



U.S. Department  
of Transportation

# Memorandum

**National Highway  
Traffic Safety  
Administration**

---

Subject: Test Request: Evaluation of Occupant Harness Buckle      Date: March 11, 2014

From: Frank Borris, Director      Reply to: NVS-212jfa  
Office of Defects Investigation      Attn of: EA13-001

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 continuing its Engineering Analysis (EA13-001) concerning the occupant harness buckle in certain model year (MY) 2009 through 2013 child car seats manufactured by Graco Children's Products, Inc. ("Graco"). For the purposes of this test request, "Subject Seats" refers only to Graco Rear Facing Infant car seats that use "Signature", "QT" and "QT3" harness buckles (Subject Buckle) manufactured by AmSafe, Inc.

On February 7, 2013, Graco notified the Agency that it would conduct a safety recall (14C-001) on "toddler and booster" car seats only. Graco reported that it would replace the harness buckles on the toddler and booster car seats with a new design buckle from Indiana Mills and Manufacturing Inc. Graco's Part 573 Defect Information Report specifically excluded rear facing infant seats from the recall. On March 7, 2014, Graco submitted a second amended Defect Information Report and stated that it was not recalling the Subject Seats because they are "subject to substantially different use conditions and time in service" and because an adult is more likely to remove the carrier from the base, rather than unbuckle the infant. Its ODI's understanding that the subject seats use the same harness buckles as the recalled car seats.

ODI believes that harness buckles that stick or become stuck in a latched condition are not operating to their design intent as a "quick release" connector for the harness assembly. *See* FMVSS No. 209. When a harness buckle of a car seat becomes stuck in the latched condition or becomes difficult to unlatch, it creates an unreasonable risk to safety. ODI believes that the hazards and risks involved in the delay of extricating a child from a rear facing infant car seat in any emergency situation are significantly increased and rise to the level of unreasonable risk when the harness buckle is difficult to open, or is stuck in a latched condition.

**OBJECTIVES:** The objectives of this test request are as follows:

1. Study and evaluate the steps, amount of time, and requirements to remove a Subject Seat, with a child inside, from different types of passenger vehicles;

2. Study and evaluate the steps, amount of time, and requirements to remove a child from a Subject Seat with a functioning Subject Buckle from different types of passenger vehicles; and,
3. Study and evaluate the steps, amount of time, and requirements to remove a child from a Subject Seat with a non-functioning Subject Buckle from different types of passenger vehicles.

The work should include, but not be limited to, the number of steps required, time requirements, physical ability and strength requirements, and other requirements as necessary. The persons used as test subjects for the study should be male and female, and include those that are familiar with and/or have experience in the operation of car seats, and those that are not familiar with the operation of car seats. The study and evaluations should include both emergency and non-emergency situations. The effects of different child weight (up to and including the maximum rated child weight for the seat) on a test subject's ability to conduct the above should also be evaluated. The study should use different types of passenger vehicles.

**TEST SAMPLE CHILD SEATS:** VRTC should purchase test sample seats to start this test program. ODI will attempt to obtain used sample rear facing infant seats from complainants.

**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, Mr. John Abbott, should be kept informed of all developments that require changes to the original test plan. John can be reached at [john.abbott@dot.gov](mailto:john.abbott@dot.gov) and on (202) 366-5221.

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

**SCHEDULE:** We would like to have the testing completed on an as soon as possible basis.

#