
NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Materials Laboratory Division
Washington, D.C. 20594



March 23, 2012

MATERIALS LABORATORY FACTUAL REPORT

Report No. 12-036

A. ACCIDENT INFORMATION

Place : Chesterfield, New Jersey
Date : February 16, 2012
Vehicle : Mack dump truck
NTSB No. : HWY12MH007
Investigator : Steven Prouty
Office of Highway Safety

B. COMPONENTS EXAMINED

Light bulbs from 1) left clearance/turn signal (VEH-005); 2) left front marker lamp (VEH-006); 3) right front clearance/turn signal (VEH-007); 4) right front marker lamp (VEH-008); and 5) left headlamp (VEH-009)

C. DETAILS OF THE EXAMINATION

Four light bulbs and the left headlamp from the accident dump truck were submitted to the NTSB Materials Laboratory for filament examination. VEH-005 and the headlamp were two-filament halogen light bulbs. VEH-006 and VEH-008 were single filament halogen bulbs. The glass globe from VEH-007 was broken, as shown in Figure 1 and none of the filament material remained so no examination was performed. Photographs of the other four bulbs are shown in Figures 2-5. The intact light bulbs were x-rayed to determine the condition of the filament inside. Radiographs of the filaments from VEH-005, VEH-006, and the headlamp showed that all of the filaments were intact (unbroken) and no signs of filament stretching were found. VEH-008 had a broken filament and was found to have stretching of the filament as shown Figures 6 and 7. For comparison, a radiograph of an unstretched filament (VEH-006) is found in Figure 8.

Nancy B. McAtee
Chemist



Figure 1. Photograph of VEH-007 (Right front clearance/turn signal).

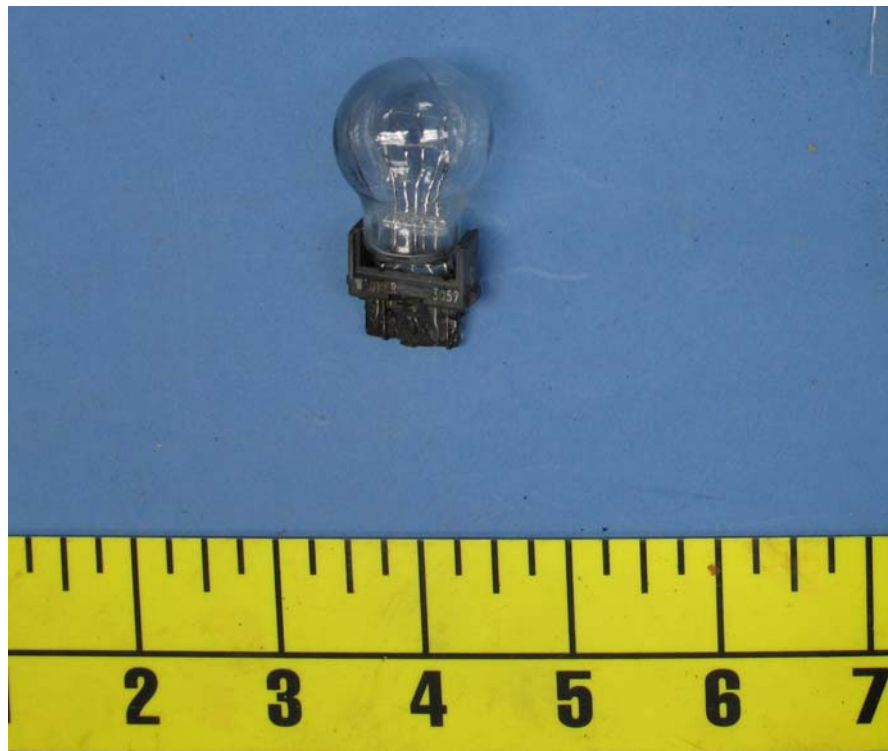


Figure 2. Photograph of VEH-005 (Left front clearance/turn signal).



Figure 3. Photograph of VEH-006 (left front marker lamp).

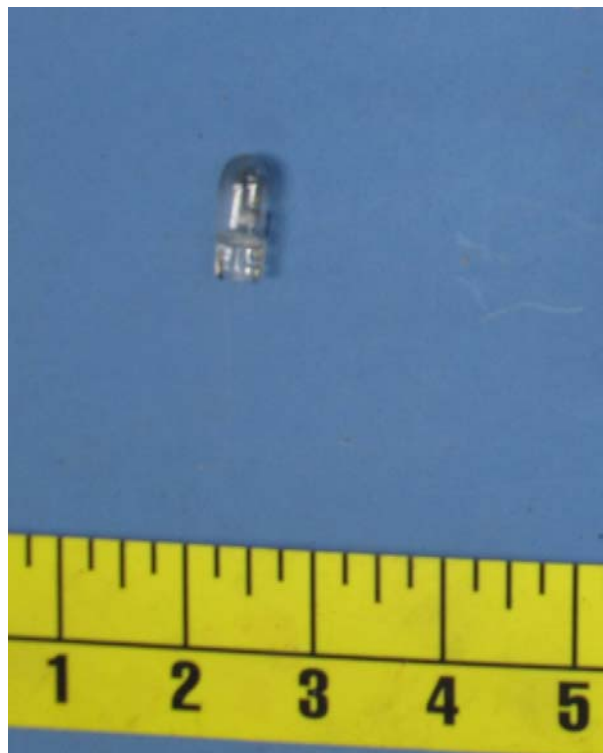


Figure 4. Photograph of VEH-008 (right front marker lamp).



Figure 5. Photograph of left headlamp.

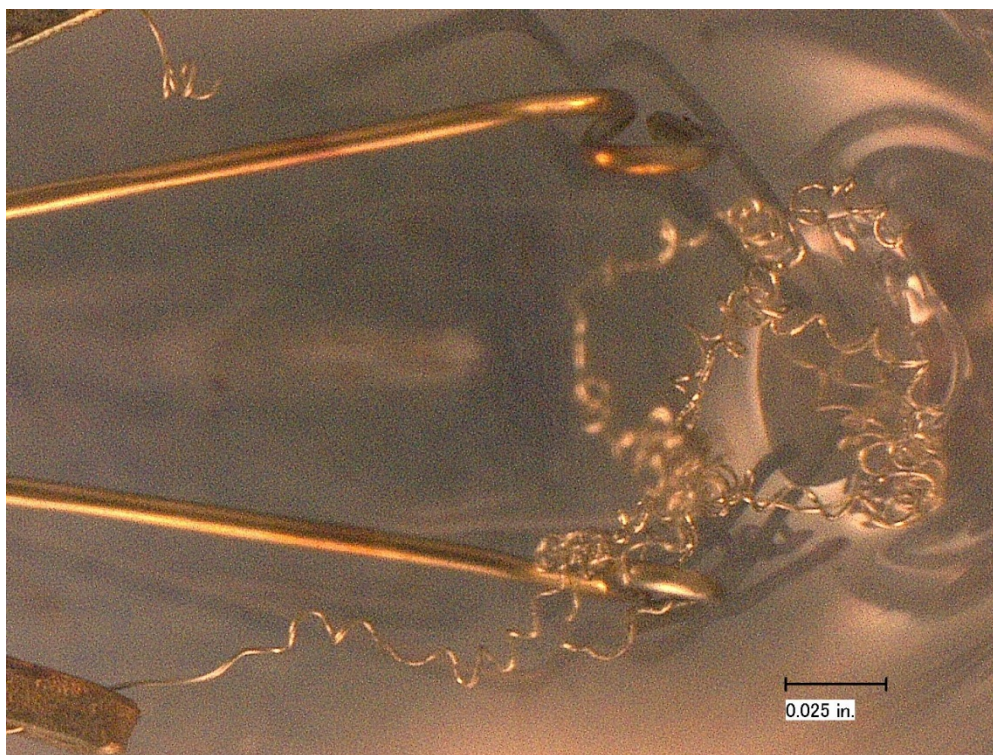


Figure 6. Photograph of stretch filament in VEH-008 (right front marker lamp).

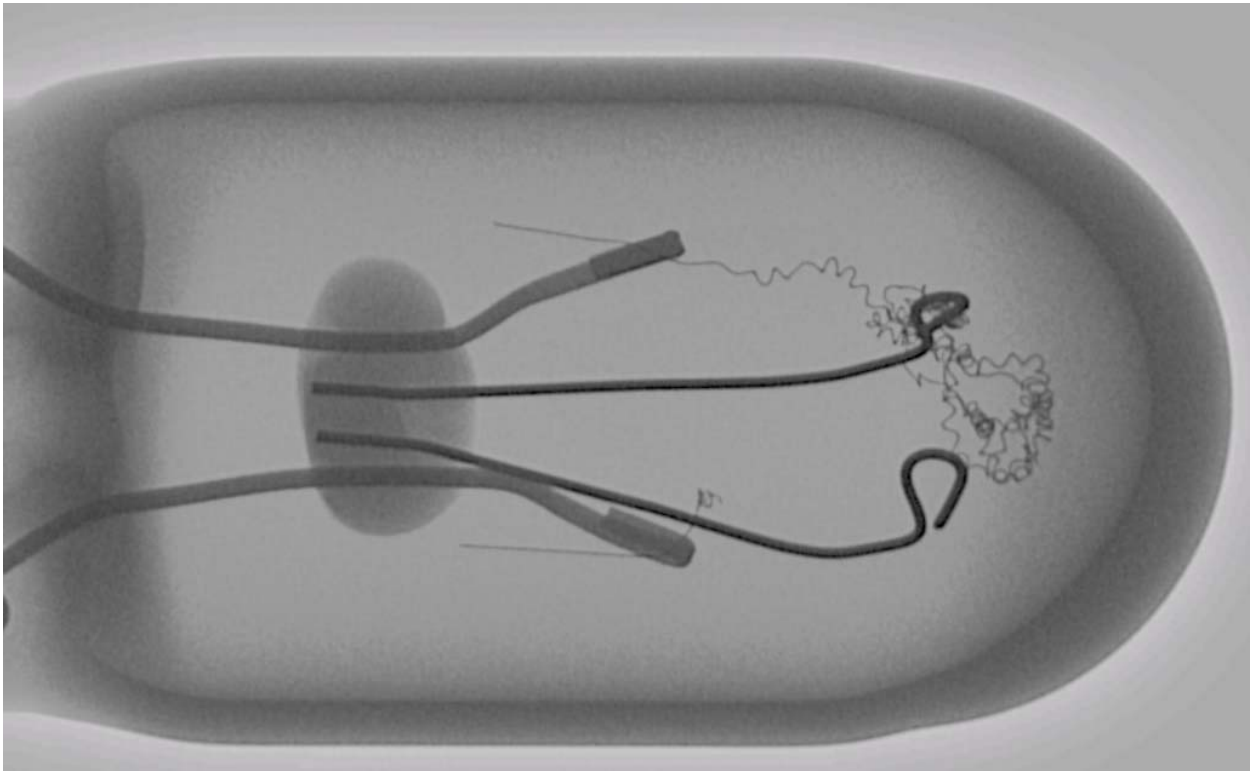


Figure 7. Radiograph of stretch filament in VEH-008 (right front marker lamp).

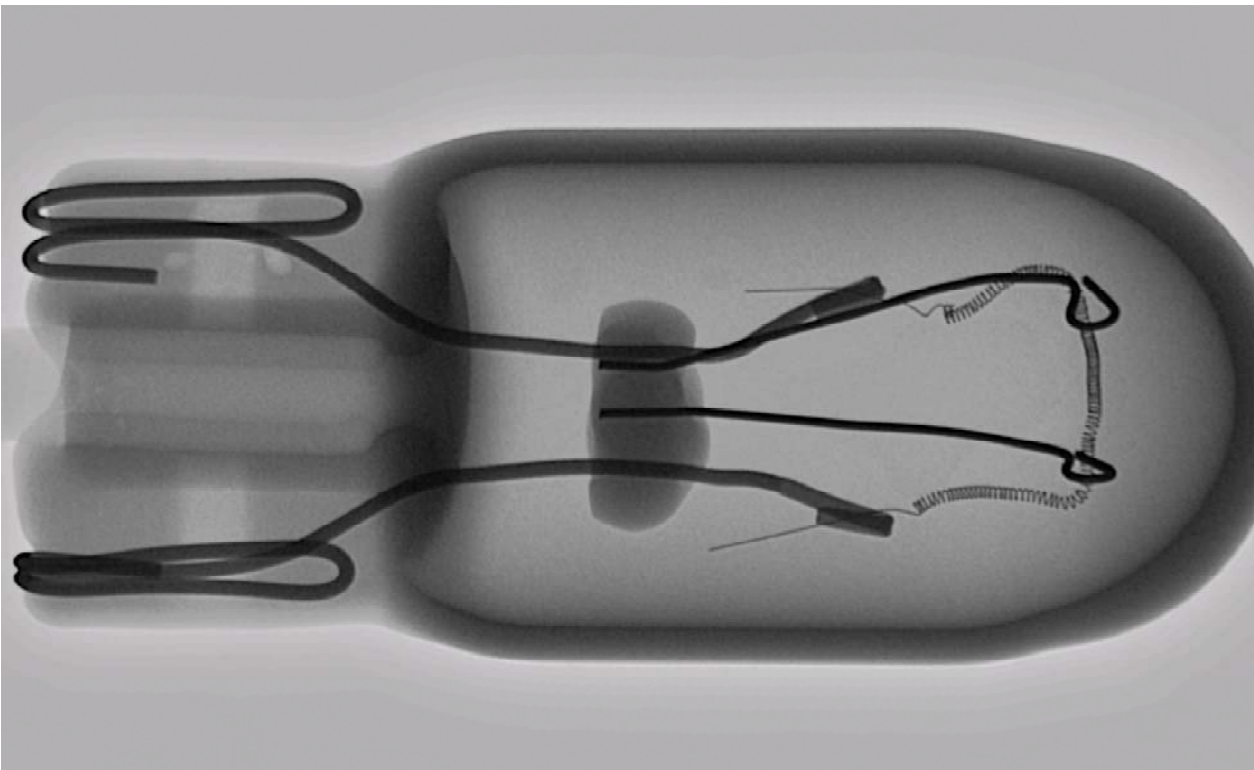


Figure 8. Radiograph of unstretched filament in VEH-006 (left front marker lamp).