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To: NHSTA

The following correspondence describes the spurious acceleration events I have had with my 2000 Lexus LS400. These events occurred between May 2004 and Sept 2006. These events occurred with my foot not on the accelerator pedal.

N. Talsoe

Recent Correspondence

9/15/06

Service Manager
Lexus of Wayzata
cc: Lexus Corporate
NHSTA

Dear Sirs,

The following brief letter describes a self acceleration condition that exists in my 2000 Lexus LS400. Prior occurrences happened in 2004 and more recently between June-Sept 2006.

Since the below reported incidents of 2004 nothing happened again until the last three months. In that period I have again had 3 incidents of self-acceleration. The first occurred at a stop sign where, luckily there was no car in front of me, my LS400 lurched forward as I took my foot off the brake to start moving. Again it took about 3 lurches with me pressing as hard as I could on the brake while going for the shift to get it in neutral. As soon as I got it in neutral it stopped and there was no sign of the engine running at a higher speed. The second happened when I was pulling into my garage where it lurched forward, again about 3 times before getting it in neutral. The third happened while I was pulling into a parking space where I had just shifted forward with my foot on the brake and the car leapt forward, luckily I was a good distance from the car in front of me, again about 3 lurches while my foot was on the brake before I was able to shift to neutral. A woman passing by was parallel to the car in front of me and put her arms up in horror and jumped back because she was sure I was going to hit the car. If I had the presence of mind I would have gotten her name for a witness.

I want to **re-emphasize** that I do not use both feet (one on the brake and one on the accelerator in driving) and in all the incidents I was pressing as hard as I could on the brake during the 3 surges as I went to shift to neutral. The power of those lurches would move the car forward, I would guess, 6 inches to a foot. It felt like the car was having the accelerator pressed 3 separate times while I was pressing as hard as I could on the brake.

As I have stated in the previous correspondence, I am an engineer by training with experience in trouble shooting intermittent problems. While I can sympathize with the difficulty in trouble shooting low probability events I can't endorse ignoring them, especially when the consequences can cause death or significant damage.

While a recall is impractical because the event probability is low and the very nature of the problem makes it impossible to determine what cars coming out of production have the problem, the minimum acceptable step is to do research on the problem. **NHSTA should work to insure that automobile manufacturers expend such an effort.** Unless the car manufacturers develop the technique of sensing whether simultaneous acceleration or pulsed acceleration is occurring during a braking event they will never know that it happens because they aren't looking for it. The net result is that in reporting such events the driver takes the blame from a presumed case of mistakenly stepping on the accelerator instead of the brake pedal. With such sensing the technician can look at the event codes and see whether such an occurrence happened.

E. Edison
9/22/06

September 15, 2006

Because of the problem I have traded my car in for a 2003 Lexus causing me to spend money that I wouldn't have otherwise spent. The LS series is a wonderful car and I would have probably kept the 2000 for up to 120,000 miles. **My concern is for the danger it represents to whoever might buy it.** In an ideal world corporate sensitivities, to such customer risk, would have them **capture the car for research** because there have been 6 recorded events. Hopefully such research could save future lives or at least minimize future damage or injury. From my perspective I would strongly recommend the research. After all it should be the natural step for Toyota who is the world leader in quality and reliability.

Sincerely



Prior correspondence

May 24, 2004

Service Manger
Lexus of Wayzata

Dear Sirs:

This letter was written to highlight a dangerous condition that has developed on a recently purchased 2000 Lexus LS 400. The condition is as follows:

Coming back from Rochester a month ago we stopped at the traffic light in Cannon Falls. When the light changed, as I released my foot from the brake, the car unexpectedly leaped forward causing me to immediately again slam on the brakes after which time it tried to accelerate against the braking several times again. I made a mental note that I would have to have it looked at. Several weeks later it happened again but not as violent. Last Saturday May 24, 2004 as I was driving in to have Lexus look at the problem it happened for a third time - -- but very violent. As I released my foot from the brake the car leapt forward causing me to again brake after which time it continued to try and leap forward about six times while I had my foot on the brake as hard as I could press. The force of acceleration was such that it felt like it moved between 6"-12" on every surge under braking conditions that I was bracing myself in pulling on the steering wheel to get more leverage on the brakes. Finally I had the presence of mind to shift into Neutral after which the condition stopped. I came very close to hitting the car in front of me before it moved out of range. ***Be very clear about one thing --- this is not an incident where I accidentally hit the accelerator with my foot or was the result of using both feet (one on the brake and one on the accelerator) to drive -- I do not use both feet.***

The 3 occurrences in a month suggest that it will happen approximately every 333 miles since I drive about 1000 miles/month. Or on a time basis it will occur about every 240 hours based on this small sample. The uniformity of the surges would seem to suggest that they happened at about a 100-cycle rate. Based on my experience in troubleshooting similar low probability events as an engineer in the disk drive industry for close to 45 years I would guess that one of the chips that controls the fuel injection system is conditionally stable to where something will drive it into oscillation at 100 cycles without any manual input from the accelerator. If the source can be isolated to a card containing such a chip that card should be margin checked to see if the input variables can be stimulated to duplicate the condition. Perhaps a sweep with an oscillator would show up a resonance condition that would highlight a conditionally stable condition. It should be pointed out that whatever card it turns out to be it will be a very valuable card and should be treated with "kid gloves" because it holds the conditions for a very dangerous "rare event." Having it available for failure analysis by the proper engineering talent would be crucial.

From my recollection, a similar event happened several years back where during the Holiday parade during winter a Ford Van unexplainably accelerated leaping forward crushing and killing a man between the van and a brick wall. The driver claimed that the van "took off" on its own and the defense was that the automobile diagnostics showed no problem. I think that finally the driver was convicted in the accident. However, it should be pointed out that if the diagnostics do not specifically look for the condition where there is an attempt

to accelerate while braking it would be impossible to separate the condition from a normal acceleration event. It seems plausible that there are generic control chips used by the automobile industry that could cause such events in any automobile. Therefore, in my estimation, solving and understanding this problem should be an extremely high priority especially for a reliability, quality conscious company like Toyota.

Before I will drive the car again there are several things that must occur:

1. I must be told of the plan and the procedure to correct the problem and be satisfied that it has a chance of correcting the problem.
2. Lexus must keep the car (with someone from Lexus being the driver) for a month after the cure to insure that no similar events happen.
 - Lexus must assume insurance liability for the vehicle during this time.
 - Extreme care must be exercised by whoever drives the car to stay a safe distance from anyone in front of them in case the event occurs again.
3. I would want assurances that design steps would be taken to lock the condition out from occurring by adding the necessary software/hardware to sense the potentially fatal condition in the future if I were to continue being a customer.

Lacking any of the above I would look to replace my vehicle with an equivalent value automobile.

On the presumption that the problem would be fixed to the best of everyone's knowledge, I would, as a defensive measure, share this letter with my insurance agent and lawyer to protect me in the case the problem is not cured and that the event happens again causing an accident.

Sincerely,
Norm Talsoe

The above was the original letter sent to the Service Manager of Lexus of Wayzata in Wayzata Minnesota. Since that time I have researched this phenomena on the Web and found that Toyota has had similar complaints in the past on LS 400's and ES 300 and even had an investigation by the **National Highway Traffic Safety Administration** to look into the matter. *Mistakenly* the NHTSA came to the conclusion that the incidents were caused by drivers inadvertently pressing on the accelerator because the normal diagnostics did not show the problem. While I don't deny that maybe everyone did the best they could I would suggest that it wasn't good enough.

When chasing a problem that occurs infrequently it is hard enough to figure out even when there is a proactive plan to go after a solution. This means that you have to take the automobile or the suspected cards and do testing on something that is claimed to fail in order to even have a chance of nailing the problem. Hence most of the response could be expected to be defensive by **showing that diagnostics that aren't geared to check for the problem symptoms** will show that everything is normal. I would guess that there is nothing in the diagnostics that checks for simultaneously having the brakes on while the car is attempting to accelerate, or that there is an acceleration profile above which the event is considered abnormal. One thing is for sure: "If you aren't looking for the problem you won't find it."

To find this problem would take design-engineering time into the car itself in trying to set up sensing that looks for simultaneous braking and acceleration or by inserting noise or sweep frequencies to try and stimulate the condition. It is possible that over time contacts corrode etc that alter the interconnect impedances and may increase ground loops sensitivities that could trigger a blocked oscillation. The fact that the automobile took at least 6 leaps forward under severe braking suggests that a blocked oscillation was occurring. In my past experience in troubleshooting disk drive noise problems I have fed 600-volt pulses between different ground points to study grounding strategies to minimize conductive noise loops. Typically I was able to double or triple the noise immunity to such inputs. The previous are but some thoughts that come to mind in pursuing the problem. I would be very interested in working with any engineer assigned to the problem in trying to arrive at a solution.

Norm Talsoe

September 15, 2006

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