CRASH DATA RESEARCH CENTER
Calspan Corporation
Buffalo, NY 14225

CALSPAN ON-SITE CERTIFIED ADVANCED 208-COMPLIANT VEHICLE CRASH INVESTIGATION
SCI CASE NO.: CA08047

VEHICLE: 2006 DODGE CHARGER

LOCATION: NEW YORK

CRASH DATE: SEPTEMBER 2008

Contract No. DTNH22-07-C-00043

Prepared for:

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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points are coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

TECHNICAL REPORT STANDARD TITLE PAGE

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An investigation of the offset frontal crash of a 2006 Dodge Charger and a 1998 Honda Accord.

16. Abstract

This on-site investigation focused on the Certified Advanced 208-Compliant (CAC) frontal air bag system in a 2006 Dodge Charger. The manufacturer of the Dodge certified that the vehicle was compliant to the advanced air bag portion of Federal Motor Vehicle Safety Standard No. 208. The CAC air bag system consisted of dual stage frontal air bags for the driver and front right passenger positions, safety belt retractor pretensioners, safety belt buckle switches, seat track positioning sensors, and an occupant presence sensor for the front right position. In addition to the CAC system, the Dodge was equipped with an Event Data Recorder (EDR) that was imaged during the on-site investigation. The Dodge was occupied by a restrained 46-year-old male driver and was involved in an off-set, head-on crash with a 1998 Honda Accord. The crash actuated the driver's pretensioner and deployed the driver's frontal air bag in the Dodge. The Dodge subsequently rotated in a counterclockwise (CCW) direction and rolled over two-quarter turns onto its roof as it slid to final rest. The driver of the Dodge was transported to a local hospital with police-reported back pain.

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VEHICLE: 2006 DODGE CHARGER
LOCATION: NEW YORK
CRASH DATE: SEPTEMBER 2008

BACKGROUND

This on-site investigation focused on the Certified Advanced 208-Compliant (CAC) frontal air bag system in a 2006 Dodge Charger **(Figure 1)**. The manufacturer of the Dodge certified that the vehicle was compliant to the advanced air bag portion of Federal Motor Vehicle Safety Standard No. 208. The CAC air bag system consisted of dual stage frontal air bags for the driver and front right passenger positions, safety belt retractor pretensioners, safety belt buckle switches, seat track positioning sensors, and an occupant presence sensor for the front right position. In addition to the CAC system, the Dodge was equipped with an Event Data Recorder (EDR) that was imaged during the on-site investigation. The Dodge was occupied by a restrained 46-year-old male driver and was involved in an off-set, head-on crash with a 1998 Honda Accord. The crash actuated the driver's pretensioner and deployed the driver's frontal air bag in the Dodge. The Dodge subsequently rotated in a counterclockwise (CCW) direction and rolled over two-quarter turns onto its roof as it slid to final rest. The driver of the Dodge was transported to a local hospital with police-reported back pain.

Figure 1: Left front oblique view of the 2006 Dodge Charger.

This crash was identified by the Calspan Special Crash Investigations (SCI) team on September 30, 2008. Details of the crash were forwarded to the National Highway Traffic Safety Administration's (NHTSA's) Crash Investigation Division (CID) on the same day. Due to the deployment of the CAC frontal air bag system and subsequent rollover, the case was assigned for on-site investigation. The investigation involved the inspection and documentation of the involved vehicles and the crash site, and the imaging of the EDR in the Dodge. The driver could not be located to conduct an interview and the hospital refused to release the medical records. The on-site investigation was conducted on October 1, 2008.

SUMMARY

Crash Site

The crash occurred during the daylight hours of September 2008. At the time of the crash, the weather was clear and dry and was not a factor. The crash occurred within the outboard westbound lane of a five-lane east/west roadway. The roadway was straight and level and had a posted speed limit of 72 km/h (45 mph). The east/west roadway was surfaced with asphalt and was configured with two travel lanes in each direction. The outboard travel lanes measured 3.2 meters (1.5 feet) in width; the inboard lanes measured 3.1 meters (10.2 feet) in width. A 3.5 meter (11.5 feet) wide center two-way left turn lane separated the respective travel directions. The north side of the roadway was bordered by a 1.5 meter (4.9 feet) wide paved shoulder. A concrete curb extended beyond the shoulder. Numerous driveways were present along the north road side. The south road side was intersected by a two-lane north/south roadway forming a T-intersection.

Vehicle Data

2006 Dodge Charger

The 2006 Dodge Charger R/T Daytona was manufactured in 05/06 and was identified by Vehicle Identification Number (VIN): 2B3KA53H26H (production number deleted). The digital odometer reading was unknown. The Dodge was powered by a 5.7-liter, conventionally mounted 8-cylinder engine linked to a 5-speed automatic transmission with a console-mounted shift lever. The service brakes were power-assisted front and rear disc with antilock, electronic brake force distribution, and brake assist. The Dodge was also equipped with Electronic Stability Control (ESC) and traction control. The tires were Michelin Pilot HX MXM4 size, P235/55R18 mounted on OEM alloy wheels. The manufacturer's recommended tire size was P235/55R18. The vehicle manufacturer recommended cold tire pressure was 207 kPa (30 PSI) for the front and rear. The tire data at the time of the SCI inspection was as follows:

Position	Measured Pressure	Measured Tread Depth	Tire/Wheel Damage
Left Front	Tire Flat	3 mm (4/32")	Cut sidewall
Left Rear	228 kPa (33 PSI)	3 mm (4/32")	None
Right Front	234 kPa (34 PSI)	3 mm (4/32")	None
Right Rear	241 kPa (35 PSI)	4 mm (5/32")	Rim bead abrasions

The interior safety systems consisted of 3-point lap and shoulder belts for the five positions and the CAC frontal air bag system. The vehicle was not equipped with inflatable side impact or rollover protection.

1998 Honda Accord

The 1998 Honda Accord was manufactured in 07/98 and was identified by the following VIN: 1HGCG6674WA (production number omitted). The Honda Accord was equipped with a 2.3-liter, inline 4-cylinder engine linked to a 4-speed automatic transmission with front-wheel drive, manual safety belts, and a frontal air bag system. The Honda was equipped with OEM five-spoke alloy wheels with Bridgestone Insignia SE 200 tires on the left front, left rear, and right rear. The right front tire was a Summit Siempre. All four tires were size P195/65R15 (the manufacturer's recommended size).. The vehicle manufacturer recommended cold tire pressure was 200 kPa (29 PSI) for the front and rear. The tire data at the time of the SCI inspection was as follows:

Position	Measured Pressure	Measured Tread Depth	Damage
Left Front	Tire Flat	6 mm (8/32")	Cut sidewall
Left Rear	193 kPa (28 PSI)	6 mm (8/32")	None
Right Front	179 kPa (26 PSI)	6 mm (8/32")	None
Right Rear	193 kPa (28 PSI)	7 mm (9/32")	None

Crash Sequence

Pre-Crash

The driver of the Dodge was operating the vehicle eastbound in the inboard lane **(Figure 2)**. The Honda was traveling westbound in the inboard lane **(Figure 3)** occupied by a 23-year-old female driver and a 25-year-old male front right passenger. The driver of the Dodge reportedly had a history of seizures and per the police investigator experienced a seizure from medication that he had ingested. This medical episode resulted in the driver of the Dodge relinquishing directional control of the vehicle. The Dodge drifted to the left, traversed the center two-way left turn lane and entered the inboard westbound lane. The crash schematic is included as **Figure 11** at the end of this report.

Figure 2: Eastbound trajectory view of the Dodge.

Figure 3: Westbound trajectory view of the Honda.

Crash

The front left corner of the Dodge impacted the front left corner of the Honda in an off-set head-on configuration. The direction of force for the impact was within the 12 o'clock sector for both vehicles. The Damage Algorithm of the WinSMASH program was used to calculate the severity of the crash (delta-V). The total delta-V for the Dodge was 28.0 km/h (17.4 mph) with a longitudinal component of -28.0 km/h (-17.4 mph) and lateral component of 0 km/h. The total calculated delta-V for the Honda was 36.0 km/h (22.4 mph) with a longitudinal and lateral component of -35.5 km/h (-22.1 mph) and 6.3 km/h (3.9 mph), respectively. As the vehicles crushed, the contact continued down the left side planes of both vehicles. During this engagement, the left front wheel separated from the Dodge. The left front undercarriage of the Dodge contacted the asphalt road surface resulting in a 2.5 meter (8.2 feet) gouge on the center two-way left turn lane.

The Dodge began to rotate in a counterclockwise (CCW) as it traveled in a southeast trajectory. The right rear tire folded under the alloy rim resulting in the rim bead edge contacting the ground. A 5.4 meters (17.7 feet) gouge was noted on the asphalt road surface from the contact with the bead edge. This gouge began on the center two-way left turn lane and extended onto the outboard eastbound lane. **Figure 4** depicts the right rear wheel gouge and the southeast trajectory of the Dodge. The Dodge then tripped into a right side leading rollover event. The Dodge rolled over two-quarter turns onto its roof. The vehicle came to rest at the southeast corner of the T-intersection 20 meters (65.6 feet) from the trip point. The Honda was displaced rearward and rotated CCW coming to rest approximately 7 meters (23 feet) east of the point of impact.

Figure 4: Right rear wheel gouge and southeast trajectory of the Dodge.

Post-Crash

Police and emergency medical personnel responded to the crash site. The driver of the Dodge had a police-reported complaint of back pain. His injuries were unknown. He was transported to a local hospital for evaluation. The driver and front right passenger of the Honda were extricated from the vehicle and were transported by ground ambulance to a local hospital with non-incapacitating injuries.

2006 Dodge Charge

Exterior Damage

The 2006 Dodge Charger sustained moderate-severity damage to the front and left side planes as a result of the impact with the 1998 Honda Accord **(Figures 5 and 6)**. The damaged components included but were not limited to the bumper fascia, bumper beam, hood, left fender, left front door, and the left front wheel and suspension components. The direct contact damage began 46 cm (18 in) left of the centerline and extended 33 cm (13 in) to the left bumper corner. Due to the corner impact configuration, the direct contact damage extended 230 cm (90.5 in) along the left plane to the left front door area. The left front wheel was directly involved in the vehicle-to-vehicle engagement, resulting in separation of the left front wheel and suspension components. The lower control arm fractured during the engagement and the inner tie rod end separated. The maximum crush measured 33 cm (13 in) and was located at the left corner of the bumper beam. The crush profile documented along the bumper beam was as follows: C1 = 33 cm (13 in), C2 = 12 cm (4.7 in), C3 = 13 cm (5.8 in), C4 = 12 cm (4.7 in), C5 = 6 cm (2.4 in), C6 = 0 cm. The Collision Deformation Classification (CDC) for this impact was 12FLEE7.

Figure 5: Frontal damage to the Dodge.

Figure 6: Direct contact damage extending down left side of the Dodge.

The Dodge sustained minor-severity damage to the right and top planes during the rollover event. The damage consisted of surface abrasions to both planes and vertical crush of the roof. The maximum vertical crush (**Figure 7**) occurred at the right center aspect of the windshield header and measured 8 cm (3 in). There was no lateral deformation to the roof structure. The CDC of the rollover event was 00TDDO2. The four doors of the Dodge remained closed during the crash. The left side doors were jammed in the closed position

Figure 7: Image depicting the maximum vertical roof crush at the windshield header of the Dodge.

due to the damage and the right side doors were operational post-crash. The windshield was fractured and holed during the crash resulting in integrity loss. The integrity loss to the windshield measured 76 cm (30 in) in width and 25 cm (10 in) in height and encompassed the right and center aspects. The left front, backlight and roof glazing disintegrated and the remaining side and rear glass were intact.

Interior Damage

The interior of the 2006 Dodge Charger sustained moderate damage as a result of driver contact, deployment of the safety systems, and passenger compartment intrusions. The interior of the Dodge was configured for five-passenger seating with front bucket seats and a rear bench seat. The seat surfaces consisted of black leather. The front seating positions were equipped with height adjustable head restraints. The driver's head restraint was adjusted to 8 cm (3 in) above the seat back. The seat back was adjusted to a measured angle of 10 degrees aft of vertical with the seat track adjusted to the full-rear position. The tilt steering wheel was located in the mid-position.

The driver's contact points consisted of two knee impacts to the knee bolster which were evidenced by deformation of the rigid plastic panel **(Figure 8)**. The first contact was attributed to the driver's left knee and was located 34 cm (13.5 in) left of the steering column centerline. The second contact was located 8 cm (3 in) right of the centerline and was attributed to the driver's right knee. The passenger compartment intrusions are listed in the following table:

Figure 8: Overall view of the knee bolster contacts.

Location	Component	Magnitude	Direction
Row 1 Left	Windshield header	7 cm (2.7 in)	Vertical
Row 1 Left	Roof	7 cm (2.8 in)	Vertical
Row 1 Left	Floor	3 cm (1 in)	Vertical
Row 1 Left	Instrument panel	9 cm (3.5 in)	Longitudinal
Row 1 Left	Toe pan	27 cm (10.5 in)	Longitudinal
Row 1 Center	Windshield header	8 cm (3.3 in)	Vertical
Row 1 Center	Roof	10 cm (4 in)	Vertical
Row 1 Right	Windshield header	1 cm (0.5 in)	Vertical
Row 1 Right	Roof	4 cm (1.5 in)	Vertical
Row 2 Left	Roof	9 cm (3.5 in)	Vertical
Row 2 Center	Roof	7 cm (2.8 in)	Vertical
Row 2 Right	Roof	4 cm (1.5 in)	Vertical

Certified Advanced 208-Compliant Frontal Air Bag System

The 2006 Dodge Charger was equipped with a CAC frontal air bag system for the driver and front right passenger positions. This system consisted of dual-stage air bags, seat track position sensors, safety belt buckle switch sensors, a front right occupant presence detection sensor, and front safety belt retractor pretensioners. As a result of the crash, the driver's frontal air bag deployed. The driver's air bag was concealed in the center hub of the four-spoke steering wheel by two cover flaps. The top flap measured 15 cm (6 in) in width at the horizontal tear seam. The lower flaps were 15 cm (6 in) in width and 6 cm (2.5 in) in height. The air bag measured 56 cm (22 in) in diameter in its deflated state and was tethered internally by two straps. The air bag was vented by two ports located at the 11 and 1 o'clock positions. The maximum rearward excursion of the air bag measured 27 cm (10.5 in). There were no occupant contact points or damage to the driver's frontal air bag.

The front right air bag was a top-mount design incorporated into the right instrument panel. The front right air bag deployment was suppressed due to the unoccupied front right seat.

Event Data Recorder

The Dodge was equipped with an Air bag Control Module (ACM) that had EDR capabilities. The SCI investigator imaged the EDR through the Diagnostic Link Connector (DLC) utilizing software version 3.0 of the Bosch Crash Data Retrieval Tool (CDR) and applying external 12-volt electrical power. The EDR data was not recoverable by the CDR tool. The imaged data was reanalyzed and reported with software version 3.4. The data is included at the end of this report as ATTACHMENT A.

Manual Safety Belt Systems

The safety belt systems consisted of manual 3-point lap and shoulder belts for all five positions. The front belts were equipped with height adjustable D-rings and retractor-mounted pretensioners. The driver's D-ring was adjusted to the full-down position. The driver's belt system was equipped with an Emergency Locking Retractor (ELR).

The driver utilized the safety belt during the crash which was supported by loading evidence on the lap and shoulder portions of the webbing and the latch plate. As a result of the crash, the retractor pretensioner actuated and tightened the webbing around the driver. During this motion, the belt webbing was pulled through the D-ring and the latch plate resulting in frictional abrasions to the plastic surface of these components. The driver loaded the safety belt which then pulled the webbing through the D-ring in a forward motion. The combination of the actuating pretensioner and the driver loading resulted in a 10 cm (3.8 in) transfer on the webbing from the D-ring. A 3 cm (1.3 in) transfer was noted on the webbing from the B-pillar trim panel that was located 20 cm (8 in) below the D-ring. Two areas of creasing were noted on the

webbing from the driver loading. The creasing was located on the torso section 36 cm (14 in) below the D-ring and 43 cm (17 in) below the D-ring.

The front right and rear safety belt systems utilized switchable ELR and Automatic Locking Retractor (ALR). These positions were unoccupied at the time of the crash.

1998 Honda Accord

Exterior Damage

The 1998 Honda Accord sustained moderate-severity frontal damage as a result of the crash **(Figure 9 and 10)**. In addition to the crash damage, the roof was cut off by rescue personnel during the extrication of the driver and the front right passenger. The direct contact damage began 37 cm (14.5 in) left of the centerline and extended 39 cm (15.5 in) to the left bumper corner. Due to the corner impact, the direct contact damage extended onto the left plane, ending at the left front door. The maximum crush measured 64 cm (25.2 in) and was located on the left end of the bumper beam. A crush profile was documented along the bumper beam which was as follows: C1 = 64 cm (25.2 in), C2 = 36 cm (14.2 in), C3 = 30 cm (11.8 in), C4 = 22 cm (8.7 in), C5 = 10 cm (3.9 in), C6 = 0 cm. The CDC for this impact was 12FLEE6.

Figure 9: Left oblique view of the frontal crush to the Honda.

Figure 10: Residual left side damage to the Honda.

2006 Dodge Charger Driver Demographics

Age/Sex:	46-year-old/Male
Height:	Unknown
Weight:	Unknown
Seat Track Position:	Full-rear-track position
Safety Belt Usage:	3-point manual lap and shoulder safety belt
Usage Source:	SCI vehicle inspection
Egress from Vehicle:	Assisted by first responders
Mode of Transport from Scene:	Ground ambulance
Type of Medical Treatment:	Unknown

Driver Injuries

Injury	***Injury Severity (AIS 90/ Update 98)***	***Injury Source***
Complaint of back pain	Not codeable per AIS rules	N/A
Unknown if injured	N/A	N/A

Source: Police report

Driver Kinematics

The 46-year-old male driver of the 2006 Dodge Charger was seated in a full-rear track position with the seat back reclined 10 degrees aft of vertical. He was restrained by the manual lap and shoulder safety belt system. At impact with the Honda, the safety belt pretensioner actuated and the frontal air bag deployed. The driver initiated a forward trajectory in response to the 12 o'clock direction force. The driver's knees contacted the knee bolster which was evidenced by the two the areas of deformation to this component. The driver loaded the belt system as he rode down the frontal crash forces.

The Dodge subsequently rolled over right side leading two-quarter turns and came to rest on its roof. During the rollover event, the driver remained engaged with the belt system and continued the loading. The use of the safety belt helped maintain the driver's position within the front left seating area. The driver had a compliant of back pain and was transported to a local hospital for possible treatment. His injuries were unknown.

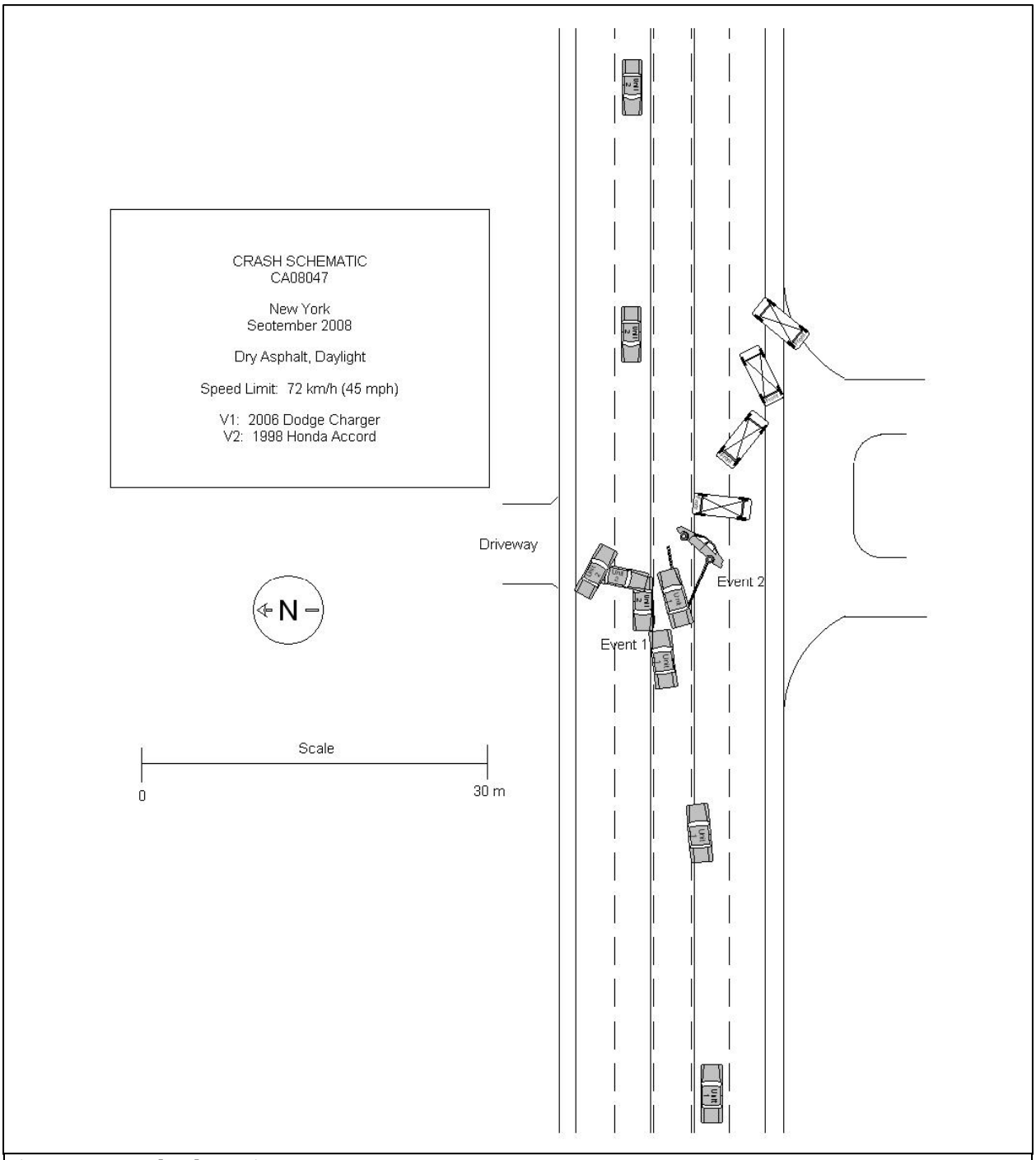

Figure 11: Crash schematic.

ATTACHMENT A:

2006 Dodge Charger EDR Data

IMPORTANT NOTICE: Robert Bosch LLC and the manufacturers whose vehicles are accessible using the CDR System urge end users to use the latest production release of the Crash Data Retrieval system software when viewing, printing or exporting any retrieved data from within the CDR program. Using the latest version of the CDR software is the best way to ensure that retrieved data has been translated using the most current information provided by the manufacturers of the vehicles supported by this product.

CDR File Information

User Entered VIN	2B3KA53H26H******
User	
Case Number	
EDR Data Imaging Date	
Crash Date	
Filename	CA08047 CDR.CDR
Saved on	Wednesday, October 1 2008 at 11:43:38 AM
Collected with CDR version	Crash Data Retrieval Tool 3.00
Reported with CDR version	Crash Data Retrieval Tool 3.4
EDR Device Type	airbag control module
Event(s) recovered	None

Comments

No comments entered.

Data Limitations

AIRBAG CONTROL MODULE (ACM) DATA LIMITATIONS:

GENERAL INFORMATION:

CAUTION: During Bench top imaging, make sure the ACM is not moved, tilted or turned over while connected to and powered by the CDR Interface Module. Also, after a CDR imaging process, wait 2 minutes after power is removed from the ACM before attempting to move the module. Not following these general ACM guidelines for bench top imaging could cause new events to be recorded in the ACM.

The ACM current fault status will be altered if the ACM is powered-up without having all of the other vehicle inputs connected (e.g., bench top imaging). This situation will occur when the CDR tool is connected directly to the ACM. This will not affect any of the stored fault data information in any of the Event Records. Always make a note in the CDR case comments page when an ACM bench top imaging process is performed.

The recorded Deployment Event will contain Pre-Crash data.

- T0 (where '0' is subscript) (-.01 sec.) is defined as the last sample point in the vehicle data buffer when the ACM commanded a deployment for all vehicles except the 2008 - 2010 Dodge Grand Caravan, 2008-2010 Chrysler Town and Country and 2009-2010 Dodge Journey. In these vehicles, T0 (where '0' is subscript) is defined as the algorithm wakeup. Please note that the algorithm wakeup may be different for front, side, and roll-over events and their associated parameters.
- The VIN is captured by the ACM and then recorded as the Original VIN after 10 consecutive ignition cycles of capturing the same number. Once it has been recorded, this number can not be modified.

CDR FILE INFORMATION:

Event(s) Recovered definitions:

- None - There are no stored events in the Airbag Control Module (ACM)
- Not Retrievable - Event Data is stored in the ACM but is not retrievable by the CDR tool.
- For Continental ACMs:
  - Event Record 1 - Data from an event is stored in the ACM (not necessarily in chronological order)
  - Event Record 2 - Data from another event is stored in the ACM (not necessarily in chronological order)
  - Event Record 3 - Data from another event is stored in the ACM (not necessarily in chronological order)
- For all other ACMs:
  - Most Recent Event - Data of the most recent event is displayed in the report
  - 1st Prior Event - Two events are stored in the ACM, Data displayed is of the first prior event.
  - 2nd Prior Event - Three events are stored in the ACM, Data displayed is of the second prior event.
  - Etc., (for modules with 3 to 5 stored events)

CDR RECORD INFORMATION:

- If power to the ACM is lost during a deployment event, all or part of the event data record may not be recorded. "Interrupted" will be displayed for Vehicle Event Recorder Status.
- The Airbag Control Module Configuration indicates the inputs and outputs that the ACM for a particular vehicle monitors and/or controls.
- For applicable vehicles, the "Event Number" in the System Status at Event section of the report indicates the order of the events.

- For applicable vehicles, the “Total Number of Events Recorded” in the System Status at Event section of the report indicates the total number of events that the ACM has recorded.
- For applicable vehicles, a “Yes” for a particular item in the Deployment Command Data section of the report indicates that the ACM commanded the deployment of the associated device.
- Vehicle Data (Pre-Crash) is transmitted to the Airbag Control Module, by various vehicle control modules, via the vehicle’s communication network.
- On 2006-2009 Dodge Ram 2500/3500, the Engine RPM recorded is limited to a maximum of 4080 RPM. On the 2008 - 2010 Dodge Grand Caravan, 2008-2010 Chrysler Town and Country and 2009-2010 Dodge Journey, the engine RPM resolution is 256 rpm. On all other vehicles, the resolution is 32 rpm.
- If a recorded event has Engine RPM equal to SNA and Speed, Vehicle Indicated equals SNA for each time stamp, then the data is default data and the event stored in the ACM is not valid.
  - The accuracy of the recorded Speed, Vehicle Indicated will be affected if the vehicle had the tire size or the final drive axle ratio changed from the factory build specifications.
  - Speed, Vehicle Indicated is reported as an average of the drive wheels.
- On the 2008 - 2010 Dodge Grand Caravan, 2008-2010 Chrysler Town and Country and 2009-2010 Dodge Journey, the vehicle speed resolution is 2 kph. On all other vehicles, the resolution is 1 kph.
- The MIL (Malfunction Indicator Lamp) Status for the various recorded systems indicates the state of the applicable malfunction indicator lamp at the time that the data was captured. Note: Some fault codes could be stored due to component/system damage from the accident.

NOTE: A StarScan Tool should be used to read any stored Diagnostic Trouble Codes (DTC’s) in the various electronic modules (ACM, PCM, ABS, TCM, etc., where applicable) for use in interpretation of some vehicle specific recorded data.

VEHICLE DATA DEFINITIONS:

Vehicle Event Recorder Status definitions:

- For additional definitions, please refer to the CDR Help File Glossary
- ABS MIL status - This indicates the ABS fault indicator lamp status. It will only be illuminated when there is a fault in the ABS system. The Electronic brake module DTC’s should be read and recorded for final system interpretation.
- ESP MIL status - This indicates the ESP/BAS fault indicator lamp status. It will only be illuminated when there is a fault or thermal model shutdown in the ESP system. The ESP module DTC’s should be read and recorded for final system interpretation. This is only valid for vehicles equipped with ESP.
- ESP Lamp Steady State Requested - This is the status of the ESP symbol - “car with squiggly lines” indicator lamp. “Yes” indicates ESP has been turned off by the driver or has reduced performance and is not an indication of a fault in the system. This is only valid for vehicles equipped with ESP.
- ESP Lamp Flashing Requested - If “Yes”, then an ESP, Traction Control or Trailer Sway Control (if equipped) event was active at the time of data capture. This is only valid for vehicles equipped with ESP.
- ESP Disabled - “Yes” indicates that ABS & ESP have been disabled by the driver or due to system performance. This is only valid for vehicles equipped with ESP.
- Traction Control Button - When the button is "ON", (driver has pushed the button), the Traction Control system is "Disabled". When the button is "OFF", the Traction Control system is "Enabled".
- ESP Active - “YES” indicates that the ESP system is intervening with wheel specific braking/engine control. This is only valid for vehicles equipped with ESP.
- Panic Brake Assist Active - “Yes” indicates that all four of the brake circuits are under going ABS control. This is only valid for vehicles equipped with ESP.
- Steering Input (deg) if equipped:
  - Steering Input polarity is positive for right turns on:
    - 2005 - 2007 Grand Cherokee
    - 2006 - 2007 Commander
    - 2005 - 2010 300, Magnum, and Charger
    - 2008 - 2010 Challenger
  - Steering Input polarity is negative for right turns on:
    - All other vehicles and model years not specified above
- Yaw Rate (Degrees) if equipped: All vehicles have negative yaw rate when making a right turn.
- ETC Lamp Status - Lamp “ON “ indicates there is an active Electronic Throttle DTC. This is only valid for vehicles equipped with ETC.
- ETC Lamp Flashing - If “Yes”, then the ETC is in the limp-in mode. This is only valid for vehicles equipped with ETC.
- Engine Torque Applied - If “No”, then no engine torque output was applied (as in Park/Neutral for Automatic transmissions or clutch depressed on manual or during an ESP/Traction Control event), If “Yes”, then engine torque output was applied.
- Tire 1 (2) Location - This indicates the location of the tire pressure sensor data. Default is used to indicate that the location of the tire pressure sensor is unknown or there is no tire pressure sensor in the wheel. Vehicles with Base Tire Pressure Monitoring systems will display SNA for both Tire Locations as these vehicles do not send actual pressure values across the communication bus.
- Tire 1 (2) Pressure Status - This indicates the actual pressure status of the Tire Location defined in the previous column. Possible values are LOW, NORMAL, HIGH, or SNA for this parameter. Vehicles with Base Tire Pressure Monitoring systems will display NORMAL even though these vehicles do not send actual pressure values across the communication bus.
- Tire 1 (2) Pressure (psi) - This indicates the actual tire pressure value of the Tire Location defined. Vehicles with Base Tire Pressure Monitoring systems will display N/A for this parameter as these vehicles do not send actual pressure values across the communication bus.
- Cruise Control System - “Yes” indicates that the Cruise Control system is turned on.
- Cruise Control Active - “Yes” indicates the Cruise Control system is actively controlling vehicle speed. “No” indicates the system is NOT controlling vehicle speed.

APPLICATION INFORMATION:

- 2005 - 2010 Durango's equipped with side airbags have EDR data that can be imaged by the CDR tool. Durango's not equipped with side airbags have EDR Data that might be imaged by the CDR tool and can always be imaged by the supplier.
- For 2006 MY, some Chrysler 300, Dodge Magnum, Dodge Charger, Jeep Grand Cherokee, and Jeep Commander models may contain EDR data that can not be imaged by the CDR tool.
- For 2007 MY, some PT Cruiser models may contain EDR data that can not be imaged by the CDR tool.
- EDR Data is only recorded for frontal deployments in the following vehicles:
  - 2005-2007 Durango
  - 2007 Aspen
  - 2006-2007 Ram 1500
  - 2006-2009 Ram 2500/3500 Heavy Duty
  - 2007 Caliber, Compass, Patriot
  - 2007 Sebring
  - 2007 Nitro
  - 2007 Wrangler

03001_Chrysler_r003

System Status at Retrieval

Original VIN	2B3KA53H26H******
Airbag Control Module Part Number	05081041AG
Airbag Control Module Serial Number	T52MD319542381
Airbag Control Module Supplier	Bosch

System Configuration at Retrieval

Configured for Front Driver Seatbelt Switch	No
Configured for Front Center Seatbelt Switch	No
Configured for Front Passenger Seatbelt Switch	No
Configured for 2nd Row Left Seatbelt Switch	No
Configured for 2nd Row Center Seatbelt Switch	No
Configured for 2nd Row Right Seatbelt Switch	No
Configured for 3rd Row Left Seatbelt Switch	No
Configured for 3rd Row Center Seatbelt Switch	No
Configured for 3rd Row Right Seatbelt Switch	No
Configured for Driver Inflatable Knee Bolster	No
Configured for Left Curtain #1	No
Configured for Right Curtain #1	No
Configured for Left Curtain #2	No
Configured for Right Curtain #2	No
Configured for Front Driver Seatbelt Pretensioner	Yes
Configured for Front Center Seatbelt Pretensioner	No
Configured for Front Passenger Seatbelt Pretensioner	Yes
Configured for 2nd Row Left Seatbelt Pretensioner	No
Configured for 2nd Row Center Seatbelt Pretensioner	No
Configured for 2nd Row Right Seatbelt Pretensioner	No
Configured for 3rd Row Left Seatbelt Pretensioner	No
Configured for 3rd Row Center Seatbelt Pretensioner	No
Configured for 3rd Row Right Seatbelt Pretensioner	No
Configured for Left Side Sensor #1	No
Configured for Left Side Sensor #2	No
Configured for Left Side Sensor #3	No
Configured for Right Side Sensor #1	No
Configured for Right Side Sensor #2	No
Configured for Right Side Sensor #3	No
Configured for Left Up Front Sensor	Yes
Configured for Right Up Front Sensor	Yes
Configured for Front Driver Digressive Load Limiter	No
Configured for Front Passenger Digressive Load Limiter	No
Configured for Driver Seat Track Position Sensor	Yes
Configured for Passenger Seat Track Position Sensor	No
Configured for Passenger Airbag Disable Switch	No
Configured for Passenger Occupant Classification System	Yes