

General Information

Test Agency Federal Outdoor Impact Lab.
 Test No. 09005
 Date 08/20/2009

Test Article

Type End-Terminal for SBT Guardrail
 Name or Mfg Generic
 Installation length (m). 21.5 m
 Size and/or dimension 12.35 m end-terminal length
 and material of key 1.37 m post spacings
 elements 9 breakaway posts

Soil Type and Condition Standard, dry

Test Vehicle

Type Production
 Designation 820C
 Model 1997 Geo Metro
 Mass (kg) Curb 796.5
 Test Inertial 892.0
 Dummy 69.5
 Gross Static 892.0

Impact Conditions

Speed (km/h) 69.94
 Angle (deg) 0

Exit Conditions

Speed (km/h) 0
 Angle (deg) 45

Occupant Risk Values

Impact Velocity (m/s)
 x-direction 8.0
 y-direction 0.0
 THIV (optional) N/A
 Ridedown Accelerations (g's)
 x-direction 16.6
 y-direction 5.8
 PHD (optional) N/A
 ASI (optional) N/A
 Max. 0.050-s Average (g's)
 x-direction -11.86
 y-direction -3.02
 z-direction 4.34

Test Article Deflection (m)

Dynamic N/A
 Permanent N/A

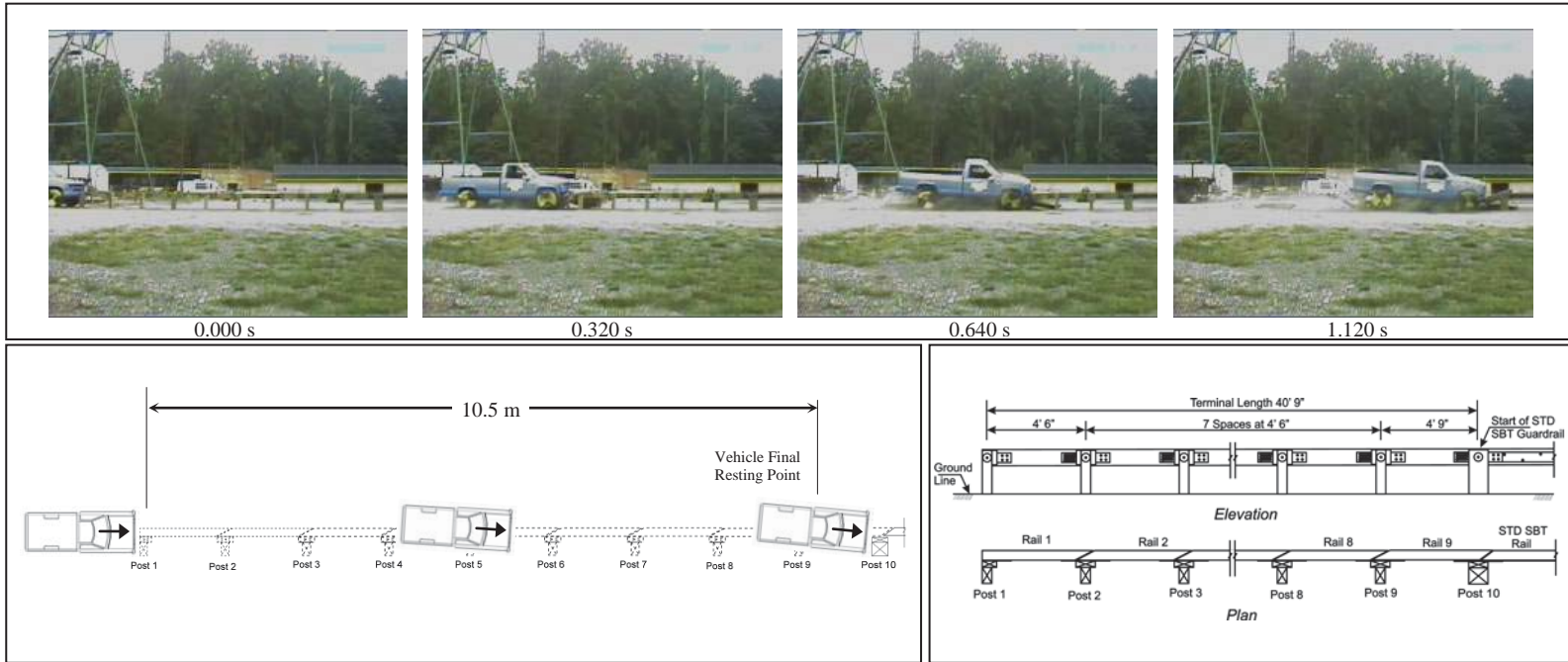
Vehicle Damage

Exterior
 VDS N/A
 CDC N/A
 Interior
 OCDI N/A
 Maximum Exterior
 Vehicle Cruch (mm) N/A
 Max. Occ. Compart.
 Deformation (mm) 0

Post-Impact Behavior

Max. Roll Angle (deg) N/A
 Max. Pitch Angle (deg) N/A
 Max. Yaw Angle (deg) N/A

Figure 13: 09005 Crash Test Summary



General Information

Test Agency Federal Outdoor Impact Lab.
 Test No. 09006
 Date 09/16/2009

Test Article

Type End-Terminal for SBT Guardrail
 Name or Mfg Generic
 Installation length (m) 21.5 m
 Size and/or dimension 12.35 m end-terminal length
 and material of key 1.37 m post spacings
 elements 9 breakaway posts

Soil Type and Condition Standard, dry

Test Vehicle

Type Production
 Designation 2000P
 Model 1999 Chevrolet C2500
 Mass (kg) 2105.0
 Test Inertial 2029.0
 Dummy 0.0
 Gross Static 2029.0

Impact Conditions

Speed (km/h) 71.26
 Angle (deg) 0

Exit Conditions

Speed (km/h) 0
 Angle (deg) 2

Occupant Risk Values

Impact Velocity (m/s)
 x-direction 4.9
 y-direction 0.2
 THIV (optional) N/A
 Ridedown Accelerations (g's)
 x-direction 8.2
 y-direction 3.7
 PHD (optional) N/A
 ASI (optional) N/A
 Max. 0.050-s Average (g's)
 x-direction -4.34
 y-direction -1.11
 z-direction -2.48

Test Article Deflection (m)

Dynamic N/A
 Permanent N/A

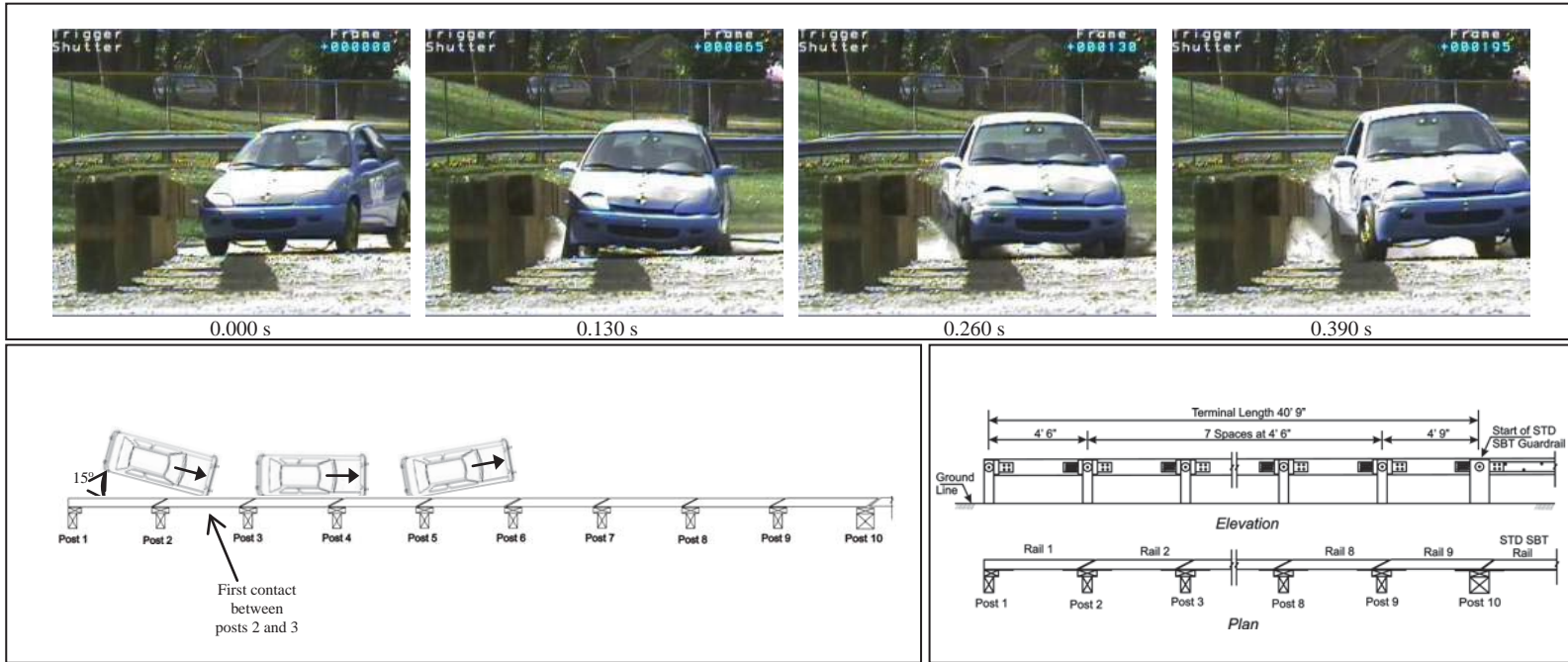
Vehicle Damage

Exterior
 VDS N/A
 CDC N/A
 Interior
 OCDI N/A
 Maximum Exterior
 Vehicle Cruch (mm) N/A
 Max. Occ. Compart.
 Deformation (mm) 0

Post-Impact Behavior

Max. Roll Angle (deg) N/A
 Max. Pitch Angle (deg) N/A
 Max. Yaw Angle (deg) N/A

Figure 18: 09006 Crash Test Summary



General Information

Test Agency Federal Outdoor Impact Lab.
 Test No. 09008
 Date 10/13/2009

Test Article

Type End-Terminal for SBT Guardrail
 Name or Mfg Generic
 Installation length (m) 21.5 m
 Size and/or dimension 12.35 m end-terminal length
 and material of key 1.37 m post spacings
 elements 9 breakaway posts

Soil Type and Condition Standard, dry

Test Vehicle

Type Production
 Designation 820C
 Model 1997 Geo Metro
 Mass (kg) Curb 791.0
 Test Inertial 885.5
 Dummy 69.5
 Gross Static 885.5

Impact Conditions

Speed (km/h) 69.83
 Angle (deg) 15

Exit Conditions

Speed (km/h) 61
 Angle (deg) 4

Occupant Risk Values

Impact Velocity (m/s)
 x-direction 3.6
 y-direction 6.5
 THIV (optional) N/A
 Ridedown Accelerations (g's)
 x-direction 3.0
 y-direction 8.9
 PHD (optional) N/A
 ASI (optional) N/A
 Max. 0.050-s Average (g's)
 x-direction -2.62
 y-direction -6.15
 z-direction 1.21

Test Article Defelction (m)

Dynamic 0
 Permanent 0

Vehicle Damage

Exterior
 VDS N/A
 CDC N/A
 Interior
 OCDI N/A
 Maximum Exterior
 Vehicle Cruch (mm) N/A
 Max. Occ. Compart.
 Deformation (mm) 0

Post-Impact Behavior

Max. Roll Angle (deg) N/A
 Max. Pitch Angle (deg) N/A
 Max. Yaw Angle (deg) N/A

Figure 28: 09008 Crash Test Summary



General Information

Test Agency Federal Outdoor Impact Lab.
 Test No. 09009
 Date 10/22/2009

Test Article

Type End-Terminal for SBT Guardrail
 Name or Mfg Generic
 Installation length (m) 21.5 m
 Size and/or dimension 12.35 m end-terminal length
 and material of key 1.37 m post spacings
 elements 9 breakaway posts

Soil Type and Condition Standard, dry

Test Vehicle

Type Production
 Designation 2000P
 Model 1999 Chevrolet C2500
 Mass (kg) Curb 2061.5
 Test Inertial 2025.0
 Dummy 0.0
 Gross Static 2025.0

Impact Conditions

Speed (km/h) 69.96
 Angle (deg) 20

Exit Conditions

Speed (km/h) 52
 Angle (deg) 6

Occupant Risk Values

Impact Velocity (m/s)
 x-direction 3.2
 y-direction 4.9
 THIV (optional) N/A
 Ridedown Accelerations (g's)
 x-direction 1.5
 y-direction 3.9
 PHD (optional) N/A
 ASI (optional) N/A
 Max. 0.050-s Average (g's)
 x-direction -3.50
 y-direction -5.03
 z-direction -1.62

Test Article Deflection (m)

Dynamic 0
 Permanent 0

Vehicle Damage

Exterior
 VDS N/A
 CDC N/A
 Interior
 OCDI N/A
 Maximum Exterior
 Vehicle Cruch (mm) N/A
 Max. Occ. Compart.
 Deformation (mm) 0

Post-Impact Behavior

Max. Roll Angle (deg) N/A
 Max. Pitch Angle (deg) N/A
 Max. Yaw Angle (deg) N/A

Figure 33: 09009 Crash Test Summary