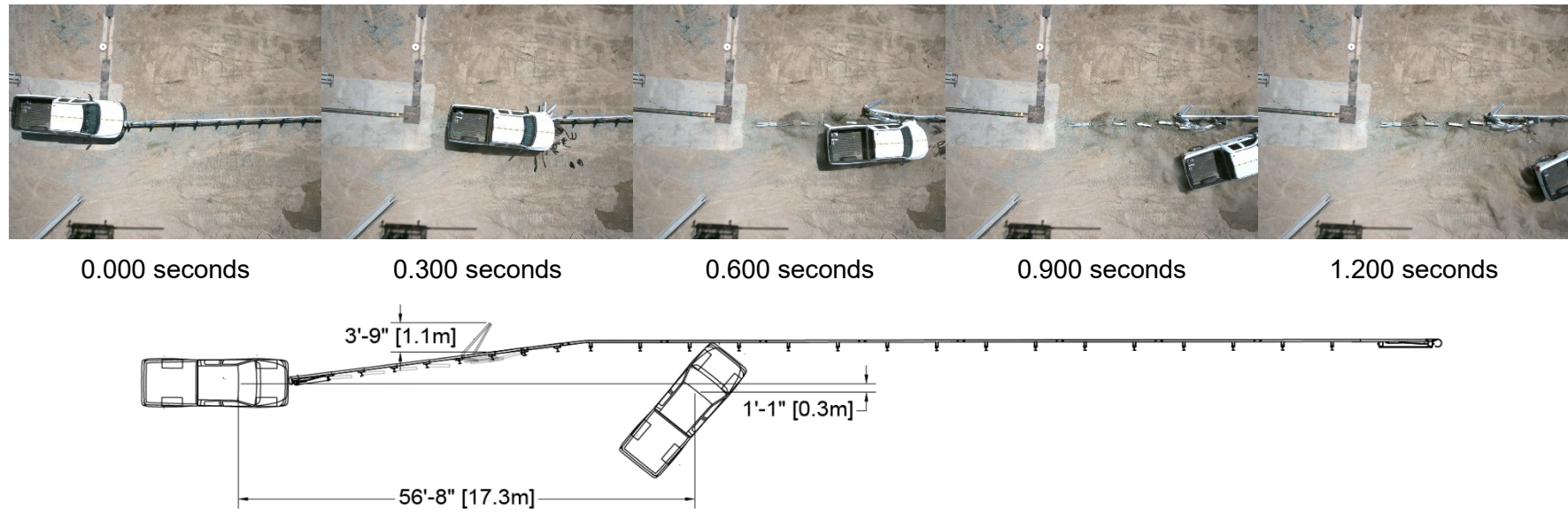


MASH 2016 Test 3-31 Summary



GENERAL INFORMATION

Test Agency..... Applus IDIADA KARCO
 Test Number..... P43090-01
 Test Designation..... 3-31
 Test Date..... 8/30/23

TEST ARTICLE

Name / Model..... 4F-T flared terminal
 Type..... Terminal
 Installation Length..... 141.4 ft. (43.1 m)
 Terminal Length..... 34.4 ft. (10.5 m)
 Road Surface..... Smooth concrete to fine silty soil

TEST VEHICLE

Type / Designation..... 2270P
 Year, Make, and Model.... 2017 RAM 1500
 Curb Mass..... 5,251.3 lbs (2,382.0 kg)
 Test Inertial Mass..... 5,011.0 lbs (2,273.0 kg)
 Gross Static Mass..... 5,011.0 lbs (2,273.0 kg)

Impact Conditions

Impact Velocity..... 61.42 mph (98.84 km/h)
 Impact Angle..... 0.4° relative to downstream rail
 Location / Orientation..... 0.8 in. toward the pass side

Kinetic Energy..... 631.9 kip-ft (856.7 kJ)
 Minimum KE Required.... 594.0 kip-ft (806.0 kJ)

Exit Conditions

Exit Velocity..... N/A
 Exit Angle..... N/A
 Final Vehicle Position..... 56.7 ft. (17.3 m) dw
 1.1 ft. (0.3 m) Right
 Vehicle Snagging..... Satisfactory
 Vehicle Pocketing..... Satisfactory
 Vehicle Stability..... Satisfactory
 Maximum Roll Angle..... 7.2 °
 Maximum Pitch Angle..... 13.0 °
 Maximum Yaw Angle..... -42.7 °

Occupant Risk

Longitudinal OIV..... 23.6 ft/s (7.2 m/s)
 Lateral OIV..... -2.0 ft/s (-0.6 m/s)
 Longitudinal RA..... -9.5 g
 Lateral RA..... 3.8 g
 THIV..... 24.0 ft/s (7.3 m/s)
 PHD..... 9.7 g
 ASI..... 0.56

Test Article Deflections

Static..... 2.6 ft. (0.8 m)
 Dynamic..... 3.4 ft. (1.0 m)
 Working Width..... 3.8 ft. (1.1 m)
 Debris Field..... N/A

Vehicle Damage

Vehicle Damage Scale..... 12-FD-7
 CDC..... 12FDEW2
 Maximum Deformation... 0.0 in. (0 mm)
 0.0 in. (0 mm)

Figure 2 Summary of Test 3-31