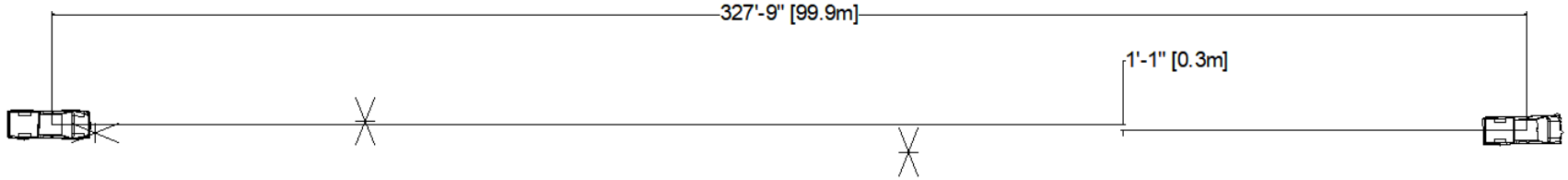
MASH 2016 Test 3-72 Summary

0° CIA **90° CIA**

0.000 seconds 0.200 seconds 0.300 seconds 0.700 seconds 0.800 seconds 0.900 seconds



General Information

Test Agency…… Applus IDIADA KARCO
Test Number……P41104-01
Test Designation…… 3-72
Test Date……5/4/21

Test Article

Name / Model……STF1008 with 48" x 48" Roll-Up Sign
Type……Work-Zone Device
Device Height …… 10.7 ft. (3.3 m)
Key Elements……STF1008 Base, Vinyl Roll-Up Sign, Flags
Road Surface……Smooth, clean concrete

Test Vehicle

Type / Designation……2270P
Year, Make, and Model……2016 RAM 1500
Curb Mass……5,147.8 lbs (2,335.0 kg)
Test Inertial Mass……5,005.5 lbs (2,270.5 kg)
Gross Static Mass……5,005.5 lbs (2,270.5 kg)

Figure 2: Summary of Test 3-72

Impact Conditions

Impact Velocity Device 1…… 63.69 mph (102.50 km/h)
Impact Velocity Device 2…… 60.96 mph (98.11 km/h)
Device 1 Angle…… 0.0°
Device 2 Angle…… 90.0°
Location / Orientation Device 1.. 20.7 in. (527 mm) From Vehicle Centerline on Passenger Side
Location / Orientation Device 2.. 23.8 in. (604 mm) From Vehicle Centerline on Driver Side
Device 1 Kinetic Energy…… 678.8 kip-feet (920.3 Kilojoules)
Device 2 Kinetic Energy…… 621.9 kip-ft (843.2 Kilojoules)
Minimum KE Required…..... 694 kip-feet (806 Kilojoules)

Exit Conditions

Device 1 Exit Velocity…… 63.19 mph (101.7 km/h)
Device 2 Exit Velocity…… 60.02 mph (96.6 km/h)
Vehicle Resting Position…… 327.8 ft. (99.9 m) Downstream 1.0 ft. (0.3 m) Toward the Right
Vehicle Stability ……Satisfactory
0° - Maximum Roll Angle…… Did Not Exceed 75°
90° - Maximum Pitch Angle…… Did Not Exceed 75°
0° - Maximum Roll Angle…… Did Not Exceed 75°
90° - Maximum Pitch Angle…… Did Not Exceed 75°

Occupant Risk

Longitudinal OIV……Not Applicable*
Lateral OIV……Not Applicable*
Longitudinal RA……Not Applicable*
Lateral RA…… Not Applicable*
THIV……Not Applicable*
PHD……Not Applicable*
ASI…… Not Applicable*

Test Article Deflections

0° Sign Debris Field (longitudinal) … 94.2 ft. (28.7 m)
0° Sign Debris Field (lateral)… 28.5 ft. (8.7 m)
90° Sign Debris Field (longitudinal).. 120.7 ft. (36.8 m)
90° Sign Debris Field (lateral)…… 6.9 ft. (2.1 m)

Vehicle Damage

Vehicle Damage Scale……12-FD-1
CDC……12FLHN1
0° Maximum Deformation……0.1 in. (3 mm) Windshield
90° Maximum Deformation……MASH Deformation Limits Not Exceeded (0.0 in.)

** Not Applicable, device weighs less than 220 lbs (100 kg)*