TOYOTA

TOYOTA MOTOR NORTH AMERICA, INC.

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May 14, 2009

Ms. Kathleen C. DeMeter
Director
Office of Defects Investigation
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
Washington, D.C. 20690

Re: Response to the Petition for a Defect Investigation Submitted by Jeffrey Pepski

Dear Ms. DeMeter:

On March 13, 2009, Mr. Jeffrey Pepski submitted a petition for a defect investigation that requested the Office of Defects Investigation (ODI) to conduct "an additional investigation into the unwanted and unintended acceleration of model year 2007 Lexus ES350 [subject vehicle]." The petitioner is aware that ODI previously investigated acceleration issues in the Lexus ES350 vehicles (PE07-016), but he contends that that investigation "was too narrow in scope and did not adequately address all complaints made to the NHTSA."[1]

By way of background, Mr. Pepski owns a subject vehicle. He contends while driving his vehicle on February 3, 2009, he experienced "a sudden uncontrollable surge in acceleration." Soon thereafter, Mr. Pepski submitted a complaint and a claim to the Lexus Customer Satisfaction Department, in which he requested that Lexus repurchase his vehicle.

As reflected in the work order prepared by the Lexus dealer service technician who looked at Mr. Pepski's vehicle immediately after the incident, the floor mat at the driver's position was not clipped in place.[2] Based on an inspection of the vehicle, Toyota concluded that the incident was due to entrapment of the floor mat under the accelerator pedal, and the company therefore denied his claim on March 10 (a copy of that letter is attached). Mr. Pepski is

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[1] Mr. Pepski also requested "an additional investigation of model years 2002-2003 Lexus ES300" vehicles to address issues that were "not within the scope of an earlier investigation (PE04-021) closed on July 22, 2004." However, his petition contains virtually no information supporting this request, and therefore there is no basis on which to reopen that investigation.

[2] Mr. Pepski stated that this was the floor mat that came with the vehicle as original equipment. He also stated that he did not purchase the all-weather floor mats that were the focus of PE07-016.

dissatisfied with that denial, and he contends that the incident that he experienced was unrelated to the floor mat. He submitted a complaint to ODI via the Internet on March 12 (ODI Complaint No. 10261660), and he submitted this defect petition one day thereafter.

As you are aware, ODI has previously considered the issue of alleged unintended acceleration in the subject vehicles. As explained below, Mr. Pepski has not identified any new evidence or new issues that would warrant an additional investigation, and therefore his petition should be denied. However, because he has made several arguments that ODI did not consider during its prior investigation (because they have no bearing on the alleged defect), Toyota Motor North America, Inc. (Toyota), is submitting this response. We will respond separately to each of the seven "issues" raised in the petition.

Issue # 1

Mr. Pepski contends that Toyota's response to ODI's April 5, 2007 information request (IR) in PE07-016 "may have been limited in some manner by the failure to properly address the appropriate parties to the investigation," and that the IR should have defined Toyota "more broadly to include all US incorporated subsidiaries of TMC regardless of level or tier." Toyota hereby confirms that it construed the request to apply to all Toyota entities, including the entities identified by Mr. Pepski, and that its earlier responses included all non-privileged responsive information and documents in the possession of all of those Toyota entities. Therefore, this purported "issue" provides no basis for granting the petition.

Issue # 2

Mr. Pepski notes that Toyota's response to the IR in PE07-016 "implies that not all allegations of incident . . . were related to the improper installation of the all weather floor mat in the driver's foot well." Toyota agrees that there have been some allegations of unintended acceleration on the subject vehicles that do not appear to be related to interference with the floor mat. However, the limited number of such incidents does not suggest the existence of a safety-related defect in these vehicles. Moreover, ODI was aware of such reports at the time it closed the PE, so Mr. Pepski's reference to them at this time does not provide any basis for granting his petition.[3]

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[3] At page10 of his petition, Mr. Pepski identifies a number of VOQs that complain of unintended acceleration in the subject vehicles that, in his view, were not related to interference with the floor mat. Toyota has reviewed each of those VOQs. While we agree that these owners assert that that the floor mats were not involved in the incidents in question, that does not mean that the floor mats were, in fact, uninvolved. For example, Mr. Pepski continues to assert that his incident was not caused by interference between the floor mat and the accelerator pedal, despite clear evidence to the contrary.

Issue # 3

Mr. Pepski notes that ODI has received reports alleging unintended acceleration in the subject vehicles that is unrelated to the all-weather floor mats in addition to the ten vehicle owner questionnaires (VOQ) that the agency knew of at the time it originally opened PE07-016.[4] However, he concedes that ODI was fully aware of these reports at the time it closed that investigation. Therefore, as with Issue # 2, the existence of these reports does not provide any basis for reopening that investigation.

Issue # 4

Mr. Pepski asserts that the Electronic Throttle Control System (ETCS) in the subject vehicles "does not satisfy the requirements of Standard No. 124; Accelerator control systems, specifically S5.1 and S5.3 . . . ." There is no basis for that assertion.

S5.1 of FMVSS No. 124 provides:

> There shall be at least two sources of energy capable of returning the throttle to the idle position within the time limit specified by S5.3 from any accelerator position or speed whenever the driver removes the opposing actuating force. In the event of failure of one source of energy by a single severance or disconnection, the throttle shall return to the idle position within the time limits specified by S5.3, from any accelerator position or speed whenever the driver removes the opposing actuating force.

Mr. Pepski appears to believe that because the sensors in the ETCS in the subject vehicles "do not measure either any force/pressure to the driver-operated control or any release of the actuating force to the driver-operated control (i.e., accelerator pedal)," the vehicles fail to comply with the standard. However, as NHTSA well knows, the FMVSSs are performance standards and do not mandate any specific design or designs. In fact, the throttle control system in the subject vehicles fully complies with the requirements of FMVSS No. 124, as demonstrated by tests conducted in the manner specified in the laboratory test procedure issued by NHTSA's Office of Vehicle Safety Compliance (OVSC), TP-124-06 (April 20, 2000).[5]

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[4] Mr. Pepski refers to reports provided by Toyota in the IR response and information received by ODI in response to a survey that it conducted during its investigation.

[5] Because the vehicles fully comply with the standard, it is obvious that there is no merit to Mr. Pepski's allegations that Toyota violated 49 U.S.C. § 30112(a) when it sold those vehicles, or that it violated 49 U.S.C. § 30115(a) when it certified them as complying with all applicable FMVSSs.

Issue # 5

Mr. Pepski asserts that the difficulty that he experienced in trying to stop his vehicle during the February 3 incident, coupled with reports from other complainants describing similar difficulties, indicates that it is "unlikely" that the subject vehicles satisfy the requirements of S7.11.4 of FMVSS No. 135, "Light vehicle brake systems." S7.11.4 of that standard provides:

> The service brakes on a vehicle equipped with one or more brake power assist units or brake power units, with one such unit inoperative and depleted of all reserve capability, shall stop the vehicle as specified in S7.11.4(a) or S7.11.4(b).
>
> (a) Stopping distance from 100 km/h test speed: <= 168 m (551 ft).
> (b) Stopping distance for reduced test speed: $S <= 0.10V + 0.0158V^2$.

There is absolutely no merit to the petitioner's assertion. For ODI's convenience, Toyota has enclosed a copy of the relevant portions of the test report it submitted to the Office of Vehicle Safety Compliance for the 2009 MY demonstrating such compliance.[6]

Issue # 6

Mr. Pepski has also criticized the manner in which the starting system[7] in the subject vehicles functions. However, his description of that system is not accurate (his confusion is apparently due to a misunderstanding of language that appears in the Owner's Manual for the subject vehicles), and thus his criticisms do not warrant further investigation.

The subject vehicles have a starting system that does not utilize a traditional metal ignition key. Rather, when a fob that contains an electronic code is present, the driver can start the vehicle's engine by pressing a button located on the instrument panel while depressing the brake pedal. When the vehicle is stopped, the driver can stop the engine by simply pressing this button again. However, if the driver wishes to shut off the engine while the vehicle is in motion, he or she must press the button for approximately three seconds. The purpose of this feature is to avoid the possibility that a driver might inadvertently shut off the engine while the vehicle is in motion by accidentally pressing or brushing against the button.

Mr. Pepski does not criticize the fact that the starter button must be pushed for three seconds to shut off the engine. Rather, he is concerned about the safety consequences if a vehicle's steering wheel were to lock while the vehicle is in motion, or if the steering wheel were to automatically move away from the driver while the vehicle is in motion, and he believes that both of these things would occur if the engine in the subject vehicles is turned off by pressing the start button for three seconds.

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[6] Mr. Pepski may be under the misconception that a vehicle must be able to satisfy the specified requirements of FMVSS No. 135 while the throttle pedal is depressed and the transmission is in a forward gear. Of course, that is not accurate. *See* S7.11.2(b), which specifies that the transmission is "in neutral" when this test is conducted.

[7] This term is defined in FMVSS No. 114, "Theft protection and rollaway prevention," as "the vehicle system used in conjunction with the key to activate the engine or motor."

Toyota agrees that it would not be appropriate for the steering wheel to lock or for it to move automatically to the stowed position while a vehicle is in motion. However, neither of these scenarios can or will occur in the subject vehicles. Mr. Pepski's assertions to the contrary are based on language in the Owner's Manual, which contains a description of the starting system in these vehicles that may be confusing.

For example, at page 95, the Owner's Manual states: "The engine cannot be switched to OFF unless the shift lever is in P." As an example, in order to be more clear, the Manual should have used the word "vehicle" instead of the word "engine" in that sentence, since – as described above – the engine ***can*** be shut off by depressing the starter button for three seconds even if the transmission is not in "Park." If that occurs, the electronic code that allows the driver to activate the engine, and which constitutes the vehicle's "key," will remain in the vehicle until the transmission is moved to "Park," and the key-locking system of the vehicle will remain in the "accessory" (ACC) mode, rather than the "OFF" mode. This is consistent with – indeed is required by – S5.2.1 of FMVSS No. 114. Toyota plans to revise this portion of the manual to address any confusion in the near future.

The Owner's Manual for the subject vehicles states, at page 38, "When the engine switch is turned OFF, the steering wheel returns to its stowed position by moving up and away to enable easier driver entry and exit. Switching to ACC or IG-ON mode will return the steering wheel to the original position." While this section of the manual is technically correct, the steering wheel will not move to the stowed position because, as described above, the vehicle will remain in the ACC mode rather than the OFF mode if the engine switch is actuated with the transmission in any position other than "Park."

Since the scenarios that concern Mr. Pepski cannot occur in these vehicles, there is no reason to grant his petition with respect to this "issue." Moreover, even apart from the specific matters raised by Mr. Pepski, Toyota believes that it would not be appropriate for ODI to address issues related to the operation of keyless starting systems through a defect investigation. FMVSS No. 114 contains detailed requirements applicable to such systems, and there is no doubt that the subject vehicles comply with those requirements. If the agency were to consider the possibility of establishing additional requirements applicable to starting systems, it should proceed through a rulemaking proceeding, rather than through one or more defect investigations

Issue # 7

Although the issue that troubles Mr. Pepski is not articulated very precisely, he appears to criticize the fact that the engine control module (ECM) in the subject vehicles does not automatically shut off fuel to the engine when the brake system's power assist feature is being used. As mentioned above, the vehicle fully complies with FMVSS 124 and FMVSS 135.

For the reasons noted with respect to these prior issues, the analysis of this sort of design choice is not an appropriate subject for a defect investigation. If NHTSA believes that it should look into the possibility of imposing requirements applicable to the functioning of ECMs, it should do so in the context of a rulemaking proceeding, in which all interested persons could participate, rather than in the context of a defect investigation.

CONCLUSION

For all of the reasons stated above, the petitioner has not alleged facts to support his claim that the subject vehicles contain a safety related defect. Therefore, Toyota believes the petition should be denied. Should you have any questions about this letter, please contact myself or Mr. Chris Santucci of my staff at (202) 775-1707.

Sincerely,

TOYOTA MOTOR NORTH AMERICA, INC.

Chris Tinto
Vice President
Technical & Regulatory Affairs

CT:cs
Attachment

TOYOTA

Writers Direct Telephone (310) 468-5638
Writers Direct Fax (310) 381-5017

Toyota Motor Sales, U.S.A., Inc.
19001 South Western Avenue
Torrance, CA 90501

March 10, 2009

JEFF PEPSKI
[redacted]
PLYMOUTH MN [redacted]

Re: Date of Loss: February 2, 2009
Vehicle: 2007 Lexus ES 350
VIN: JTHBJ46G072[redacted]

Dear Mr. Pepski:

This letter is in response to your communication with Lexus Customer Satisfaction. Toyota Motor Sales, USA, Inc. ("TMS") has reviewed your claim and conducted a technical inspection of your vehicle.

You reported that while driving the vehicle on the interstate it accelerated on its own and you were unable to stop it for nearly two miles when it finally slowed after a concerted effort on your part. You believe that this was due to a defect in your vehicle.

The inspection of your vehicle revealed no evidence of any vehicle defects or malfunction. The throttle assembly and accelerator pedal were operating as designed, with no binding or sticking of any of the components. The brakes showed signs of excessive wear which is consistent with what you described happened to you.

The inspection also revealed that the floor mat was in a position where it could interfere with the operation and travel of the accelerator pedal. When the vehicle was taken in to the dealership, the floor mat retaining clips were not properly secured which allowed the floor mat to move out of position. While we understand that you feel the floor mat was not the problem, the evidence revealed during our inspection showed otherwise.

We are very sorry about to learn of this unfortunate incident, however, our inspection of your vehicle found that the incident was not due to any sort of manufacturing or design defect, and we are unable to offer additional assistance.

Thank you for allowing us the opportunity to address your concerns.

Very truly yours,

Troy H. Higa
Claims Administrator

Attachment 1
FORM – 135
Rev. 10/10/08

VEHICLE INFORMATION / TEST SPECIFICATIONS

FMVSS No. 135
(Specify Units)

Vehicle Make/Model/Year: LEXUS ES350 2009MY

MANUFACTURER RECOMMENDED BRAKE ADJUSTMENT PERFORMED AFTER 200 STOP BURNISH:

■ Making stops, define: _____

_____

BRAKE SYSTEM INDICATOR LAMP LABELING, OPERATION & IGNITION KEY CHECK:

☐ Single lamp ■ Multiple lamps

CONDITION(S) INDICATED:

☐ Pressure differential or ■ Drop in fluid level

LAMP ON AT:

Pressure _____ Pedal Force _____

OR

LOW FLUID:

Reservoir full 324cc Lamp on at 121cc

Manufacturer recommended safe level of reservoir _____

ELECTRICAL FAILURE:

■ Antilock ■ Variable Proportioning

PARKING BRAKES ON:

■ Ignition Key Check – All Lamps ■ Yes ☐ No

ELECTRICALLY ACTUATED SERVICE BRAKES:

Failure of power source ■ Yes ☐ No

ELECTRIC TRANSMISSION OF SERVICE BRAKE CONTROL SIGNAL:

■ Yes ☐ No

EV WITH RBS, FAILURE OF RBS:

■ Yes ☐ No

POWER BRAKES:

☐ Not Available ■ Vacuum

☐ Hydraulic ☐ Power Assist Unit

☐ Brake Power Unit ☐ Accumulator

☐ Electrically Actuated ☐ Electrical Backup

MASTER CYLINDER PISTON DIAMETER:

Primary 22.2mm Secondary 22.2mm

SERVICE BRAKE PEDAL RATIO: 2.61 to 1

PARKING BRAKE:

☐ Front Wheels ■ Rear Wheels

☐ Drive Shaft Brake ☐ Service Brake Linings

■ Non-service Brake Linings

Note: For non-service brake linings, submit a copy of the burnish instructions provided to vehicle owners.

☐ Hand Control ■ Foot Control Ratio 5.18~5.84 ~~to 1~~

Parking Mechanism ■ Yes ☐ No

Describe: Have your Lexus dealer perform the bedding-down.

PRESSURE VALVE:

☐ Metering _____ ☐ Reblend _____

☐ Proportioning _____

Ratio _____ to 1

☐ Variable Proportioning -- ☐ Mechanical ■ Electrical

Note: For either, submit procedure to render inoperative: _____

NA

HYDRAULIC SPLIT:

■ Diagonal ☐ Front/Rear ☐ Other

ANTISKID SYSTEM:

☐ Not Available ■ 4-wheels ☐ Rears Only

☐ Other Manufacturer _____

> ***Submit procedure for rendering ABS inoperative*** (provide sufficient detail for laboratory personnel including step by step, schematics, wiring diagrams, photos, etc…)

Remove the wire of ABS ECU unit.

MASTER CYLINDER RESERVOIR:

Reservoir Capacity: 324cc

Fluid displaced new to worn linings: 121cc

Subsystem 1 capacity: 33cc

Subsystem 2 capacity: 33cc

Primary system fluid output for single stroke of master cylinder: 9.7cc

Secondary system fluid output for single stroke of master cylinder: 9.7cc

FOR VEHICLES EQUIPPED WITH REGNERATIVE BRAKING SYSTEM (RBS):

Additional Manufacturer Recommended Procedures:

> ***Submit procedure for rendering RBS inoperative*** (provide sufficient detail for laboratory personnel including step by step, schematics, wiring diagrams, photos, etc...)

NA

FOR VEHICLES EQUIPPED WITH BATTERIES FOR PROPULSION OR BRAKING:

> ***Submit procedure for depletion or disconnection of batteries*** (provide sufficient detail for laboratory personnel including step by step, schematics, wiring diagrams, photos, etc...)

NA

FRONT BRAKES:

DRUM:

☐ Cast ☐ Composite

☐ Duo Servo ☐ Leading/Trailing

☐ Finned ☐ Leading/Leading

DISC:

■ Cast ☐ Fixed Caliper

☐ Multi-piece ■ Float Caliper

■ Vented ■ Pin ☐ Slider

SIZE:

Drum Inside Diameter _____

Disc Diameter 296 mm

Disc Thickness 28mm

LINING SIZE:

Primary Pad:

Length _____

Width _____

Thickness _____

Inboard Pad:

Length 127.8mm

Width 49.5 mm

Thickness 12.0 mm

Secondary Pad:

Length _____

Width _____

Thickness _____

Outboard Pad:

Length 127.8 mm

Width 49.5 mm

Thickness 12.0 mm

Fully Worn Pad Thickness: _____

Fully Worn Pad Thickness: 6.5mm

LINING INSTALLED DIMENSIONS (Nominal Production Values):

Drum Shoe Cage Diameter _____
(Outside Diameter of Shoe Cage Diameter)

Diametral Clearance _____
(Drum Diameter – Shoe Cage Diameter)

Disc-Clearence To Lining:

Inboard 0

Outboard 0

LINING CODES:

Primary _____

Secondary _____

Inboard _____

Outboard _____

LINING ATTACHMENT:

	BONDED	RIVETED
Primary	☐	☐
Secondary	☐	☐

	BONDED	RIVETED
Inboard	■	☐
Outboard	■	☐

Wheel Cylinder Diameter: _____

Caliper Bore Diameter: 63.5mm

Calipers Per Wheel: 1

Non-Service Parking Brake Type and Size (specify) _____

REAR BRAKES:

DRUM:

☐ Cast ☐ Composite

☐ Duo Servo ☐ Leading/Trailing

☐ Finned ☐ Leading/Leading

DISC:

■ Cast ☐ Fixed Caliper

☐ Multi-piece ■ Float Caliper

☐ Vented ■ Pin ☐ Slider

SIZE:

Drum Inside Diameter _____

Disc Diameter 281mm

Disc Thickness 10mm

LINING SIZE:

Primary Pad:

Length _____

Width _____

Thickness _____

Inboard Pad:

Length 80.6mm

Width 41.5mm

Thickness 10.5mm

Secondary Pad:

Length _____

Width _____

Thickness _____

Outboard Pad:

Length 80.6mm

Width 41.5mm

Thickness 10.5mm

Fully Worn Pad Thickness: _____

Fully Worn Pad Thickness: 6mm

LINING INSTALLED DIMENSIONS (Nominal Production Values):

Drum Shoe Cage Diameter _____
(Outside Diameter of Shoe Cage Diameter)

Diametral Clearance _____
(Drum Diameter – Shoe Cage Diameter)

Disc-Clearance To Lining:

Inboard 0

Outboard 0

LINING CODES:

Primary _____

Secondary _____

Inboard _____

Outboard _____

LINING ATTACHMENT:

	BONDED	RIVETED
Primary	☐	☐
Secondary	☐	☐

	BONDED	RIVETED
Inboard	■	☐
Outboard	■	☐

Wheel Cylinder Diameter: _____

Caliper Bore Diameter: 38.1mm

Calipers Per Wheel: 1

Non-Service Parking Brake Type and Size (specify) Drum in hut D170mm

FMVSS No. 135 DATA SUMMARY - MANUFACTURER TEST RESULTS

(Use sample table below or similar to provide results)

MY: 2007 / Make: LEXUS / Model: ES350

GVWR: 2127kg LLVW: 1866kg

TEST	Loading Condition	Specification and Limit				TEST RESULTS (In compliance if one stop meets requirement)		
		Speed (km/h)	Min. Pedal Force (N)	Max. Pedal Force (N)	Stopping Distance Requirement (m)	Shortest Stop Minimum Pedal Force (N)	Shortest Stop Maximum Pedal Force (N)	Shortest Stop Stopping Distance (m)
Vehicle Maximum Speed	LLVW	228						
Cold Effectiveness	GVWR	100	65	500	70 m		490	46.1
High Speed Effectiveness	GVWR	160	65	500	speed dependant		460	115.9
Stops with Engine Off	GVWR	100	65	500	70 m		480	45.4
Cold Effectiveness	LLVW	100	65	500	70		475	43.4
High Speed Effectiveness	LLVW		65	500	speed dependant		470	110.1
Failed Antilock	LLVW	100	65	500	85		265	49.6
Failed Proportioning Valve	LLVW	100	65	500	110			
Failed Hydraulic Circuit #1	LLVW	100	65	500	168		500	83.2
Failed Hydraulic Circuit #2	LLVW	100	65	500	168		490	83.5
Failed Hydraulic Circuit #1	GVWR	100	65	500	168		470	92.1
Failed Hydraulic Circuit #2	GVWR	100	65	500	168		475	93.4
Failed Antilock	GVWR	100	65	500	85		370	51.2
Failed Proportioning Valve	GVWR	100	65	500	110			
Signal Transmitted Electrically, RBS, Electrically Actuated Brakes								
Power Brake Unit Failure	GVWR	100	65	500	168		500	127.8
Depleted EV batteries								
Parking Brake - Uphill	GVWR	B	B	B	B		330	
Parking Brake - Downhill	GVWR	B	B	B	B		270	
Hot Performance Stop #1	GVWR	100	65	460	68.2		450	47.7
Hot Performance Stop #2	GVWR	100	65	500	89		475	48.0
Recovery Performance Stop	GVWR	100	65	460	59.9		455	43.9