FLORIDA DEPARTMENT OF EDUCATION

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August 4, 2003

CEFO: 04-02

MEMORANDUM

TO: District School Superintendents
School Transportation Directors

FROM: Raymond Monteleone

SUBJECT: Release of Advisory on Carpenter Bus Defects

In CFO Memorandum #03-49, April 14, 2003, we informed school districts of the circumstances of a school bus crash in Alachua County, involving a bus built by Carpenter Manufacturing. Districts were notified of the post-crash structural defects that were observed and advised to inspect all Carpenter buses built in Mitchell, Indiana as soon as possible. These buses were identified as the ones potentially subject to similar structural defects. We also informed you that we had requested investigation of the matter by the National Highway Traffic Safety Administration (NHTSA), and that we would inform you when we received a report from NHTSA of its findings.

On June 30, 2003, NHTSA issued a nationwide advisory regarding the subject Carpenter buses. This advisory is attached, and it can also be viewed on NHTSA's web site at: http://www.nhtsa.dot.gov/people/injury/buses/CarpenterBus/index.htm

Also attached is a related guidance document from the School Bus Information Council that can be viewed at: http://www.schoolbusinfo.org/press.htm#sbic.

RAYMOND MONTELEONE
DEPUTY COMMISSIONER / CHIEF EDUCATION FINANCIAL OFFICER

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In order to ensure the safety of students, in accordance with the requirements of Section 1006.22(11), Florida Statutes, it is strongly recommended that school districts and charter schools review and adhere to the guidance provided in these documents. Most or all of the subject Carpenter buses in your district have likely been inspected already and most are presumably out of service during the summer.

Specifically, it is strongly recommended that each school district and charter school:

1. Complete inspection of any Mitchell, Indiana built Carpenter bus not already inspected (if any), unless the bus was permanently removed from school service without inspection;

2. Remove from school service any Carpenter bus found to have cracked or broken welds in the roof structure, unless the bus has been repaired (see below) and must continue in service;

3. Ensure that any subject repairs have been completed only by qualified service personnel, defined as certified welders, with final inspection by a professional engineer;

4. Use subject buses that have been repaired only on routes that operate in low speed environments, not including field and activity trips, and ensure that drivers of the buses are informed of this advisory;

5. Perform quarterly inspection for potential defects of all Mitchell-built Carpenter buses, including any that have been repaired, using the previously described inspection procedure, for as long as the bus remains in school service; and,

6. Provide full disclosure to potential purchasers of any subject Carpenter bus that has been removed from school service.

A form is attached providing attestation and confirmation of the disposition of all Mitchell-built Carpenter buses. **Please complete and return this form to the address shown by September 5, 2003.**

We fully understand the hardship that this situation has created for a number of school districts, so we encourage you to call our School Transportation office to discuss available options. These options might include sources of professional repair companies, availability of buses from other districts, and emergency purchasing provisions if your district has adopted a related policy. Attached is a repair procedure developed by the state of South Carolina that may also be helpful. The South Carolina procedure is provided for information only, and it is not mandatory that districts use or implement it.

Parents and others should be reminded that school buses remain the safest means of transportation for school children. The conscientious, proactive efforts of school transportation administrators, supervisors, drivers, and technicians in matters of this type, along with the stringent standards for inspection, maintenance, and specifications of school buses, are largely responsible for this unparalleled safety record. Thank you for your ongoing contributions to the safety of school children.

Attachments: NHTSA Advisory
SBIC Statement
South Carolina Repair Procedure
Attestation Form

National Highway Traffic Safety Administration
Carpenter School Bus Advisory
June 2003

On March 20, 2003 in Alachua County, Florida, an 83-passenger Carpenter school bus rolled over onto its roof, causing the roof to collapse down to the seat level. Inspection of the crash vehicle revealed numerous broken and defective welds in the roof and pillar structure. Normally, the National Highway Traffic Safety Administration would conduct a full-scale investigation and if a defect determination were made, would order the manufacturer to conduct a safety recall. However, since Carpenter is no longer in business, there is no one that NHTSA can hold accountable to develop a remedy for this problem.

However, NHTSA is concerned about this problem. The purpose of this advisory is to provide school districts and school bus operators with guidance on what to do if they have any of these buses within their fleets. Unfortunately, given the age and the type of weld failures occurring in these buses, there is no single repair that can assure adequate performance in a crash. Since NHTSA is not the vehicle manufacturer and does not know all the relevant details about the design and construction of these buses, it cannot recommend any particular modification or repair procedure.

At this time, we strongly encourage owners and operators of the Carpenter school buses described below to inspect them to determine if there are structural weld failures in the roof structure. The welds in question are located at the junction of the vertical side posts (between the windows) and the horizontal structural member (the "Carlin" rail) above the windows. The inspection will require the removal of interior panels as well as the removal of some of the windows. The following information is provided for your consideration and use:

1. The buses in question are Carpenter Type "A" "B" "C" and "D" school buses built in Mitchell, Indiana, prior to the plant closing in late 1995. It appears that the buses built at Carpenter's Richmond, Indiana plant do not have similar problems.

2. There are noticeable differences between the rub rail locations for the two Carpenter plants. The rub rail at the floor line in all buses made at the Mitchell plant is interrupted at the wheel openings. The rub rail at the floor line in all buses made at the Richmond plant is continuous and is located just above the wheel opening. If the 6 digit body number starts with the number 4, then the bus was built in the Richmond, Indiana plant and utilized full length body bows.

Figure 1: Mitchell built type "C"

Figure 2: Richmond built type "C"

Figure 3: Mitchell built type "D"

Figure 4: Richmond built type "D"

3. All Carpenter school buses built in Mitchell, Indiana, no matter what the body number, should be inspected for cracked or broken welds in the roof structure. The photograph below shows the locations of the components that are welded together.

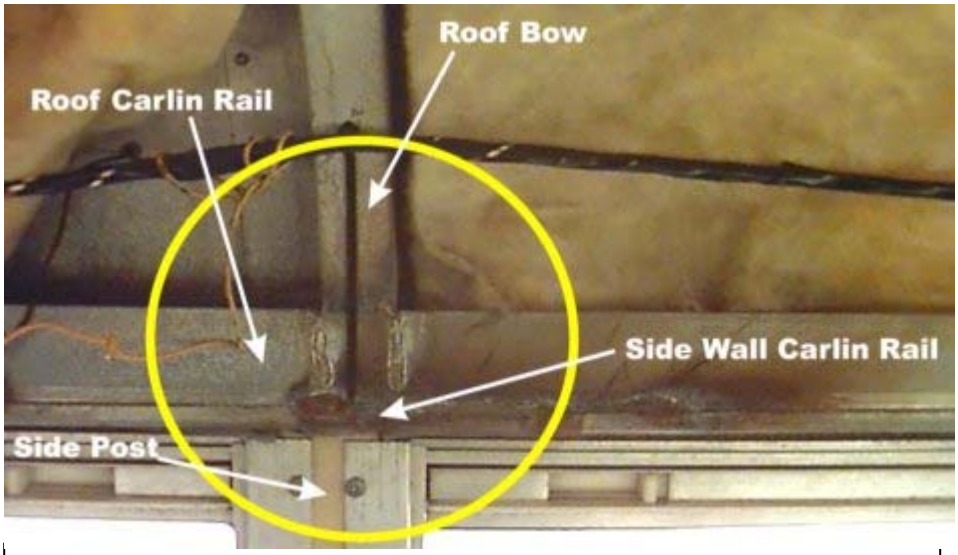

Figure 5: Photo depicting weld locations

4. Two diagrams showing the components and weld locations are shown below:

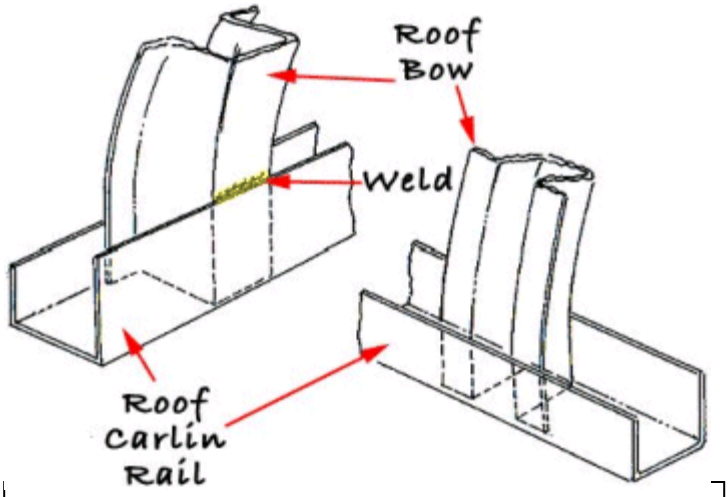

Figure 6: Roof bow weld locations

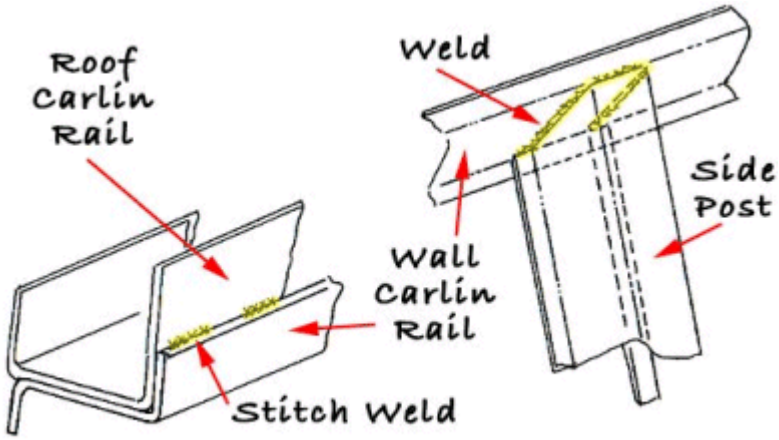

Figure 7: Carlin rail weld locations

Reports received from various states and school districts around the country indicate differences in the extent of the failures. Some reports reveal significant numbers of school buses with numerous cracked or broken welds, while other reports reveal few, if any, cracked or broken welds. Furthermore, in some cases, metal deterioration has occurred. Insufficient data exists to ascertain whether the failures are related to the environment, age, and/or mileage.

NHTSA recommends that the following actions be taken with respect to any Carpenter school bus built in the Mitchell plant that has been found to have cracked or broken welds in the roof structure:

The bus should be taken out of service and replaced as soon as practicable.

If the bus must continue in use, the cracked or broken welds should be repaired as soon as possible by qualified service personnel.

In order to minimize the risk of a rollover, the bus should be used on routes that operate in low speed environments.

Buses that are taken out of service should have "scrap" or equivalent language marked on their titles to preclude their sale to unsuspecting purchasers.

Transportation experts agree that school buses are among the safest of all modes of transportation. Statistics show that children are safer on a school bus than on other modes of transportation. With respect to the Carpenter bus weld problem, each State and school bus operator must assess its own situation and circumstances in deciding what actions to take.

* * * *

Statement by the School Bus Information Council
Carpenter School Buses
July 1, 2003

The National Highway Traffic Safety Administration (NHTSA) has released recommendations to address a safety concern about certain school buses built by Carpenter Manufacturing with broken or cracked welds in the roof structure.

The School Bus Information Council (SBIC) first became involved in this problem last April after a crash in Florida caused us to send our own preliminary safety advisory to all state directors of pupil transportation safety and others in the industry.

The problem is broken or cracked welds in the roof structure that can cause the roof to collapse in the event of a rollover crash. Not all Carpenter buses have the broken or cracked welds. The problem is confined to all types of school buses built at the Carpenter plant in Mitchell, Indiana, prior to its closing in late 1995. SBIC estimates that there could be as many as 15,000 buses affected – just 3 percent of the national school bus fleet – although the actual number may be significantly less since many of the Carpenter school buses built at the Mitchell plant are no longer in service.

Importantly, parents and school officials should know that school buses remain the safest way for children to get to and from school. SBIC is not aware of any injuries or fatalities to students that are associated with this problem with Carpenter school buses. Indeed, fatalities to children riding in school buses are extremely rare.

Because Carpenter Manufacturing is no longer in business, a full-scale safety defect investigation by NHTSA with a probable safety recall to repair the affected buses for free cannot be made. NHTSA has, therefore, recommended these options for Carpenter buses that are found to have cracked or broken welds in the roof structure:

- *The bus should be taken out of service and replaced as soon as possible.* In these instances, NHTSA recommends that the word "scrap" or equivalent language be marked on the vehicle's title to preclude their sale to unsuspecting purchasers.

- *If the bus must continue in use, the cracked or broken welds should be repaired as soon as possible by qualified service personnel.* In these instances, SBIC believes that certified welders and professional engineers would be appropriate qualified personnel.

- In order to minimize the risk of rollover, the bus should be used on routes that operate in low-speed environments.

These recommendations by NHTSA are the same as were issued by SBIC on April 30, 2003, however, SBIC also advised states and local school districts to:

- Use the affected Carpenter school buses for "reserve" or "back up" service; and

- Not use the affected Carpenter school buses for activity trips.

NHTSA also said, "… each State and school bus operator must assess its own situation and circumstances in deciding what actions to take." Clearly, NHTSA's first recommendation is to replace the Carpenter school buses as soon as possible. If that is not possible or practicable, and a state or school bus operator attempts to make a repair, NHTSA noted that **"given the age and the type of weld failures occurring in these buses, there is no single repair that can assure adequate performance in a crash. Since NHTSA is not the vehicle manufacturer and does not know all of the relevant details about the design and construction of these buses, it cannot recommend any particular modification or repair procedure."**

This guidance from NHTSA clearly indicates that the overall condition of the Carpenter school buses will ultimately contribute to the decision of whether it is possible to attempt a repair to the broken or cracked welds, and if so how to accomplish the repair. These Carpenter school buses have been in service more 8 or more years, and in some instances may have developed rust conditions that could have an effect on any repair attempt.

The SBIC urges states to complete their inspections expeditiously and, following NHTSA's guidance, either replace or thoroughly repair affected buses back to their original condition to ensure that pupil transportation – the safest way for children to get to and from school – is not impeded. As part of the school bus industry's commitment to safety and the environment, SBIC urges school districts that opt to replace their Carpenter school buses to purchase models that have the newest safety equipment and are powered by engines with the latest emission control technology.

School buses meet the toughest safety requirements of any motor vehicle and have the best safety record in the transportation industry. Indeed, the greatest safety risk to children would be if a school district scrapped the affected Carpenter school buses without replacing them immediately. This would force students to get to and from school by riding with parents or friends, or even walking or bicycling – all of which are riskier ways to travel according to a 2002 study by the National Research Council of the National Academies of Science.

South Carolina Department of Education, Transportation
Repair of Carpenter Body Structure
7-10-2003

This process will include at a minimum the following procedures and all other procedures deemed necessary in the professional judgment of the repairer to insure that the repairs to the Carpenter School Bus body side wall to roof structure joints will provide structural integrity equal to or greater than that of the original manufacturing processes.

1. Remove all interior wiring/light molding above the window line.
2. Remove all side windows.
3. Inspect all accessible welds at roof bow to roof Carlin Rail joints and repair as necessary.
4. Inspect all interior stitch welds at the roof Carlin Rail to side wall Carlin Rail joints and repair as necessary.
5. Sandblast all side post to side wall Carlin Rail joints and existing welds to remove existing paint, scale and corrosion.
6. Inspect all side post to side wall Carlin Rail joints/welds noting all that are cracked/broken.
7. Repair/weld all side post to side wall Carlin Rail joints with full welds to include entire hat section of side post.
8. Inspect windshield post for existing cracks and repair as necessary without removing windshield.
9. Reinspect all repairs/welds to insure proper burn, penetration, and coverage.
10. Paint all sandblasted/repaired areas to match existing colors.
11. Reinstall all side windows and seal as necessary.
12. Reinstall all interior wiring/light molding above the window line.
13. Exercise necessary precautions to insure that sandblasting residue is removed from the interior of the bus.
14. Exercise necessary precautions to insure that welding process does not damage interior components such as seats and flooring.

ATTESTATION TO DISPOSITION OF ALL CARPENTER SCHOOL BUSES POTENTIALLY AFFECTED BY STRUCTURAL DEFECTS

_____ District Schools/Charter School

1. _____	Total # of potentially affected Carpenter buses in district/charter school inventory (defined as all Mitchell, Indiana-built Carpenter school buses, with or without defects, with or without repairs; hereinafter referred to as "subject" buses)
2.a. _____ 2.b._____	Total # of subject buses inspected for structural defects Total # of subject buses permanently removed from school service without inspection
3. _____	Total # of subject buses inspected and found with structural defects
4.a. _____ 4.b. _____	Total # of subject buses found defective and permanently removed from school service Total # of subject buses found defective and subsequently repaired

This is to verify that the information above is complete and accurate.

Name (please print):_____
First Last

Signed:_____ Date:_____

Title:_____

Please return this form no later than **September 5, 2003** to:

Terri Egler, Program Specialist
School Transportation Management Section
325 W. Gaines Street, #1114
Tallahassee, Florida 32399-0400
FAX: 850-245-9935