

**Safety Defect and Noncompliance Report Guide for Equipment
Part 573 Defect and Noncompliance Report**

On May 28, 2014 Altec Industries Inc decided that a defect which relates to motor vehicle safety exists in 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.

Date this report was prepared: **June 2, 2014, Revised July 11, 2014**

Furnish the manufacturer's identification code for this recall (if applicable): **CSN 598**

1. Identify the full corporate name of the fabricating manufacturer of the vehicle being recalled. If the recalled vehicle is imported, provide the name and mailing address of the designated agent as prescribed by 49 U.S.C. §30164.

Altec Industries, Inc.

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

Joshua T. Chard
Director, Corporate and Product Safety

Telephone Number: **205-408-8627** Fax No.: **205-981-3733**

Name and Title of Person who prepared this report.

Philip D. Purdy
Manager, Technical Publications

Signed: _____

I. Identify the Recalled Items of Equipment

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

Generic name of the item: **Aerial Device**

Make(s): **Altec** Model Years Involved: **2009 - 2012** Model: AH75/85/100

Production Dates: Beginning: **October 2009** Ending: **December 2012**

II. Identify the Recall Population

3. Furnish the total number of vehicles recalled potentially containing the defect or noncompliance.

<u>Model</u>	<u>Year</u>	<u>Number of Vehicles Potentially Involved</u>
AH75/85/100	2009 - 2013	120

Furnish the approximate percentage of the total number of vehicles estimated to actually contain the defect or noncompliance: **Fiberglass porosity - 30 %, Glue bond - 45%**

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 vehicles:

The recall population was determined by reviewing manufacturing records to identify units built with lower boom fiberglass inserts produced in the affected date range.

III. Describe the Defect or Noncompliance

Describe the defect or noncompliance.

The lower boom fiberglass insert could fail dielectric testing and compromise the dielectric integrity of the chassis insulating system due to water ingress into the fiberglass. Additionally, there was an increased failure rate of the joint between the fiberglass insert and steel boom components.

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

N/A

IV. Provide the Chronology in Determining the Defect/Noncompliance

4. With respect to a defect, furnish a chronological summary (including dates) of all the principle events that were the basis for the determination of the defect. The summary should include, but not be limited to, the number of reports, accidents, injuries, fatalities, and warranty claims.

Beginning in 2009 production methods used by Altec did not ensure adequate compaction of all fiberglass chassis insulators during manufacture. Insufficient compaction could allow porosity and water ingress that may compromise the dielectric integrity of the chassis insulator. Any insert produced prior to Q1 2013 has the potential for this porosity.

Production validation methods, including dielectric tests, were conducted but failed to detect this porosity when it was present. Later investigation determined that production evaluation methods were inadequate due to the sealing of cut surfaces of the insert with gelcoat prior to water ingress tests. The sealing of these surfaces prior to testing decreased the likelihood of detecting porosity. Later production steps include drilling and sealing bolt holes in the insert. These surfaces offer a water ingress path during use which was not subjected to a production water ingress test. The inserts passed dielectric tests as part of the finished unit.

In 2013 an increased rate of lower insert dielectric test failure was observed. Although small in number, the inserts in questions would intermittently fail with current leakage levels that exceeded those allowed by ANSI A92.2-2009. Investigation determined that failures were related to moisture ingress due to porosity. Failing inserts could be found to pass testing if exposed to heat or a dry environment for extended periods of time. For this reason it is possible that an affected insert may pass a periodic inspection undetected, but fail at a later date. Inserts in the affected date range are more likely to fail a dielectric test over the life of a unit than those inserts produced outside of the date range.

Additional testing and analysis was completed in July 2014. We concluded that the current leakage through the lower boom fiberglass insert was elevated but not to the level that could cause death or serious injury and that supplemental dielectric testing is not required.

The second issue relates to an increased rate of chassis insulator glue bond failures. These bond failures were determined to be associated with inconsistent removal of a mold release from bonding surfaces during manufacture of the fiberglass. The presence of mold release on a bonding surface shortens the life of the chassis insulator glue bond. Testing showed that the redundant bolted joint design used on inserts in the field was insufficient to prevent failure over the life of the unit in the presence of a compromised glue bond. *The joint should not fail but may cause undesirable motion when the unit is used.*

V. Identify the Remedy

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

Altec will issue a recall letter (CSN 598) to owners of all affected unit informing them that they will be contacted to schedule replacement of the lower boom.

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

The replacement fiberglass lower boom inserts were manufactured with a new process that limits the porosity and the possibility of water ingress.

VI. Identify the Recall Schedule

6. Furnish a schedule or agenda (with specific dates) for notification.
Customer notification estimated to be the week of September 1, 2014. We will complete the field campaign to replace all booms within one year.