



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

# Memorandum

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Subject:	Test Request: Evaluation of Power Window Master Switches	Date:	July 23, 2012
From:	Frank S. Borris, Director Office of Defects Investigation	Reply to Attn of:	NVS-212mjl EA12-006
To:	Roger Saul, Director Vehicle Research and Test Center		

This memorandum requests the Vehicle Research and Test Center (VRTC) to conduct the testing and evaluation as described below.

## **BACKGROUND:**

The Office of Defects Investigation (ODI) is conducting an Engineering Analysis (EA12-006) concerning fires and thermal events originating in the Power Window Master Switch (PWMS) assemblies in approximately 1.4 million model year (MY) 2007-2009 Toyota Camry, Camry Hybrid, RAV4 and Yaris vehicles built approximately from September 2006 through August 2008, as well as all MY 2008 Toyota Highlander Hybrid vehicles. These vehicles are experiencing a higher rate of fire and thermal event incidents when compared to peer vehicles.

The PWMS assemblies installed in the subject vehicles were built using two different methods for applying the grease to the sliding contact modules in the PWMS assembly, while only one grease application method was used for PWMS assemblies installed in peer vehicles.

**OBJECTIVES:** The objectives of this test program are to evaluate and/or determine: 1) any potential root causes of the fires and thermal events; 2) possible failure modes and mechanisms; 3) any possible external factors such as evidence of use of aftermarket lubricants (e.g., lubricants that contain silicone or ester); 4) any evidence of disassembly or reassembly; 5) any erratic operation of the PWMS that may occur either before, during, or after a failure; 6) and date code on the contact modules of the sample parts. In addition, ODI may request VRTC to conduct field inspections of subject vehicles.

**TEST SAMPLE PWMS:** ODI will provide five field-returned samples with fire/heat damage and one exemplar undamaged sample to VRTC. In addition, both ODI and Toyota are currently collecting additional field samples that experience fire or thermal events. ODI will provide these samples to VRTC as they become available.

**RECOMMENDED APPROACH:** VRTC should prepare a test plan designed to meet the above test objective. A flexible approach may be taken, but the ODI test monitor, Michael Lee, should be kept informed of all major developments that might require substantial changes to the original test plan. Michael can be reached at [michael.lee@dot.gov](mailto:michael.lee@dot.gov) or (202) 366-5236.

**REPORTS:** A test report shall be provided upon completion of testing.

**SCHEDULE:** We would like to have the testing completed by September 28, 2012, or earliest date possible.