driver's door and exits the Subject Vehicle, taking the key code carrying device with him outside of the effective range.

Provide responses for the following questions if they have not been previously answered. If the question has been previously answered, identify specifically, by question number and by line, where the response was previously provided:

- 6. Describe the circumstances under which the electronic code is purged or removed from the Subject Vehicles and/or is no longer recognized by the vehicle. Include in your response, where the key code carrying device must be located in terms of distance from the vehicle and how much time must have elapsed after the vehicle's engine/motor is turned off in order for the electronic key code to be purged or removed from the Subject Vehicles' memory.
- 7. What is the maximum effective range of the key code carrying device allowed for the electronic key code to be recognized by the Subject Vehicles? Explain the Subject Vehicles' response to the electronic code when they key code carrying device is moved beyond the maximum effective range.
- 8. Produce a copy of <u>Toyota's</u> complete test procedure and test report concerning FMVSS No. 114 applicable to the Subject Vehicles. Produce all results of <u>Toyota's</u> testing of the Subject Vehicles related to FMVSS No. 114 as well as copies of <u>Toyota's</u> internal sign off sheet(s) indicating compliance with FMVSS No. 114. Produce a copy of <u>Toyota's</u> complete test procedure concerning FMVSS No. 114 for the Subject Vehicles as it was provided to the manufacturer of the Subject Vehicles' starting system.

- 9. Separately for each of the Subject Vehicles, state the number of each of the following received by or of which <u>Toyota</u> is otherwise aware, which relate to or may relate to the starting system in the Subject Vehicles:
 - a) Consumer complaints, including those from fleet operators;
 - b) Field reports, including, but not limited to field technical reports and dealer field reports;
 - c) Reports involving a crash, injury, or fatality;
 - d) Property damage claims;
 - e) Warrantee claims;
 - f) Third-party arbitration proceedings where <u>Toyota</u> is or was a party to the arbitration;
 - g) Lawsuits, both pending and closed, in which <u>Toyota</u> is or was defendant or codefendant; and,
 - h) Vehicle Owner Questionnaires (VOQs) provided to the National Highway Traffic Safety Administration (U.S.) and received or otherwise obtained by <u>Toyota</u>.

If <u>Toyota</u> cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other privilege, <u>Toyota</u> does not submit one or more requested documents or items of information in response to this information request, <u>Toyota</u> must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

The information requests set forth above are sent to <u>Toyota</u> pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to require a manufacturer to make reports to NHTSA. It constitutes a new request for a report. A timely and complete response by <u>Toyota</u> is required. <u>Toyota's</u> failure to respond promptly and fully to such a request could subject <u>Toyota</u> to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30165(a)(3), any person who violates 49 U. S. C. § 30166 is liable for penalties up to and including \$7,000 per day for failure to provide requested information. The maximum for a related series of violations is currently \$17,350,000. 49 C.F.R.§ 578.6(a)(3). Other remedies and sanctions are available as well.

Additionally, we are requesting information to improve our understanding of the design standards and safety strategies that your company has in place to address the potential safety risks that may be present with push button start/stop vehicles. Your response to the following questions is optional:

10. What safety information does <u>Toyota</u> request its dealership personnel to provide to customers purchasing a new or used vehicle with push button start/stop?

11. What safety information does <u>Toyota</u> directly provide to a customer purchasing a new or used vehicle with push button start/stop, and through what means (i.e., owner's manual) is this information provided or communicated?

The address for mail or express delivery is: National Highway Traffic Safety Administration, Office of Vehicle Safety Compliance (NVS-221), Room W43-49¢, 1200 New Jersey Avenue SE, Washington, DC 20590. All business confidential information must be submitted directly to the Office of Chief Counsel as described in the following paragraph and should not be sent to this office. In addition, do not submit any business confidential information in the body of the letter submitted to this office. Please refer to <u>OA-114-140115F</u> in <u>Toyota's</u> response to this letter and in any confidentiality request submitted to the Office of Chief Counsel. <u>Toyota's</u> response to this IR is due no later than 30 calendar days from the date indicated on this letter. If <u>Toyota</u> finds that it is unable to provide all of the information requested within the time allotted, <u>Toyota</u> must request an extension from Amina Fisher of my staff at (202) 366-5307 no later than five (5) business days before the response due date. If <u>Toyota</u> is unable to provide all of the information requested by the original deadline, it must submit a partial response by the original deadline with whatever information <u>Toyota</u> then has available, even if an extension has been granted.

If you have any technical questions concerning this matter, please call Amina Fisher of my staff at (202) 366-5307. Your cooperation and assistance is greatly appreciated.

Sincerely,

SAL for H.T.

Harry Thompson Chief, Crash Avoidance Division Office of Vehicle Safety Compliance

Enclosure - Data Sheets from field inspections

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST I VEHIC VEHIC VEHIC VIN _ Auton Activa	DATE <u>09 04</u> CLE MODEL YEAR CLE MAKE <u>To</u> CLE MODEL <u>E</u> <u>273DFREYO</u> natic transmissio ation of starting s reximity key	13 2013 2013 2ar 4 D W076201 n (confirm) ystem (inclu fob	YES ude key type)				
	push burron						
Is the	re an installed ro	llaway preve	ention feature?	Π γ	ES, describe	ØN0	
1	Position vehic	e on relative	ely flat grade; TE	CH 1 ent	er vehicle wit	h key fob	
2	Start vehicle; i	oll down dri	iver's window; tu	ırn radio	on; shift to D	rive; relea	se Parking Brake
3	Pass fob out o	f open wind	ow to TECH 2 (m	ake sure	to move out	of range o	f vehicle)
4	Turn vehicle o	ff; wait ~30	sec (some vehicl	es have a	emergency re	start featu	re) Describe any
	alerts activate	d					
Г				1			VICIAL
	Interior		AUDIBLE				VISUAL
	dB level	:		Locati	on [.]		
	Duratio	n:			4.5-1.5-		ł
	Exterior	NONE		Word	ing:		

5 Shift vehicle to Neutral (do not go to Park in the meantime)

dB level: Duration:

6 Attempt to restart vehicle in Neutral. Does the vehicle restart? Describe any alerts activated.

 \square

Ø

YES- electronic key code appears to still be in vehicle (Complete 6.1)

NO- electronic key code does not appear to still be in the vehicle (Complete 6.1 - 8)

		AUDIBLE	VISUAL
Interior			
dB level:			Location: cluster
Duration			
Exterior	NONE		Wording: Key telltale flashes
dB level:			
Duration			WOTH UG SAYING BHIFT TO P

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

AUDIBLE ¹		VISUAL
dB level: 58 dB Duration: continuous	Location:	clustre
Exterior dB level: 67 dB Duration: continuous	Wording:	Key telltale flashes arange

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park 🔲

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES

Vehicle 2013 Toupton Ray 4

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

Interior dB level: Duration: Exterior dB level: Duration:	AUDIBLE ¹	Location: NovE Wording:	VISUAL
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- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

	AUDIBLE ¹			VISUAL
Interior				
dB level:	JONE	Location:	cluster	
Exterior		Wording:	Key billing flaght	A
dB level: d	se aB	thoruma.	-ing concare phases	oracing
Duration:	3 bups			

EST DATE 09 04 13	
VEHICLE MODEL YEAR 2013	
/EHICLE MAKE Toupton	
VEHICLE MODEL Avalon	
11N 4TIDE 4TIBDIEB2DU011525	
Automatic transmission (confirm) YES INO	
Activation of starting system (include key type)	
proximity Key fob	
push button	
s there an installed rollaway prevention feature? 🔲 YES, describe 🖉 NO 🗌 UNSUR	E
	_
Position vehicle on relatively flat grade; TECH 1 enter vehicle with key fob	
Constructions will derive deliver derived over turns radio and shift to Driver release Deriving Des	1

2 Start vehicle; roll down driver's window; turn radio on; shift to Drive; release Parking Brake

3 Pass fob out of open window to TECH 2 (make sure to move out of range of vehicle)

4 Turn vehicle off; wait ~30 sec (some vehicles have emergency restart feature) Describe any alerts activated

AUDIBLE			VISUAL
	ļ		
	Location:	cluster	
		-	1
	Wording:	Yower on	
		٢	alternate
	X	Shift to Park	
	AUDIBLE ¹	AUDIBLE ¹ Location: Wording:	AUDIBLE ¹ Location: cluster Wording: Power on Shift to Park

If an audible alert sounds does the radio volume change? Reduced volume I Radio turns off I No change to radio volume

- 5 Shift vehicle to Neutral (do not go to Park in the meantime)
- 6 Attempt to restart vehicle in Neutral. Does the vehicle restart? Describe any alerts activated.

YES- electronic key code appears to still be in vehicle [] (Complete 6.1)

NO- electronic key code does not appear to still be in the vehicle (Complete 6.1 - 8)

	AUDIBLE	VISUAL
Interior		
dB level:		Location: cluster
Duration:		
Exterior NONE		Wording: Shift to Pour to start
dB level:		brake (see note)
Ouration:		tuitale

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size

P

Vehicle 2013 Toyota Avalon

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

AUDIBLE ¹	VISUAL
dB level: 60 dB	Location: cluster
Exterior	Wording: Key not detreted
dB level: 75 dB Duration: continuous	A Shift to Park Pos

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park 🛛

NOTES # though parking brake tull tale illuminated at one point, the parking brake did not appear to have engaged

Vehicle 2013 Toyota Aralon

PG 3 of 3

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

A Interior dB level: Duration: Exterior dB level: Duration:	AUDIBLE ¹ Location: Wording:	VISUAL
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- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

AUDIBLE	VISUAL
Interior	
dB level: عدمد Duration:	Location: cluster
Exterior	Wording: Key not deterred
dBlevel: GO dB	
Duration: 3 bups	Δ

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST DATE 09 04 13	
VEHICLE MODEL YEAR _ 2013	
VEHICLE MAKE	
VEHICLE MODEL Highlander	
VIN STDDKSEHXD8256399	
Automatic transmission (confirm) 🛛 YES	
Activation of starting system (include key type)	
proximity key fob	
push button	
is there an installed rollaway prevention feature	? YES, describe NO UNSURE
1 Position vehicle og relatively flat grade:	TECH 1 enter vehicle with key fob
 Start vehicle: roll down driver's window: 	: turn radio on: shift to Drive: release Parking Brake
3 Pass fob out of open window to TECH 2	(make sure to move out of range of vehicle)
4 Turn vehicle off; wait ~30 sec (some veh	licles have emergency restart feature) Describe any
alerts activated	
AUDIBLE	
Interior	VIJUAL
dB level:	Location:
Duration:	NONE
Exterior NONE	Wording:
dB level:	_
Duration:	
If an audible alert sounds does the radio	Badia turns off
	Radio forus on Di No change to radio volum
r Shift vahiele ta Neutral (de pat de to Pa	rk in the meantime)
Attempt to restart vehicle in Neutral Dr	pes the vehicle restart? Describe any alerts activate
6 Attempt to restart vehicle in relation be	
VES- electronic key code appears	s to still be in vehicle
(Complete 6.1)	
NO- electronic key code does no (Complete 6.1 - 8)	nt appear to still be in the vehicle
ALIDIBLE	1 VISUAL
Interior	
dB level:	Location:
Duration:	NONE
Exterior NONE	Wording:
dB level:	
Duration:	

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

Interior	AUDIBLE ¹	VISUAL
dB level: Duration	58 dB continuous	Location: (anter) message center
Exterior dB level: Duration	70 dB continuous	Wording: Key not detected Shift to Prange

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park \Box

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park 🛛

NOTES	when turned off while not in Park the green light on the start/stop button remains illuminated	
the	Kuy never appears to leave the schicle (rehicle can always be restarted)	

Vehicle 2013 Togota Highlander

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

Interior dB level: Duration: Exterior dB level: Duration:	AUDIBLE ¹	Location: NoNE Wording:	VISUAL
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- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

	AUDIBLE	VISUAL
dB level: محمص Duration:		Location: (unter) message center
Exterior dB level: 65 dB Duration: 3 bups		Wording: Key not detected.

A

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST DATE 09 04 13			
VEHICLE MODEL YEAR			
VEHICLE MAKE Toyota			
VEHICLE MODEL Prins C			
VIN _JTDKOT 83301036934			
Automatic transmission (confirm) ZYES	D NO		
Activation of starting system (include key type)			
proximity Key fob			
pash button			
Is there an installed rollaway prevention feature?	YES, describe	1 NO	

1 Position vehicle on relatively flat grade; TECH 1 enter vehicle with key fob

2 Start vehicle; roll down driver's window; turn radio on; shift to Drive; release Parking Brake

3 Pass fob out of open window to TECH 2 (make sure to move out of range of vehicle)

4 Turn vehicle off; wait ~30 sec (some vehicles have emergency restart feature) Describe any alerts activated

	AUDIBLE ¹	VISUAL
Interior dB level:		Location: (center) message center
Duration:		Warding: Shift to Park
dB level: Duration:		Power on alternate

If an audible alert sounds does the radio volume change?

5 Shift vehicle to Neutral (do not go to Park in the meantime)

6 Attempt to restart vehicle in Neutral. Does the vehicle restart? Describe any alerts activated.

YES- electronic key code appears to still be in vehicle [Complete 6.1]

NO- electronic key code does not appear to still be in the vehicle (Complete 6.1 - 8)

A	UDIBLE ¹	VISUAL
Duration: 1 bucp		Location: (center) message center
Exterior		Wording: Key not detected
dB level: איאטא Duration:	[J	Shift to P to Start duration 2: min

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

AUDIBLE	VISUAL
dB level: 58 dB Duration: continuous until Exterior door opened then dB level: 71 dB closed Duration: continuous	Location: (center) message center Wording: Key not detected Shift to P to start dwation 2 min

7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park 🛛

NOTES	"Shift to	P to start	
	4	rectorts w,	to key (up to 2 min)
		will not	restart in N

Vehicle 2013 Toyota Prins c

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

Interior dB level: Duration: Exterior bob dB level:	AUDIBLE ¹	Location: NowE Wording:	VISUAL
Duration:		·	

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

	AUDIBLE ¹	VISUAL
Interior dB level: Duration: אסאצ Exterior dB level: שאשל Duration: 3 שעש	5	Location: (center) message center Wording: Key not detected

FMVSS 114 – Theft Protection and Rollaway Prevention

TEST VEHI VEHI VIN Auto Activ	DATE 09 04 13 CLE MODEL YEAR 2013 CLE MAKE Togota CLE MODEL Prins v JTDZN3EU00 3270646 matic transmission (confirm) YES vation of starting system (include key type) proximity Key fob	
L	ouch button * P	position is a button (others are on shifter)
Is the	ere an installed rollaway prevention feature? when the vehicle is thread off while not shifter itself into Part	YES, describe INO UNSURE in Park, the transmission auto-
1 2 3 4	Position vehicle on relatively flat grade; TEC Start vehicle; roll down driver's window; tu Pass fob out of open window to TECH 2 (ma Turn vehicle off; walt ~30 sec (some vehicle alerts activated	CH 1 enter vehicle with key fob rn radio on; shift to Drive; release Parking Brake ake sure to move out of range of vehicle) as have emergency restart feature) Describe any
	AUDIBLE ¹ Interior dB level: Duration: Exterior dB level: Duration: If an audible alert sounds does the radio vo	VISUAL Location: (center) display center Wording: # showed shifter Selection moving to Park Nume change?
5 6	Reduced volume Reduced volume Attempt to restart vehicle in Neutral. Does YES- electronic key code appears to (Complete 6.1)	dio turns off INO change to radio volume the meantime) the vehicle restart? Describe any alerts activated. still be in vehicle
ř	NO- electronic key code does not ap (Complete 6.1 - 8)	opear to still be in the vehicle
	AUDIBLE ¹ Interior dB level: Duration: Exterior dB level: Duration:	VISUAL Location: Wording:

6.1 Start vehicle then turn vehicle off with transmission not in Park; wait ~30 sec again. TECH 1 exit vehicle and close door. Describe any alerts activated.

AUDIBLE ¹ Interior dB level: Duration: bowE Exterior dB level: Duration:	VISUAL Location: NowE Wording:
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7 TECH 2 attempt to push the vehicle. Is the vehicle free to roll?

YES- Apparent failure, the vehicle's transmission does not appear to have shifted to park as required

NO- Go to 8, the vehicle appears to have locked itself in Park

8 Does the Parking Brake appear to be on? (Check for Parking Brake Light)

YES- Apparent failure, the transmission appears not to have auto shifted to Park

NO- PASS, the vehicle's transmission appears to have auto shifted to Park

NOTES putting the vehicle in Park (or having the vehicle part itself in Park) also engages the parking (emergency) brake
Vehicle 2013 Toyota Prins 1

- 9 TECH 1 enter the vehicle with key fob
- 10 Start the vehicle in Park; Shift out of Park, then back into Park
- 11 With the propulsion system still activated, exit the vehicle leaving the key fob behind. Describe any alerts activated

Interior	AUDIBLE ¹		VISUAL
dB level; Duration: Exterior ルンルを dB level: Duration:		Location: NONE Wording:	

- 12 TECH 1 re-enter vehicle
- 13 Turn the vehicle off, then back on while still in Park; Shift out or Park, then back into Park
- 14 With the propulsion system still activated, exit the vehicle with the key fob. Describe any alerts activated

AL	JDIBLE ¹			VISUAL
Interior				
dB level: Duration: אסט ד		Location: Wording:	NONE	
Exterior dB level: 62 dB				
Duration: 3 bups				

PHOTOGRAPHS: vehicle front; vehicle rear; certification placard; tire placard; tires showing make, model, and size