

ELDORADO NATIONAL CRASH TEST

GENERAL INFORMATION

Test Site

Transportation Research Center, East Liberty, Ohio

Model Tested

2007 Eldorado National Aero Elite 250

Test Date

April 24th, 2008

Final Report Completed

May, 2008

Test Criteria

Title 49, CFR- Part 571.301 fuels system integrity

POST IMPACT DATA

The purpose of the test was to impact the body structure at its most vulnerable locations at both the rear and side. The test utilized a 4,000 lb. barrier moving at 30 mph. The face of the barrier was elevated from its standard test height to avoid the rear bumper and steel under-floor structure; allowing only the body structure to absorb the entire impact. The highest profile model (Aero Elite) was used to represent the highest center of gravity to best measure vehicle vertical stability upon impact.

Rear impact

Model selected represented the most vulnerable rear structure including rear emergency door. Rear to floor attachment sustained severe damage at area of impact and at lower rear to sidewall attachment point but remained intact. Permanent deflection was approximately 8". All seating in the impact area remained attached to wall and seat track mounting. 150 lb. bags of rock salt/ballast placed in each seat (simulating full passenger load) was unrestrained and cause some moderate damage to seat arm rests and stanchion poles. Rear emergency door remained functional. Fuel tank and system were unaffected.

Side impact

Model selected represented the most typical length vehicle however with the highest vertical center of gravity to best measure vehicle vertical stability. All body panel seams and wall to floor attachment points remained intact. Wall sustained an approximate 5" permanent deflection. All windows remained intact with no breakage. All egress windows and entry door remained fully functional. Due to elevation of the face of the moving barrier minimal damage was sustained on the under-floor structure or air conditioning skirt mounted condenser at this location. Vertical stability from impact was minimally affected; nominal 15 degrees at maximum tilt.

Summary

This test is not a requirement nor as noted was not intended to measure the integrity of the fuel system. The intent was to create the most severe case impact to both the side and rear of the same vehicle to measure and evaluate impact resistance of the structure. Based on the results it is Eldorado National's contention that the steel-reinforced composite structure demonstrated both exceptional impact resistance and the ability to dissipate versus absorb energy. Further, this ability both minimizes and localizes structural damage and degradation which results in greater passenger safety and reduced repair cost.

A video DVD is available upon request that visually summarizes these tests. In addition, complete documentation including detailed photos is also available; all of which must not be duplicated or copied.



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30 mph SIDE impact by a 4,000 lb. moving barrier



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