



Structural Composites Industries

Harsco

Kelly Schuler
National Highway Traffic Safety Administration
400 Seventh St, S.W.
Washington, D.C. 20590

Re: Recall No. 04E-038

Kelly,

Attached please find for NHTSA's review: (1) SCI's updated form 573 for recall 04E-038, (2) a draft recall notification letter, (3) a sample envelope for mailing the notification letter, (4) work instructions with assembly drawings of the non-compliant and compliant pressure relief device (prd) systems, and (5) reporting forms that SCI's subcontractors shall use to confirm completion of the work.

The recall remedy was developed through testing and prototyping. Initial prototypes were first developed for trial installation on an alt823d fuel container and for FMVSS 304 bonfire testing. The trial fit and bonfire testing were successful. SCI next contacted one of the affected transit agencies, Sacramento Regional Transit, for the purpose of trial fitting an entire bus with the mid-span prd remedy. In this second trial the high pressure components of the mid-span prd remedy fit in an acceptable manner, however the support brackets for the pressure parts did not properly fit within the bus framing and support structure. As a result, SCI designed new support brackets and a third trial fit was performed on the same bus with the revised brackets. This trial was successful, the revised parts were placed on order, and SCI has now received an initial shipment of the remedy parts.

During the course of our development work, SCI learned that the three affected Sacramento transit agencies do not want to interrupt transit service during the retrofit program. It is expected that each bus will be out of service 3 - 5 days for the retrofit work. This length of time is required for transporting the buses to a service location, de-fueling the buses, performing the retrofit work, refueling the buses, and delivering the buses back to the transit agency. For this reason SCI is planning to retrofit 1 to 3 buses per week starting on February 14, 2005 for those buses in the Sacramento area. There are 124 affected buses in the Sacramento area.

The remaining three affected transit agencies are in the Greater Atlanta Metropolitan Area. Upon notification, SCI shall work with the Atlanta transit agencies to reschedule buses for the retrofit work. Based on our understanding of Sacramento transit operations, we expect that 1 to 3 of the Atlanta area buses can be retrofitted per week without causing service interruptions. Orion Bus Industries originally sold 115 affected buses in the Atlanta area, and we currently believe 114 are still operating.

I am of course available to discuss the remedy and the retrofit schedule in greater detail if NHTSA has additional comments or questions.

John Coursen

Revised

January 31, 2005

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DEFECT INVESTIGATION

Revised
OYE-038

PART 573 NONCOMPLIANCE REPORT

Required by 49 CFR Part 573.6

On May 19, 2004, Structural Composites Industries decided that a noncompliance with Federal Motor Vehicle Safety Standard No. 304 exists for the motor vehicle equipment listed below, and is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 Defect and Noncompliance Reports.

A preliminary version of this report was originally prepared on May 19, 2004 and is hereby updated on January 27, 2005.

Furnish the manufacturer's identification code for this recall (if applicable): N/A

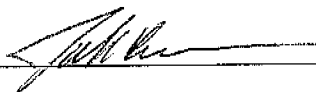
1. Identify the full corporate name of the fabricating manufacturer/brand name/trademark owner of the recalled item of equipment: Structural Composites Industries

Identify the corporate official, by name and title, whom the agency should contact with respect to this recall:

Name: John Coursen Title: Product Manager - NGV Fuel Tanks
Telephone Number: 909 444 2503 Fax No.: 909 594 3939

Name and Title of Person who prepared this report.

Name: John Coursen Title: Product Manager - NGV Fuel Tanks

Signed:  _____

I. Identify the Recalled Items of Equipment

2. Identify the Items of Equipment Involved in this Recall, *for each make and model or applicable item of equipment product line (provide illustrations or photographs as necessary to describe the item of equipment), provide:*

Generic name of the item: Compressed Natural Gas (CNG) Fuel Container

Model: ALT823D CNG fuel containers having two end mounted pressure relief devices

Part Number: 1273147 Size: 15.3" diameter x 120" length

Function: The container stores compressed natural gas which powers the vehicle.

Other information which characterizes/distinguishes the items of equipment to be recalled: _____

Identify the approximate percentage of the production of all the recalled models manufactured by your company between the inclusive dates of manufacture provided below, that the recalled model population represents. For example, if the recall involved Widgets equipped with certain items of equipment from January 1, 1996, through April 1, 1997, then what was the percentage of the recalled Widgets of all Widgets manufactured during that time period: 99.7% of ALT823D CNG fuel container assemblies with end mounted pressure relief devices are affected by the recall action

II. Identify the Recall Population

3. Furnish the total number of items of equipment recalled potentially containing the noncompliance.

A. Model B. Year C. Number of Items Potentially Involved

A. ALT823D B. 2001-2003 C. 2008

Total Number of units potentially affected by the recall: 2008

4. Furnish the approximate percentage of the total number of items of equipment estimated to actually contain the noncompliance: 99.7%

Identify by name, business address, and business telephone number every manufacturer that purchases the noncomplying component for use or installation in new motor vehicles or new items of motor vehicle equipment.

Orion Bus Industries.
350 Hazelhurst Road
Mississauga, ONT L5J 4T8
Telephone 905 403 1111

Identify and describe how the recall population was determined--in particular how the recalled models were selected and the basis for the beginning and final dates of manufacture of the recalled items of equipment:

The recall population was determined by a 100% count of all ALT823D assemblies that were installed by Orion Bus Industries on transit buses with end mounted pressure relief devices, less 6 assemblies that Orion Bus used for prototyping purposes and are no longer in service. As of January 27, 2005, Orion Bus Industries has been the sole purchaser of CNG fuel container ALT823D.

III. Describe the Noncompliance

5. Describe the noncompliance. The description should address the nature and physical location of the noncompliance. Illustrations should be provided as appropriate.

The compressed natural gas fuel container's pressure relief devices failed to timely and fully activate during FMVSS 304 bonfire testing. Due to these activation problems, the container ruptured during testing.

Describe the cause(s) of the noncompliance condition.

The non-compliant condition of tank assembly ALT823D is believed to be a result of the pressure relief device location and/or the pressure relief device activation characteristics.

Describe the consequence(s) of the noncompliance condition.

In the event of a vehicle fire with the fuel system roof enclosure removed or opened, the fuel container's pressure relief devices may not activate as intended and the fuel container could rupture and explode. Such an explosion, if it were to occur, could cause serious injuries or death to occupants of the bus or to persons outside the bus.

Identify any warning which can (a) precede or (b) occur.

Removal or opening of the fuel system roof enclosure can delay activation of the pressure relief devices in the event of a fire that engulfs the container.

If the noncompliance is in a component or assembly purchased from a supplier, identify the supplier by corporate name and address:

Not Applicable

Identify the name and title of the chief executive officer or knowledgeable representative of the supplier:

Not Applicable

V. Provide the Chronology in Determining the Noncompliance

6. With respect to a noncompliance, identify and provide the test results or other data (in chronological order and including dates) on which the noncompliance was determined.

On September 5, 2003, NHTSA conducted bonfire testing as prescribed under FMVSS 304 and without a representative fuel container enclosure. The fuel container's pressure relief devices failed to activate in a timely manner during the test and the tank subsequently ruptured. On September 26, 2003, Structural Composites Industries conducted its own bonfire test without a representative fuel container enclosure. The fuel container's pressure relief devices again failed to activate in a timely manner, and the tank ruptured during this test. On October 10, 2003, Structural Composites Industries conducted another bonfire test, this time with an enclosure fitted around the fuel container to simulate the fuel container's installed condition on a bus. The pressure relief devices activated in a timely manner during the October 10, 2003 test and the fuel container did not rupture. SCI voluntarily elected to take corrective action on May 19, 2004 in the interest of product stewardship and to avoid the cost and uncertainty of litigating with NHTSA the question of whether the September 5, 2003 and September 26, 2003 tests were properly performed.

V. Identify the Remedy

7. Furnish a description of the manufacturer's remedy for the noncompliance. Clearly describe the differences between the recall condition and the remedy.

The non-compliant pressure relief device assembly comprises two end mounted pressure relief devices: one pressure relief device being attached directly to the manual

shut off valve at the in-board end of the fuel container, and one pressure relief device attached at the outboard end of the fuel container. The recall remedy consists of relocating the outboard (non-valve end) pressure relief device to a mid-span location that is closer to the fuel container centerpoint.

Clearly describe the distinguishing characteristics of the remedy component/assembly versus the recalled component/assembly.

The remedy will result in the pressure relief device being located in a more central position along the fuel container length to better facilitate activation when extreme heat is focused onto the ALT823D center regions.

Identify and describe how and when the recall condition was corrected in production. If the production remedy was identical to the recall remedy in the field, so state. If the product was discontinued, so state.

ALT823D fuel containers will be equipped in the future with a mid-span pressure relief device until such time that new methods might be developed for enhancing pressure relief device activation when extreme heat is applied to the container center regions.

VI. Identify the Recall Schedule

Furnish a schedule or agenda (with specific dates) for notification to other manufacturers, dealers/retailers, and purchasers. Please, identify any foreseeable problems with implementing the recall.

Formal notification of the non-compliance was issued in June 2004 to the sole purchaser of CNG fuel container ALT823D (Orion Bus Industries). Notification of affected bus owners is expected to begin in February 2005. Foreseeable complications may include: (1) obtaining the special made parts for the mid-span pressure relief device remedy, and (2) scheduling the retrofit work in view of the transit bus operating schedules and the need to de-fuel the buses prior to changing the affected parts.

VII. Furnish Recall Communications

8. Furnish a final copy of all notices, bulletins, and other communications that relate directly to the noncompliance and which are sent to more than one manufacturer, distributor, or purchaser. This includes all communications (including both original and follow-up) concerning this recall from the time your company determines the noncompliance condition on, not just the initial notification. *A DRAFT copy of the notification documents should be submitted to this office by Fax (202-366-7882) for review prior to mailing.*