



U.S. Department of Transportation

National Highway Traffic Safety Administration

# Memorandum

Vehicle Research and Test Center P.O. Box B37  
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SEP 30 2009

Subject: REPORT: Vehicle and Crash Site Inspection of 2009  
Lexus ES-350, VIN JTHBJ46G792282025

Date:

From: Bill Collins *Bill Collins*  
Investigator and Interviewer,  
Engineer, Vehicle Research and Test Center

Reply to NVS-310  
Attn. Of:

To: Kathleen DeMeter  
Director, Office of Defects Investigation

NVS-210

Through: Roger Saul *Roger A Saul*  
Director, Vehicle Research and Test Center

Present at time of inspection:

NHTSA Bill Collins;  
NHTSA Stephen McHenry;  
California Highway Patrol, Officers from the Multi-Disciplinary Accident Investigation Team;  
San Diego Sheriff's Department, Officers from the Santee Post

Date of Inspection: 09/03/2009

Owner: Bob Baker Lexus Dealership (Loaner Car), 1000 Arnele Avenue, El Cajon, CA 92020

Vehicle condition at time of inspection: Catastrophic damage caused by severe frontal impact, roof impact, side impact, & fire damage. The driver's seat buckle was observed in a closed, connected condition.

Narrative: All four occupants were killed at 6:38PM on August 28<sup>th</sup>, 2009 at the T-intersection of Highway 125 and Mission Gorge Road in Santee, California. The vehicle was a loaned Lexus ES-350 traveling at a very high rate of speed that failed to stop at the end of Highway 125. It entered the T-intersection and collided with a Ford Explorer. The Lexus continued on past the end of the T-intersection and struck an embankment, at which time it became airborne. The Lexus eventually came to rest in a dry riverbed where it burned for an extended period of time. The driver, Mark Saylor was a 19 year veteran of the California Highway Patrol. The vehicle was loaned to the driver, Mr. Saylor by Bob Baker Lexus while Mr. Saylor's vehicle was in for service.



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Disposition of Event Data Recorder: The EDR was observed intact in the vehicle with minor fire damage. It remains in the vehicle under the custody of the San Diego Sheriff's Department and is being stored at a contracted wrecking service facility. No attempts to retrieve data from the EDR have yet been made.

911 Record: The California Highway Patrol has a digital recording of the 911 call that lasted approximately less than one minute and terminated with the crash.

Crash sequence:

1 - The first impact was a slightly offset frontal crash with a slow moving Ford Explorer. Estimated speeds are near 100 mph.

2 - The second impact resulted when the car traveled beyond the T-intersection into an approximately 6 foot tall earthen barrier with a 45 degree slope. The vehicle significantly gouged this slope as it ramped it and went airborne.

3 - The third impact occurred as the vehicle touched down along the downward slope of a riverbed. It is believed this impact caused the roof crush. The car appears to have again become airborne at this point.

4 - The fourth impact was into a slightly upward slope of the river bed. Here the right front part of the vehicle landed first onto the ground as it came to the final resting place and caught fire.

Cause of crash – Very excessive speed- According to the 911 call made by the brother-in-law sitting in the back seat of the Lexus, the accelerator pedal was depressed in a full power condition and attempts by the driver to release the pedal were unsuccessful.

Other significant factors:

- 1- Accelerator Pedal – The pedal is made from a composite plastic that forms a rigid, one-piece lever. Beyond the main pivot, the lever is not hinged and has no means for relieving forces caused by interferences. Upon removing the pedal from the vehicle, the rotating motion of the pedal assembly was confirmed to still be operational. The return spring action was smooth and unencumbered.
- 2- Upon inspection of the crashed vehicle, it was found that an all-weather floor mat bearing the Lexus insignia was present in the driver's foot well vehicle with very minor fire damage. The mat was not secured by either of the two retaining clips. The right clip was installed into the grommet of the carpeting but not installed into the mat. The left clip was found under the middle of mat but was not clipped to either the carpet or the rubber mat. Removal of the mat was difficult because the bottom edge of the accelerator pedal had melted to the upper right corner of the mat. Further inspection of the mat revealed that while it was a Lexus brand mat, it was not the correct application for the vehicle. The mat part number was stamped and still visible on the reverse side. It read "PT 48050

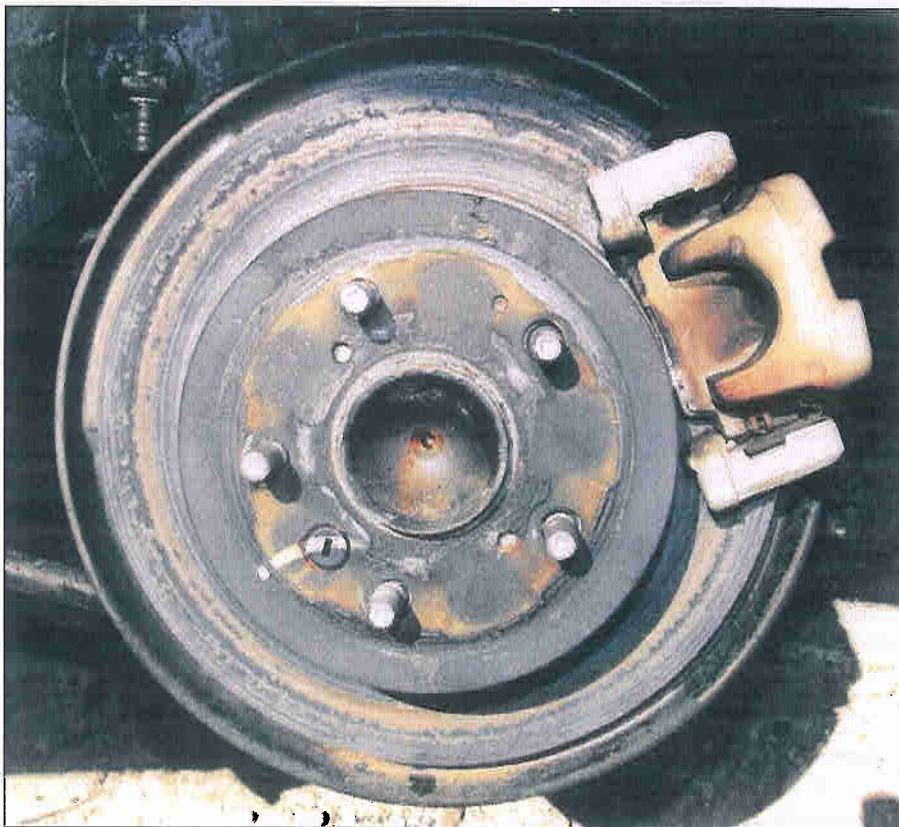
PT908 – 48060 Front Driver >TPF< 170”. When referenced, this part number indicates that it is used in a 2005-2009 Lexus RX400H sport utility vehicle.

- 3- Push Button Ignition Start with no Emergency Instantaneous Shut off device – In the event that this vehicle was producing unwanted power, there was no ignition key that could be mechanically actuated to instantaneously disconnect electrical power to the engine. In place of the key is a software push button that delays engine shutdown for three seconds once depressed. This instruction is not indicated on the dashboard.
- 4- The brake pads and rotors were inspected for heat generated by emergency braking. While there was significant fire damage to the majority of the vehicle, the pads, rotors, and calipers could still be observed. The left front wheel assembly and suspension were torn from the vehicle in the crash and had not been involved in the fire. Other rotors on the vehicle generally exhibited similar conditions. Rotors were discolored and heated, had very rough surfaces, had substantial deposits of brake pad material, and showed signs of bright orange oxidation on the cooling fins consistent with endured braking. Pads were melted and rough with a considerable amount surface material dislocated to the leading edge. The friction surfaces were burned but somewhat reflective. The edges of the pads were bubbled. The calipers were also heat discolored with heat patterns in the area adjacent to the rotor.
- 5- According to information provided by the San Diego Sheriff's Department at the time of inspection indicated that the crashed vehicle had been loaned by Bob Baker Lexus to another customer immediately prior to loaning it to Mr. Saylor. The previous customer using the loaner car reported an unwanted acceleration event. At the time, he alleges he experienced speeds in excess of 80 mph but successfully placed the vehicle into Neutral and the car began to slow down. The customer identified that the all-weather floor mat was causing the interference with the accelerator pedal. When he pulled the mat away from the pedal, the vehicle returned to idle. The customer complained about the unwanted acceleration when he returned the vehicle to the dealership

Crash vehicle photographs:



**Figure 1 - Subject Vehicle 2009 Lexus ES-350 – Front**



**Figure 2 - Rear Left Caliper and Rotor Exhibiting Signs of Endured Braking**



**Figure 3 - Driver's Compartment with Lexus All Weather Floor Mat**



**Figure 4 - All Weather Floor Mat Removed from Driver's Footwell, Bonded to Lower Edge of Accelerator Pedal Assembly**

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