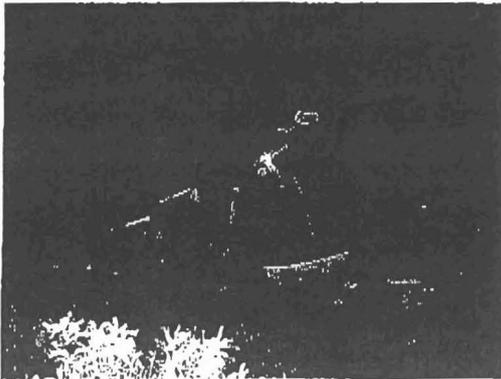


HWY-08-M-H012  
Mexican Hat, Utah

# **Utah Highway Patrol - Vehicle Report**

(7 pages)

**I. Synopsis of crash:** 1. The tour bus was traveling South on SR 163 when the bus failed to negotiate a left hand bend in the highway. The bus went off the right side of the road, rolled down a steep embankment tearing off the roof, and ejecting all the occupants except for the driver and one passenger. Nine people have died as a result of this accident.



**II. Details:** 2. I arrived on scene at 22:08 and began assisting the E.M.T.'s with the injured passengers.

3. I assisted E.M.T.'s load a passenger on a back board who was sitting in the right rear of the bus. We had to break the backs of some of the seats, so we could load the injured passenger on a backboard.

4. I spoke with the driver, Welland Lotan, and asked him what happened. Welland said: "I ran upon the blind curve there, it got off the shoulder, and I tried to pull it back to the left, next thing I knew I was eating glass from the windshield and dirt". I asked Welland how fast he was traveling, and he said: "I had the cruise set at about, I've been running between 60 and 65, I think, I just set the cruise, and a, I was pretty sure it was on 65, but it may have been 66". I asked Welland there were any problems with the equipment and he said: "no, we have excellent equipment, that's a brand new bus with only 23,900 miles on it, and it handled like a dream on this trip".

5. I checked the tire pressures and recorded the tires tread depth (see front page for tread depths):

Axle #1 left side – tire pressure: 105 lbs psi.

Axle #1 right side – tire pressure: 105 lbs psi.

Axle #2 left outside tire – off flat, off bead.

Axle #2 right outside tire - tire came off rim

Axle #2 left inside tire – tire pressure: 105 lbs psi

Axle #2 right inside tire – tire pressure: 101 lbs

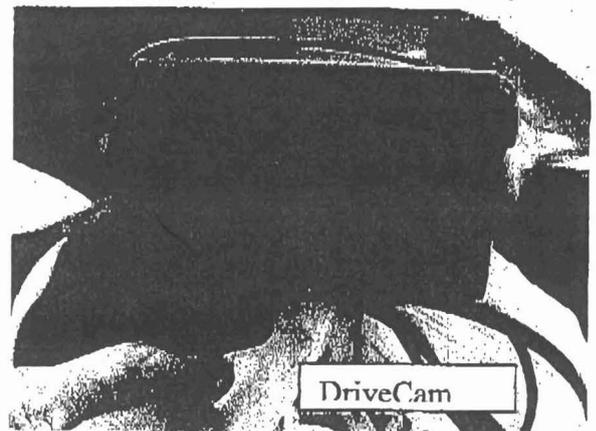
Axle #3 left (tag axle) tire flat, off bead

Axle #3 right (tag axle) tire flat, off bead

6. I noticed that the rear tail lights and license plate lights were on, but no lights were illuminated on the front of the bus.

7. I searched for the logbook that night, but it wasn't found until Monday morning. I looked through the logbook and noted that the driver had started filling out January 6<sup>th</sup> logbook page, but had not recorded any times.

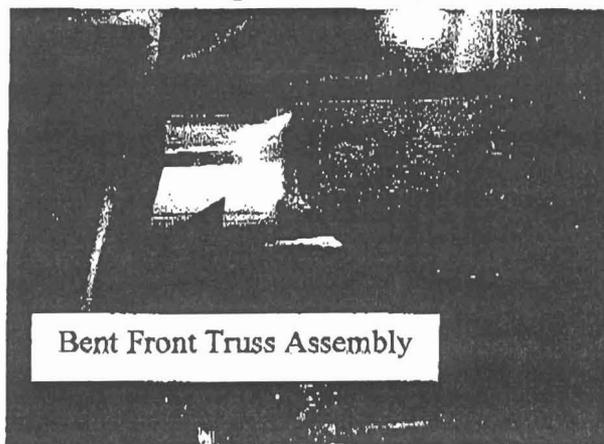
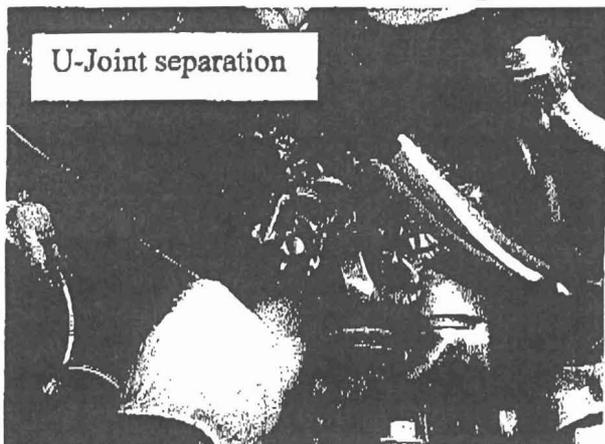
8. Todd Koehler, General Manager for Corporate Transportation 'N Tours, found the DriveCam and I took possession of it. The DriveCam is a video camera that is mounted on the driver's windshield and has two lenses. One lens is pointed toward the driver and the other lens is pointed toward the road. The DriveCam II Serial Number is: 03463906, and the Model Number: 2.5



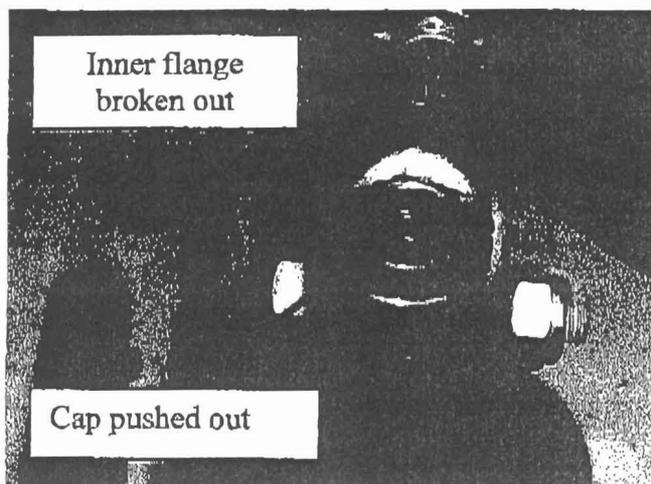
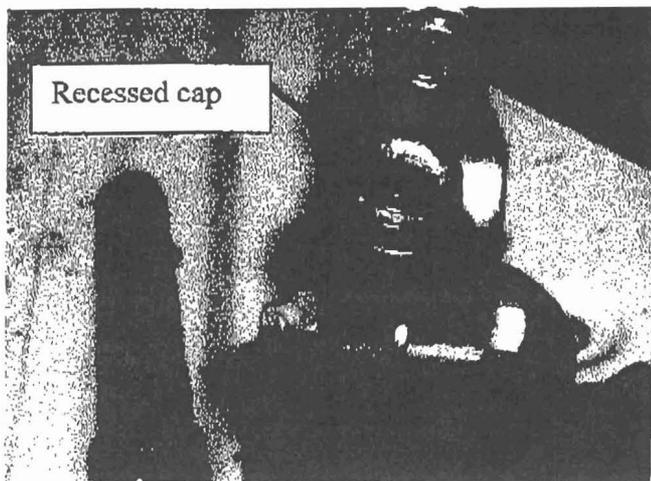
9. 1-7-08: The bus was towed by S & S Towing out of Green River, UT. They loaded the bus on a trailer and hauled it to their garage in Green River.

10. 1-09-2009: The bus was hauled to Nielson Constructions' Garage (750 Ridge Rd Price, UT) where Larry Yohe (NTSB investigator) and I could examine the bus more thoroughly in a heated facility.

11. We opened up the steering compartment on the left front side. The steering column had separated at the U-Joint where it connects to the 90 degree miter box. The miter box is mounted on the Front Truss Assembly. The Front Truss was bent upward, causing the 90 degree miter box to move upward. This upward movement caused the steering column U-Joint to separate where it connects to the 90 degree miter box.

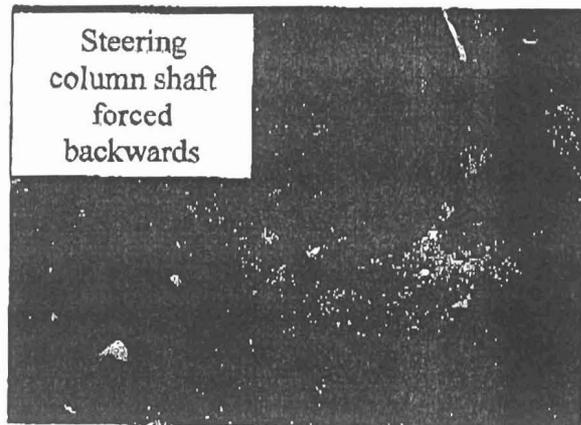


12. The Yoke has two caps that hold the cross pin into the yoke. These caps are normally recessed into the yoke. The one cap has been pushed outward, and the other cap has had part of the inner flange broken out.

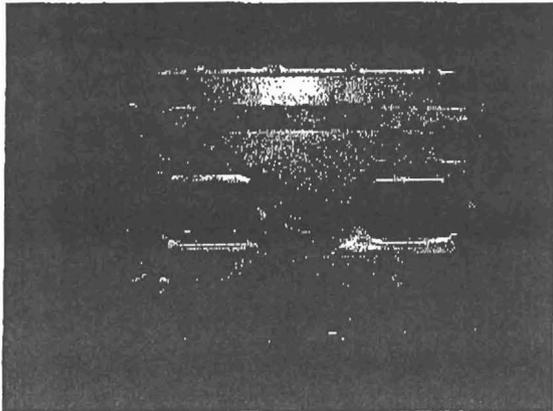


13. The steering column was forced backwards, braking part of the ring where it goes through the floor.

14. It appears to me that the steering assembly was in good working order prior to the crash, but separated due to forces incurred during the crash.



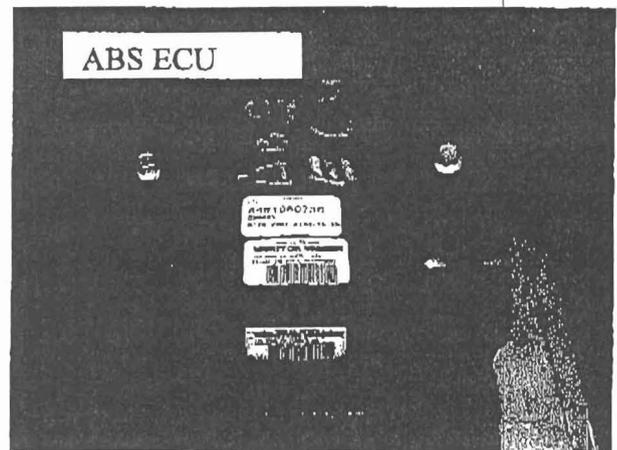
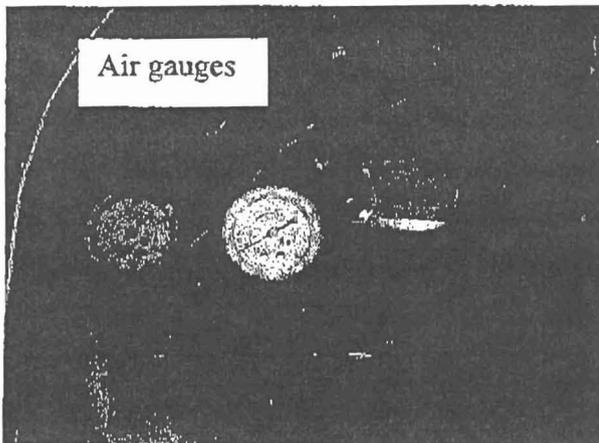
15. We removed the Electronic Control Module (ECM) from the right rear engine compartment. EMC serial number is: KCB87996. There was a tag on the rear of the ECM that had the following numbers:



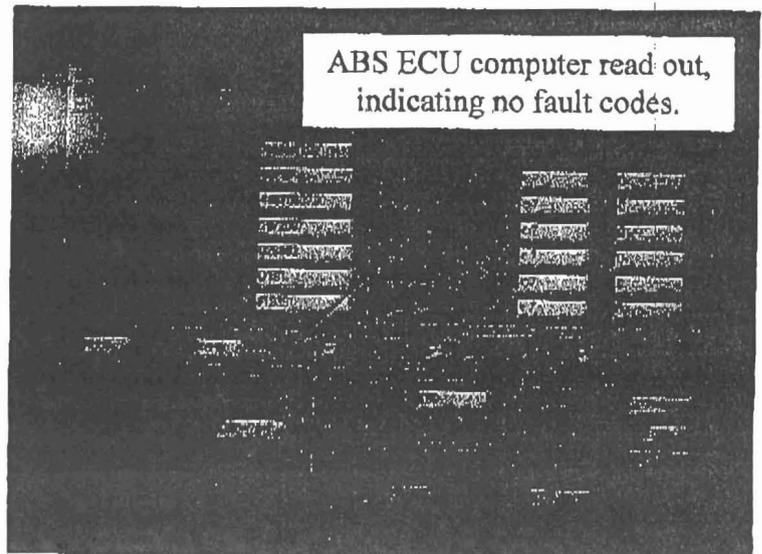
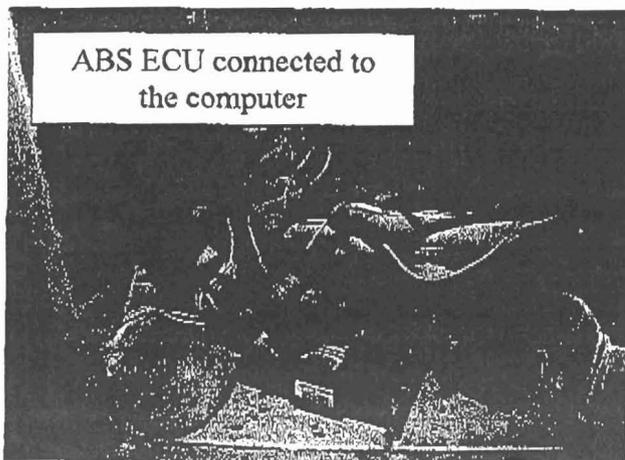
BB555U	229-2640	11/09
		651
KCB87996		
06161	627-05-1159CR	

16. I took the ECM into my possession. The ECM is capable of recording certain vehicle movement information, such as braking and speed, if the data pages were turned "on".

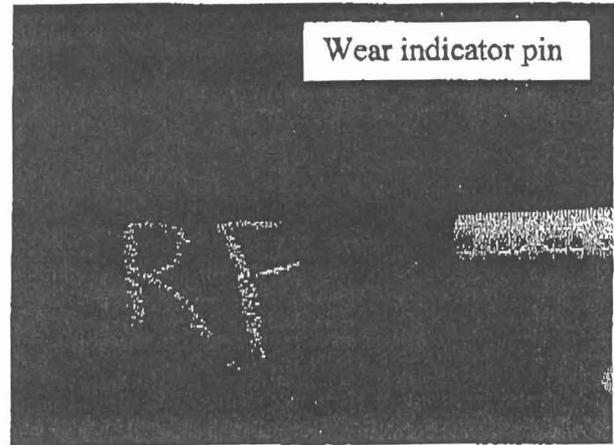
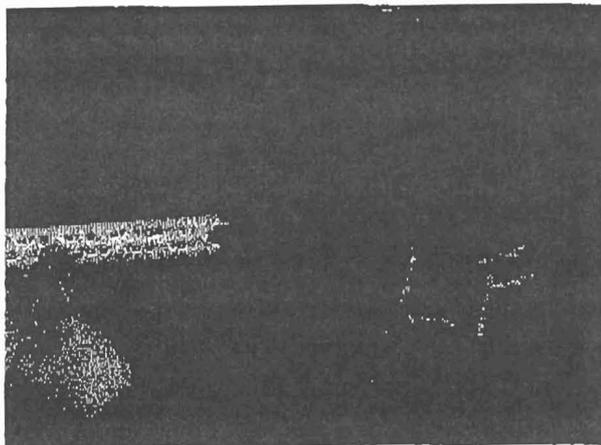
17. We hooked up some air gauges to the front and rear air brake system and noted that approximately 70 psi of air pressure remained in the system.



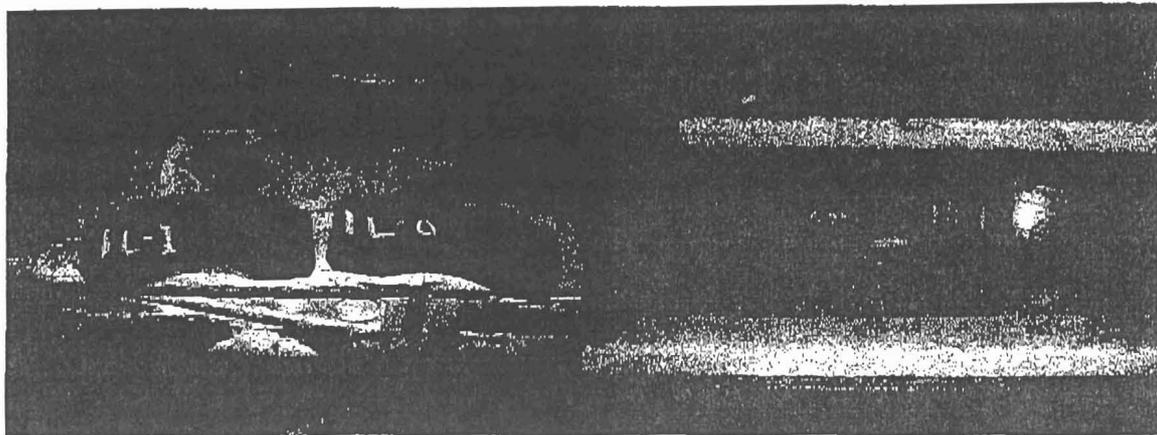
18. 1-10-2008: We removed the Anti-locking Braking System Electronic Control Unit (ABS ECU) and the P61 plug from the bus. Steve Kiner, from Motor Coach Industries, attached the ABS ECU to a computer to see if there were any stored fault codes indicating an ABS brake malfunction. The computer indicated that the ABS braking system was working properly and no fault codes were discovered. The ABS ECU was manufactured by Meritor Wabco. Serial number is: 00026483



19. We removed the left and right front tires (axle #1) to inspect the brakes. The front brakes were a type 24 L3 Disc brake. The wear indicator measured ½ an inch on the left side and ½ an inch on the right side as well. The left front rotor was 1.77 inches thick and the right front rotor was 1.75 inches thick.



20. We removed the brake pads and measured them as well. The measurements were:  
 Axle #1 Left outside brake pad: .64 inches      Left inside brake pad: .62 inches  
 Axle #1 Right outside brake pad: .62 inches      Right inside brake pad: .64 inches



Left brake pad

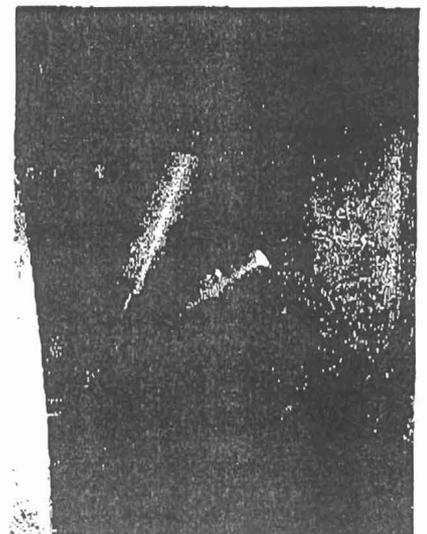
Right brake pad

21. We examined the suspension system and found the following damage:

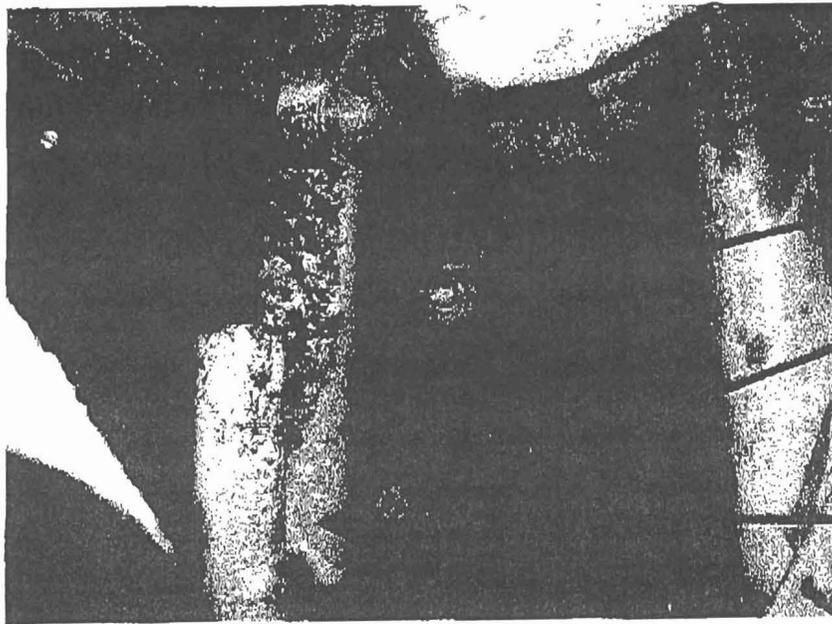
Axle #1: The axle appeared to have a slight bend on the left side.  
 Shock tubes: both left and right side shock tubes had been pulled apart.

Axle #2 Drive Axle:  
 Left lower radius rod: bent up in the middle  
 Right front and rear shock tubes were pulled apart  
 Upper V-link: slight bend on the right side, left side bent downward

Axle #3 Tag Axle:  
 Both left and right shock tubes were pulled apart  
 Sway bar was bent downward between the rubber bushings  
 Right side sway bar link was broken where it connects to the sway bar



Left side sway bar link is broken where it connects to the frame  
V-Link: bent on the right side, left side may have a slight bend.



Sway bar bent downward,  
between rubber bushings

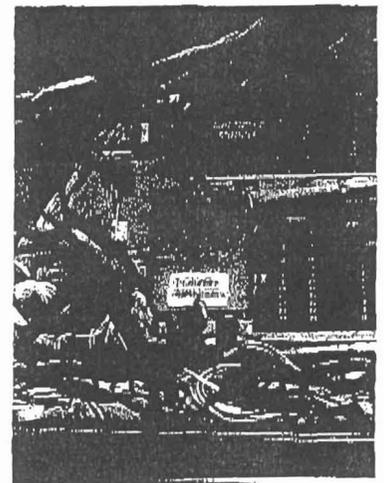
Sway bar link broken  
where it connects to frame

Sway bar link broken  
where it connects to sway  
bar

Shock tubes pulled apart

22. The drive shaft remained intact. The drive line did not appear to have made any contact with the hoop guard.

23. The bus was equipped with a GPS tracking unit called SAUCON. The SAUCON device uses a GPS device that monitors the busses location and speed and sends that information through a cell phone link every two minutes. SAUCON was contacted and we learned that the device was not transmitting at the time of the crash, and its last transmission was made at 3:19 pm, near Telluride, CO. The manufacture explained that once the device loses power, all the stored information is lost. We checked the wires going to the SAUCON unit and found that there was no power going to the device. Larry took possession of the SAUCON and will have it further evaluated to see if there is a possibility that some information may still be stored on the device.



Numbers off the SAUCON: MAC:0F3C0001541  
IMEI: 011156000018165 VER: 2.54 GSM

24. I released the ECM and the DriveCam to Larry Yohe with the understanding that we would be able to review the information recovered. Larry sent both units by FedEx, to Chris Voeglie, who is a NTSB Recorder Specialist. Chris determined that the ECM recording data pages were turned off and it did not capture the vehicles speed, engine RPM or braking information at the time of the crash. Chris also recovered the video from the DriveCam. I was informed by NTSB that they will not release the video from the DriveCam to the Utah Highway Patrol, and that if we want to view the video we will have to subpoena it.

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### **III. Conclusions:**

The bus was involved in a rollover accident and sustained severe damage. The bus was taken to a garage in Price, where a detailed examination of its mechanical components was performed. After inspecting the bus, it appears that the bus was in good working order prior to the accident, and I did not find any evidence of a mechanical condition that contributed to the accident.