Insurance Institute for Highway Safety
Crashworthiness Evaluation

Crash Test Report
1999 Mazda 626 (CF99024)

Vehicle identification number:	1YVGF22C7X5898149
Body style:	Four-door sedan
Engine/transmission:	Transverse 2.0-liter 4-cylinder, 4-speed automatic, front-wheel drive

Standard crashworthiness features:

Driver and right front passenger airbags
Dual-locking shoulder belts (front seating positions only)
Shoulder belt upper anchorage height adjusters (front seating positions only)
Seat belt force-limiting mechanisms (front seating positions only)
Center rear lap/detachable shoulder belt
Right front and all rear shoulder belt retractors are convertible from emergency to automatic locking for ease of child restraint use

Optional safety features:

Four-wheel antilock brakes

Vehicle specifications (provided by manufacturer):

Wheelbase:	267 cm
Overall length:	474 cm
Overall width:	176 cm
Curb weight:	1,269 kg

Vehicle specifications (measured):

Front bumper to firewall:	124 cm
Curb weight:	1,300 kg
Test weight:	1,416 kg (60% front, 40% rear)
Overall width:	176 cm

Nominal test parameters:

40.0 mi/h (64.4 km/h), 40 percent overlap, deformable barrier face with slotted bumper

Crash test date:

October 19, 1999

Figure 1
Precrash and Postcrash Side Views — 1999 Mazda 626

Summary

A 1999 Mazda 626 was crash tested on October 19, 1999 into a fixed deformable barrier at 39.9 mi/h (64.2 km/h) and a 40 percent overlap on the driver side. A Hybrid III 50th percentile male dummy was positioned in the driver seat with the lap/shoulder belt fastened.

Measures of intrusion taken after the crash indicated the lower instrument panel in front of the dummy moved rearward 6-7 cm. Resultant intrusion in the driver footwell measured 14 cm at the footrest and 19-24 cm at other places on the toepan. All doors remained closed during the crash. After the crash, the driver door required tools to open, the left rear door required additional effort but no tools to open, and the right front and right rear doors opened with ease.

The driver dummy was restrained by a three-point lap/shoulder belt and an airbag. During the crash, 4 cm of webbing spooled off the retractor, including about 1 cm from the force-limiting mechanism. The airbag contacted the dummy's face during deployment. During rebound from the airbag, the dummy's head tilted outward somewhat, and the rear of the head contacted the leading edge of the B-pillar and shoulder belt upper anchorage D-ring. Then the top of the head contacted the top rail of the window frame just ahead of the B-pillar. After the crash, the upper end of the steering column had moved downward 4 cm and rearward 3 cm.

The maximum resultant head acceleration from the B-pillar and shoulder belt D-ring contact was 118 g, but the head contact against the window frame could not be readily distinguished in the head acceleration data. The dummy's left knee skin and underlying rubber insert were torn when the knee contacted and cracked the knee bolster plastic trim and contacted the underlying steel bracing.

Test Conditions

This vehicle had been tested previously in the Institute's Low-Speed Crash Test Program and subjected to an impact on the front corner of the passenger side at 5 mi/h (8 km/h) into a 30 degree angle barrier and a rear impact at 5 mi/h (8 km/h) into a flat barrier. All structural damage on the front was repaired prior to this test (see Appendix, Low-Speed Crash Test Damage Repair Estimate).

This test was conducted according to the procedures specified in the IIHS Offset Barrier Crash Test Protocol (Version VII). The Hybrid III dummy positioned in the driver seat was equipped with instrumented lower legs that included feet modified to include two accelerometers and to have a 45 degree dorsiflexion range with soft stops at all extremes of foot-ankle motion. All dummy seating parameters were set according to the procedures specified for Federal Motor Vehicle Safety Standard 208 compliance testing (49 *CFR* Part 571.208 § 11). The dummy's left foot was placed on the footrest.

Seat back, shoulder belt upper anchorage, and steering column adjustments were set according to the manufacturer's specifications for government crash testing. Other adjustments were set according to the procedure specified for Federal Motor Vehicle Safety Standard 208 compliance testing (49 *CFR* Part 571.208 § 7 and 8). After final positioning of the dummy, measurements from various parts of the dummy to a number of vehicle interior points were made. These measurements and the seat back, shoulder belt upper anchorage, and steering column adjustments are described in the Appendix, Dummy Clearance Measurements.

Vehicle acceleration measurements were made by a triaxial arrangement of accelerometers mounted on the vehicle's longitudinal centerline and 63 cm behind its center of gravity (171 cm behind the front axle). The vehicle speed recorded just prior to impact was 39.9 mi/h (64.2 km/h), and the actual overlap was 40 percent.

Structural Performance

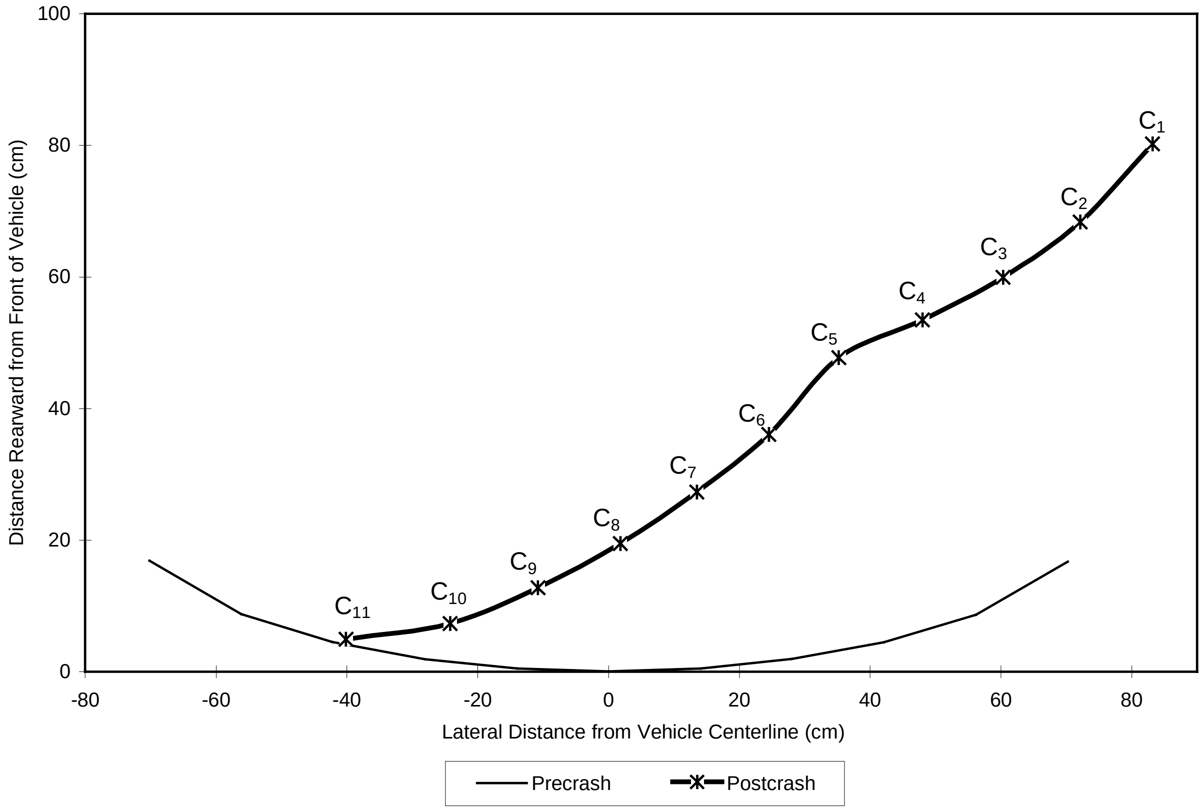
All doors remained closed during the crash. The driver door aperture shortened 5 cm, as measured at the lower edge of the window. After the crash, the driver door required tools to open, the left rear door required additional effort but no tools to open, and the right front and right rear doors opened with ease.

No fuel system leaks were observed after the crash. In addition, no fuel system leaks were observed when the vehicle was rotated onto its right side to allow postcrash photography.

Figure 2 shows the overhead view of the crash deformation. Figure 3 illustrates the precrash and postcrash contour measures of the front bumper cover profile and the resulting permanent crush. Figure 4 shows the precrash and postcrash views from below. Figure 5 illustrates the deformation of the side rails, floor rails, and radiator and engine supports, which are visible in Figure 4.

Figure 2
Overhead View of Crash Deformation — 1999 Mazda 626

Figure 3
Front Bumper Cover Crush Contour — 1999 Mazda 626



	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9	C_{10}	C_{11}
Postcrash Contour (cm)	80	68	60	53	48	36	27	20	13	7	5
Precrash Contour (cm)	17	9	4	2	1	0	0	2	5	9	17
Resulting Crush (cm)	63	59	56	51	47	36	27	18	8	–2	–12

The bumper cover was torn completely off the vehicle during the crash. The postcrash contour represents the best attempt to fit the cover back onto the vehicle**.** The length of the reference line was 140 cm precrash and 123 cm postcrash.

Figure 4
Precrash and Postcrash Views from Below — 1999 Mazda 626

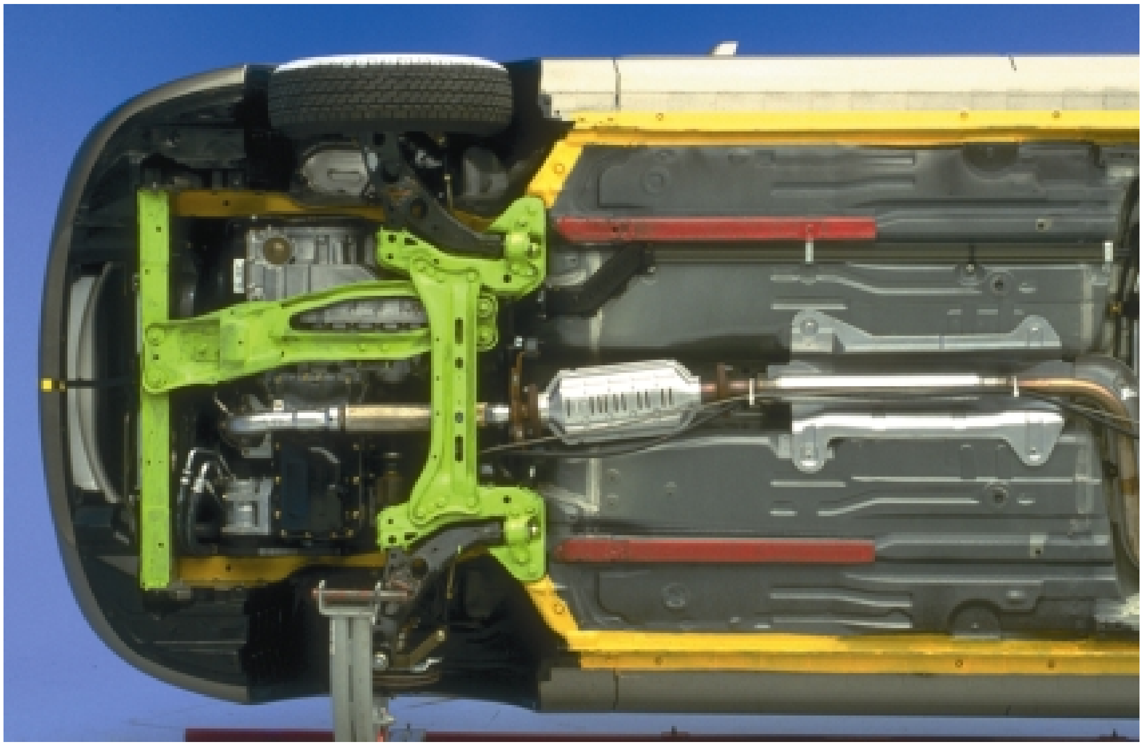
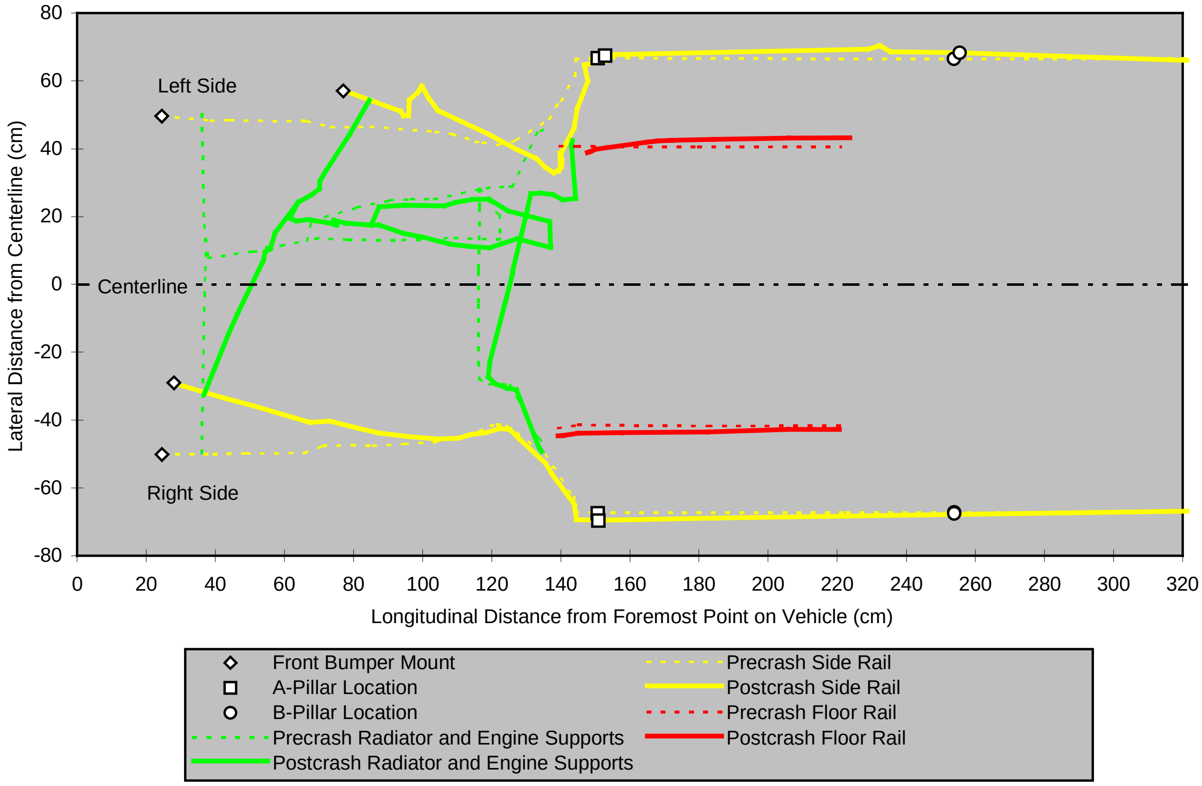
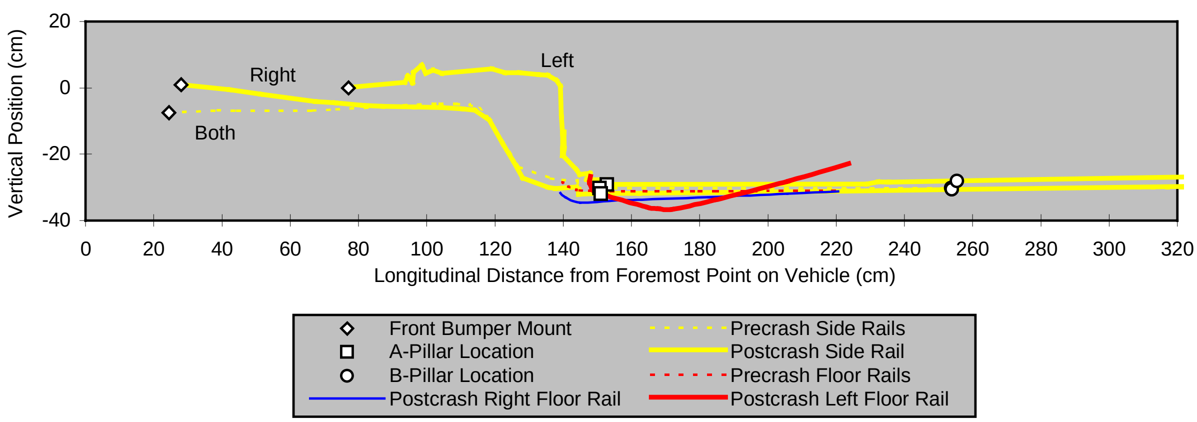


Figure 5
Structural Deformation, Views from Below and Side — 1999 Mazda 626





Various measures of intrusion were made after the crash. These residual measures of intrusion typically are less than the maximum deformation that occurs during the crash. The coordinate reference system for these measures is described in the IIHS Offset Barrier Crash Test Protocol (Version VII). The measures of deformation shown in Table 1 have been adjusted to better reflect the displacement of the various target locations relative to the driver, based on the locations of the four driver seat-attachment bolts. The average displacement of the seat-attachment bolts relative to the reference system also is shown in Table 1.

Table 1
Residual Measurements of Intrusion Relative to Driver Seat — 1999 Mazda 626

Selected Locations*	Longitudinal	Lateral	Vertical	Resultant
Steering column (cm)	–3	–4	–4	6
Left lower instrument panel (cm)	–7	–5	1	9
Right lower instrument panel (cm)	–6	–4	1	7
Brake pedal (cm)	–13	–3	–5	14
Left toepan (cm)	–20	–7	1	21
Center toepan (cm)	–23	–6	1	24
Right toepan (cm)	–19	–5	–1	19
Footrest (cm)	–13	–5	–1	14
Average displacement of the four seat-attachment bolts relative to reference system (cm)	–1	3	1	n/a

* All measurements taken on driver side. From the driver's position, positive is forward, left, and up.

Restraint System Performance

Airbags

Driver: The uninflated driver airbag is approximately 67 cm in diameter, and the excursion of its center when inflated is limited by four tethers. The airbag is vented by two holes located at positions corresponding to 10 and 2 o'clock on the forward-facing surface of the airbag. Analysis of the high-speed film taken from camera position E indicated the airbag deployed at 22 ms into the crash and appeared to be fully inflated at 46 ms.

Passenger: The corner-mounted passenger airbag deployed rearward and is untethered. The cylinder-shaped airbag is vented by two holes located at the lateral ends. The airbag did not contribute to windshield damage during deployment.

Seat Belts

This vehicle is equipped with dual-locking lap/shoulder belts with sliding latch plates, adjustable upper anchorage points, and mechanical force-limiting mechanisms at both front seating positions. The front inboard lower anchorage points are attached to and move with the seats. The front outboard lower anchorage points are bolted to the sills at the base of the B-pillars. During the crash, 4 cm of webbing was pulled from the retractor through the D-ring, as measured by a pull-string mounted between the retractor housing and the webbing beyond the retractor Postcrash investigation of the force-limiting torsion bar within the retractor spool indicated it was twisted about 15 degrees from its precrash orientation. This measure, combined with the estimated diameter of the retractor spool and stowed webbing (52 mm), suggested the force limiter contributed about 1 cm of webbing to the total amount pulled though the D-ring.

Seat

Postcrash examination of the driver seat rails indicated no discernible movement of the seat in its tracks during the crash. Deformation of the floor under the driver seat caused the seat to tip outward sufficiently for the head restraint to contact the shoulder belt upper anchorage D-ring.

Steering Column

The upper end of the steering column moved downward 4 cm and rearward 3 cm relative to the driver seat. Separation of the shear modules on the upper portion of the column was sufficient to completely separate the steering wheel and column from the instrument panel. As a result, the column dropped against the knee bolster plastic trim and extensively cracked the bolster on both sides of the column. When the bolster was removed later for inspection of the underlying steel bracing, it was found that the plastic bolster trim, although cracked, was the only part preventing the steering wheel and column from dropping even farther, onto the front seat.

Dummy Kinematics

Head, Neck, and Torso

Analysis of the high-speed film taken from camera position E indicated the deploying airbag contacted the dummy's face at 28 ms into the crash. The dummy's face began to load the airbag at 62 ms (16 ms after the airbag was fully inflated). Paint transferred from the dummy's face indicated the nose contacted the airbag 4 cm directly above its center. During rebound from the airbag, the dummy's head tilted outward somewhat, and the center rear of the head contacted the leading edge of the B-pillar and the shoulder belt upper anchorage D-ring at 256 ms. The head then moved forward and upward, and the top right part of the head contacted the top rail of the window frame just ahead of the B-pillar at about 266 ms. Table 2 provides the timing of these events.

Table 2 Restraint System Performance and Dummy Kinematics — 1999 Mazda 626	
Event	**Time (ms)**
Deployment of airbag	22
Airbag contacts face during deployment	28
Airbag fully inflated	46
Face begins to load airbag	62
Rear of head contacts B-pillar	256
Top right of head contacts window frame	266

Figure 6
Dummy and Vehicle Interior, Postcrash — 1999 Mazda 626

Legs and Feet

Left leg and foot: Paint transferred from the dummy's left knee indicated the knee contacted and cracked the knee bolster plastic trim 4 cm below and 1 cm to the right of the left instrument panel intrusion reference point. The dummy's knee skin and underlying rubber insert were torn when the knee apparently pressed against the steel bracing immediately ahead of the cracked plastic of the bolster trim. (This cracking was distinct from that caused by the steering column dropping onto the bolster.) The knee also contacted the tilt adjustment lever on the left side of the steering column. Paint transferred from the dummy's left shin indicated the shin contacted the bolster directly below the knee impact location. The left foot was found dorsiflexed and everted to the joint rotation stop, with the sole at the toe against the intruded toepan and the back of the heel on the flat floormat/carpeting on the floorpan.

Right leg and foot: Paint transferred from the dummy's right knee indicated the knee contacted the knee bolster and the right underside of the steering column plastic trim, with the impact centered about 4 cm below and 9 cm to the left of the right instrument panel intrusion reference point. Paint transferred from the dummy's right shin indicated the shin contacted the bolster below and to the right of the knee impact locations on the steering column and bolster. The right foot was found dorsiflexed and inverted to the joint rotation stop, with the sole still on the accelerator pedal and the back of the heel on the flat floormat/carpeting on the floorpan.

Dummy Injury Measures

Head

The HICs were calculated during an interval that corresponds with the dummy's head excursion into the airbag. The maximum vector resultant head accelerations were recorded during the dummy's head contact with the B-pillar and shoulder belt D-ring (118 g at 259 ms). The head contact against the window frame could not be readily distinguished in the head acceleration data. Table 3 provides a summary of the maximum head injury measurements recorded during the crash.

Table 3
Head Injury Measurements — 1999 Mazda 626

Measure	Published Tolerance Threshold	Result	Time (ms)
Vector resultant acceleration (g)	80	118	259
Vector resultant acceleration — 3 ms clip (g)	80	69	257-260
Head Injury Criterion (HIC)	1000	502	93-121
Head Injury Criterion — 15 ms interval (HIC-15)*	700	383	99-114

* Canadian Motor Vehicle Safety Regulations (Standard 208) allow the resultant head acceleration to exceed 80 g in airbag-equipped vehicles if HIC-15 is less than 700 (Transport Canada, 1998).

Neck

Table 4 provides a summary of the maximum neck injury measurements recorded during the crash. None of the recorded neck force measures exceeded the magnitude-duration injury criteria (Figures A-13 to A-16).

Table 4
Neck Injury Measurements — 1999 Mazda 626

Measure	Published Tolerance Threshold	Result	Time (ms)
A-P shear force (kN)	±3.1	–0.5	259
Axial compression force (kN)	4.0	0.4	285
Axial tension force (kN)	3.3	1.7	102
Flexion bending moment (Nm)	310	25	175
Extension bending moment (Nm)	122	35	266

Chest

Table 5 provides a summary of the maximum chest injury measurements recorded during the crash.

Table 5
Chest Injury Measurements — 1999 Mazda 626

Measure	Published Tolerance Threshold	Result	Time (ms)
Vector resultant spine acceleration — 3 ms clip (g)	60	45	104-107
Rib compression (mm)	–50	–30	103
Viscous criterion (m/s)	1.0	0.1	68

Legs and Feet

Left leg and foot: None of the injury measures exceeded the published threshold values.

Right leg and foot: The upper tibia A-P bending moment had a time signature very similar to that of the axial force (Figures A-40 and A-45). The ratio of the A-P bending moment to the axial force (approximately 0.03 m) is slightly less than the distance (in meters) between a line through the knee and ankle joints and the upper load cell midline due to the bent shape of the dummy's tibia. Also, the tibia-femur displacement measure (Figure A-38) suggests the upper tibia did not contact the knee bolster before the maximum upper bending moment was recorded. Therefore, the upper tibia bending likely could have resulted from the foot force acting through the moment arm of the tibia bend rather than from transverse forces applied by contact with the knee bolster. Consequently, the upper tibia resultant moment was not calculated, and the upper tibia index was calculated from only the upper tibia L-M moment and tibia axial force.

Table 6 provides a summary of the maximum leg and foot injury measurements recorded during the crash.

Table 6
Leg and Foot Injury Measurements — 1999 Mazda 626

Measure	Published Tolerance Threshold	Left		Right	
		Result	Time (ms)	Result	Time (ms)
Femur axial force (kN)	–9.1*	–4.1	85	–2.4	69
Tibia-femur displacement (mm)	–15	–8	103	–1	112
Upper Tibia					
L-M moment (Nm)	±225	60	120	–112	71
A-P moment (Nm)	±225	–81	66	**	n/a
Vector resultant moment (Nm)	225	86	65	**	n/a
Index	1.00	0.45	66	0.59	71
Lower Tibia					
L-M moment (Nm)	±225***	62	120	–95	70
A-P moment (Nm)	±225***	97	113	107	111
Vector resultant moment (Nm)	225***	109	114	108	109
Axial force (kN)	–8.0***	–3.1	68	–3.7	70
Index	1.00	0.51	114	0.52	70
Foot					
A-P acceleration (g)	±150	–99	67	–83	66
I-S acceleration (g)	±150	–79	65	–79	82
Vector resultant acceleration (g)	150	122	67	93	82

* This critical value is for instantaneous loading. Femur loads are compared with magnitude-duration injury criteria in Figures A-23 and A-34.

** The upper tibia A-P bending could have resulted from the foot force acting through the moment arm of the tibia bend rather than from transverse forces applied by contact with the knee bolster; therefore the A-P and resultant moments are not indicated. The listed upper tibia index was calculated from only the upper tibia L-M moment and tibia axial force.

*** These published thresholds are for fractures of the tibia. Ankle and foot injuries have been associated with bending moments as low as 50-100 Nm, and heel fractures have been associated with axial forces as low as –6.0 kN.

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Appendix

Low-Speed Crash Test Damage Repair Estimate

Dummy Clearance Measurements

Graph Index — index to graphs of time plots of dummy and vehicle data

Manufacturer’s window sticker

Low-Speed Crash Test Damage Repair Estimate

1999 Mazda 626 Midsize Four-Door Sedan: 5 mi/h Front into Angle Barrier

Test Number: LA99013
VIN: 1YVGF22C7X5898149
Mileage: 69
Features: Driver and passenger airbags, air conditioning, automatic transmission, power mirrors, keyless entry system, power door locks, power windows, heated back glass, tilt steering wheel, cruise control, two-stage paint.

	Part		Labor	
Description	**Mfg. No**	**Price**	**Operation**	**Hours**
Unibody, front			Set up/align*	2.0
Bumper reinforcement, front	GD7A50070A	$193.70	Replace*	2.2
Bumper cover, front	GD7A50031C00	202.50	Replace	0.5
Bumper cover, front			Refinish	3.6
Grille assembly			Remove/reinstall	
Headlamp assembly, right			Remove/reinstall	
Lamp lens/housing, parking, turn signal, and side marker, right	GD7A5106XC	28.65	Replace	
Frame sidemember end, left front			Repair/align*	0.5
Frame sidemember end, left front			Refinish	0.3
Frame sidemember end, right front			Repair/align*	1.0
Frame sidemember end, right front			Refinish	0.5
Headlamp mounting bracket, left inner	GD7A5104XA	23.20	Replace	0.2
Headlamp mounting bracket, right outer	GD7A510AX	23.20	Replace	0.2
Paint and materials		79.20		
Total Parts		$550.45		
Total Labor		374.00		11.0
Grand Total		$924.45		

* This item was repaired or replaced as indicated before the 40 mi/h frontal offset test.

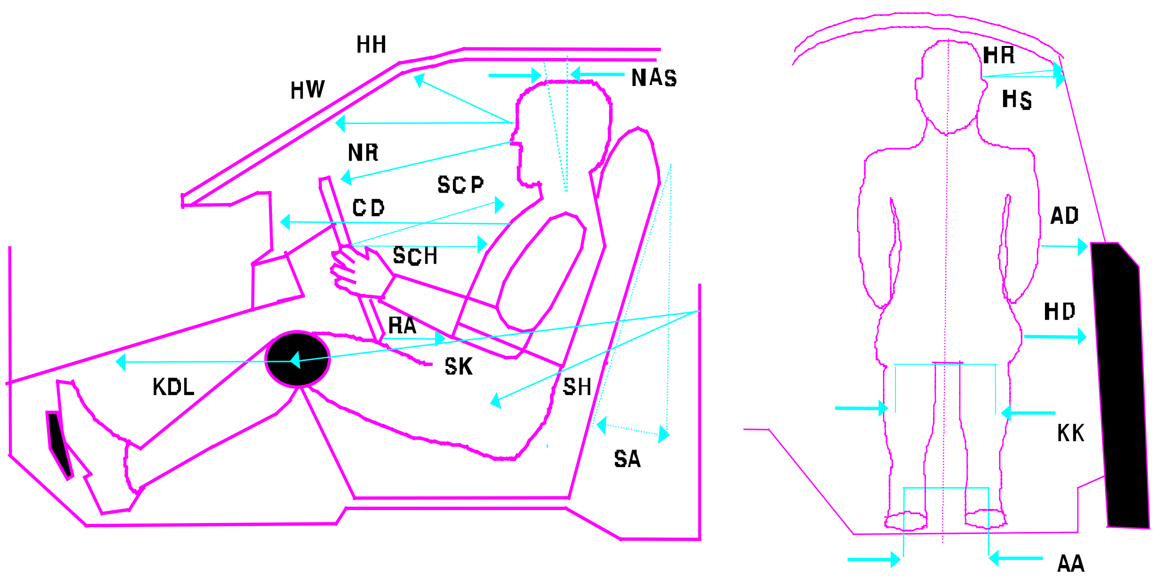
Dummy Clearance Measurements

Test Number: CF99024
Vehicle Make/Model: Mazda 626
Vehicle Model Year: 1999
Seat Type: Manually adjusted bucket seat (fore/aft, height, and seat back angle)

Manufacturer's Specifications
Seat Back Information: Reclined to 6th position from most upright
Upper Belt Anchorage: Set to topmost of 5 positions
Steering Column Adjustment: Set to midpoint of tilt adjustment range

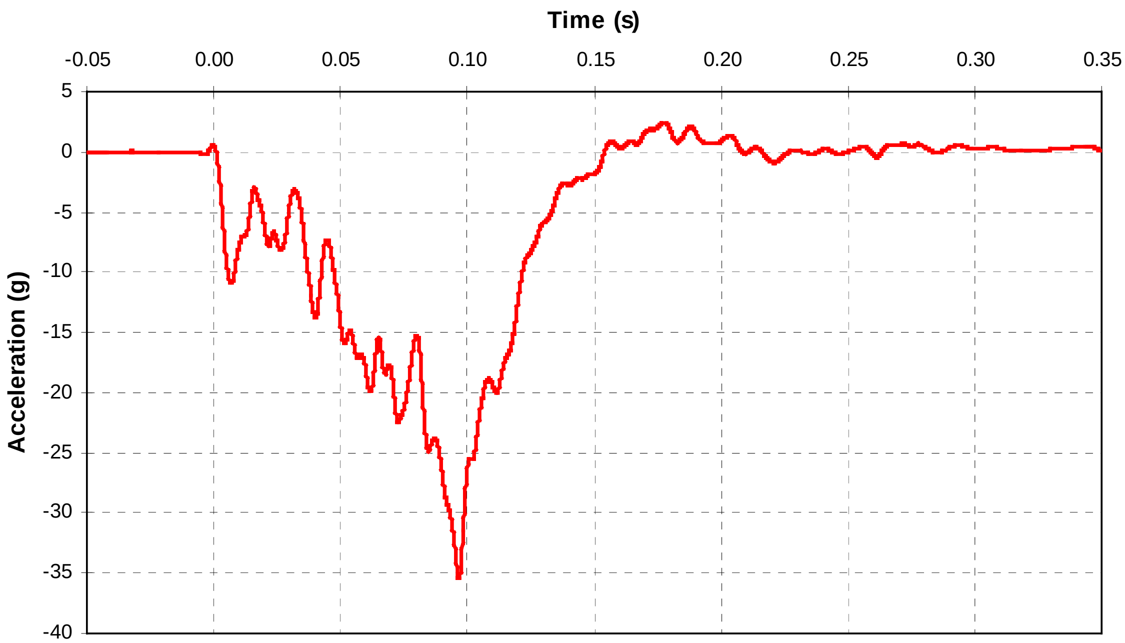
Location	Code	Measure	Location	Code	Measure
Head to header	HH	310	Neck angle, torso 90	NAT90	19.8°
Head to windshield	HW	550	Neck angle, seated*	NAS	2.9°
Nose to rim	NR	344	Torso angle (NAT90 – NAS)	TA	16.9°
Chest to dash	CD	622	Striker to knee**	SK	565
Rim to abdomen	RA	181	Striker to knee angle**	SKA	–2.5°
Knee to dash, left	KDL	205	Striker to H-point, horizontal	SHH	186
Knee to dash, right	KDR	170	Striker to H-point, vertical	SHV	130
Steering wheel to chest, horizontal	SCH	266	Ankle to ankle	AA	312
Steering wheel to chest, perpendicular	SCP	367	Knee to knee	KK	330
Steering wheel to chest, reference	SCR	329	Arm to door	AD	43
Hub to chest, minimum	HCM	225	H-point to door	HD	148
Pelvic angle	PA	24.7°	Head to A-pillar	HA	489
Seat back angle	SA	19°	Head to roof	HR	212
			Head to side window	HS	247

All distance measurements are in millimeters (mm).
* Dummy's neck bracket was adjusted to –7 degrees to achieve a level instrumentation plane.
** These measurements were made in a vertical plane containing the striker and parallel to the driver door sill.

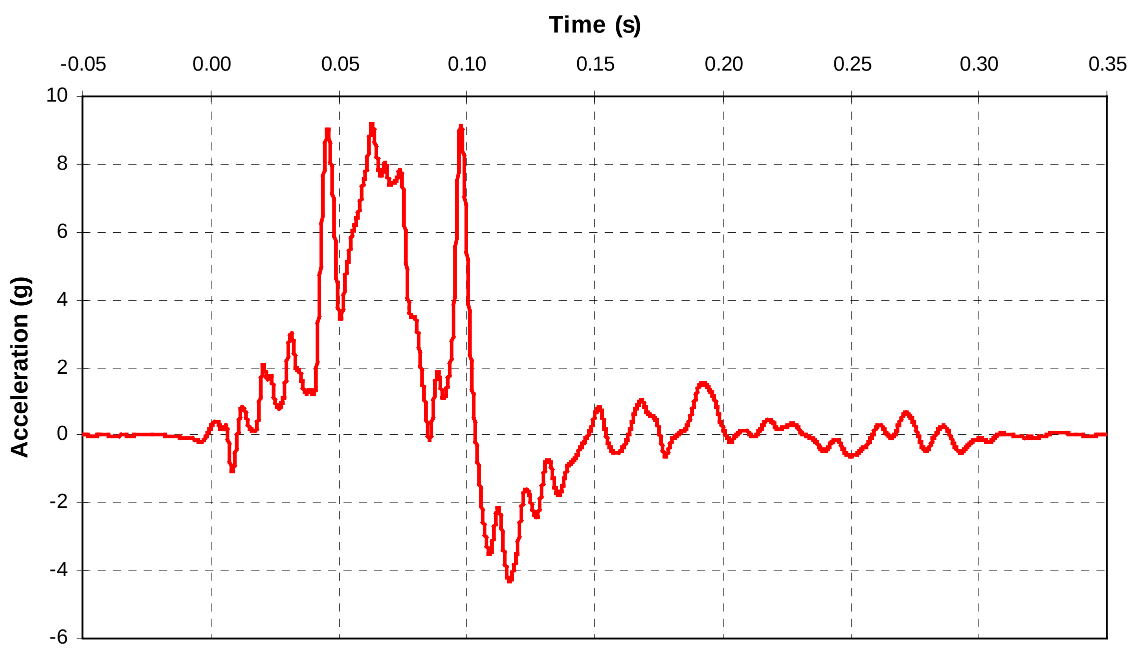


Graph Index

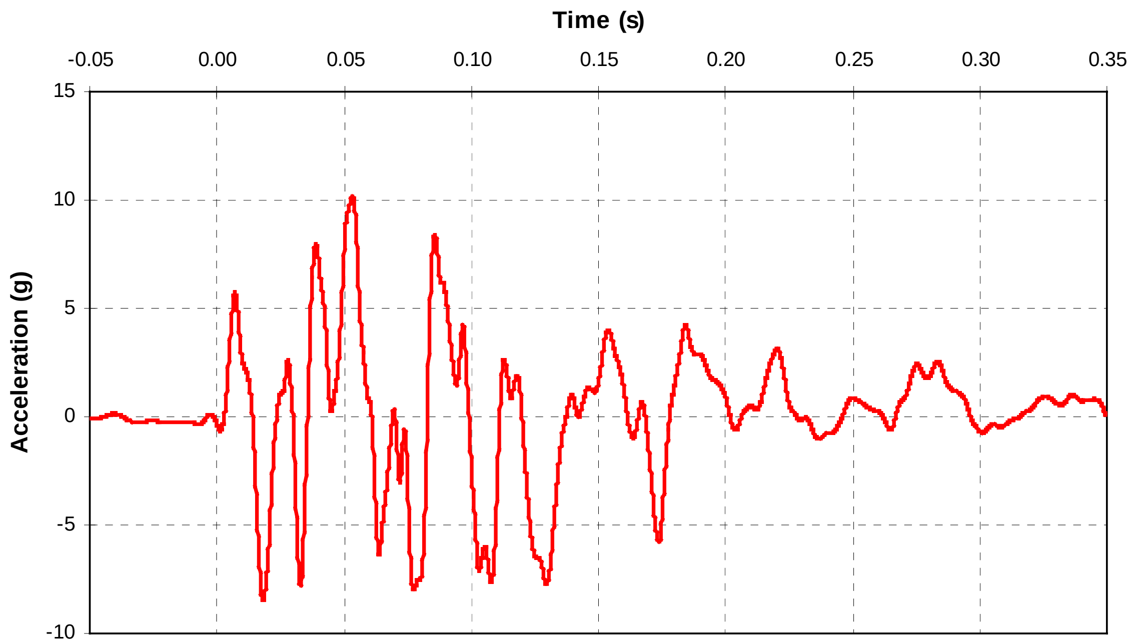
A- 1 CF99024 1999 Mazda 626 Vehicle Longitudinal Acceleration



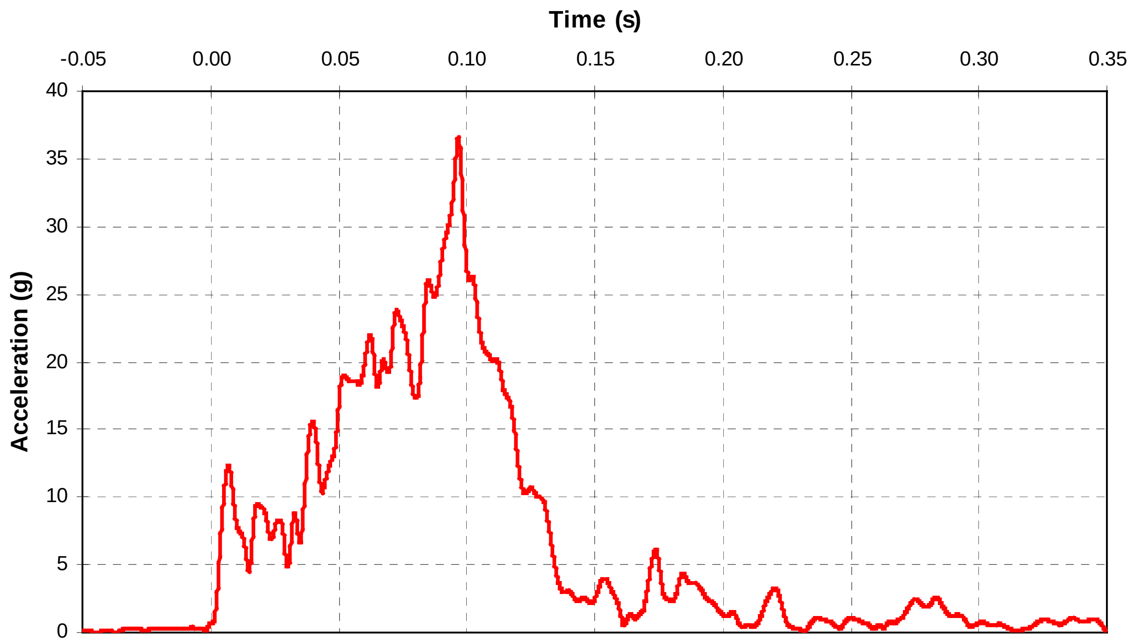
A- 2 CF99024 1999 Mazda 626 Vehicle Lateral Acceleration



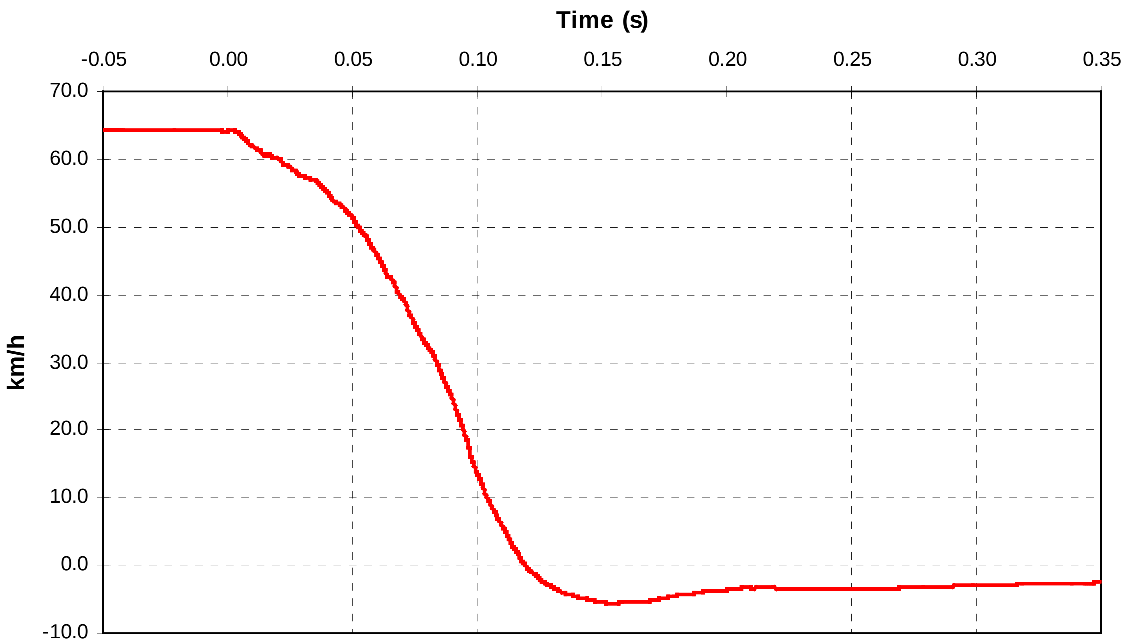
A- 3 CF99024 1999 Mazda 626 Vehicle Vertical Acceleration



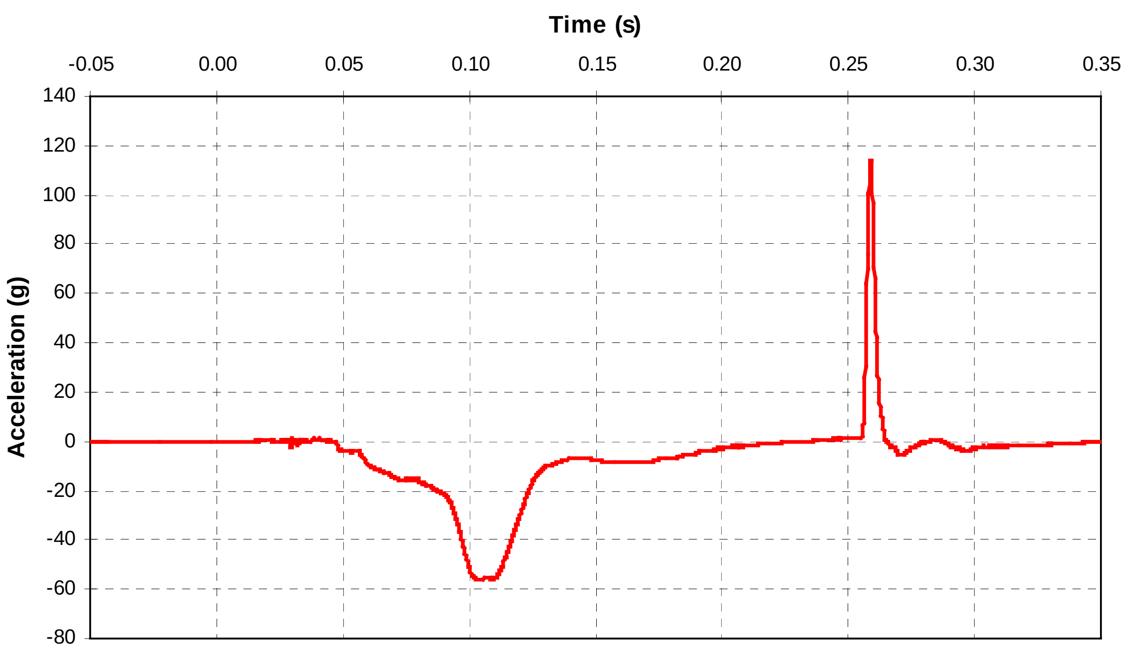
A- 4 CF99024 1999 Mazda 626 Vehicle Vector Resultant Acceleration



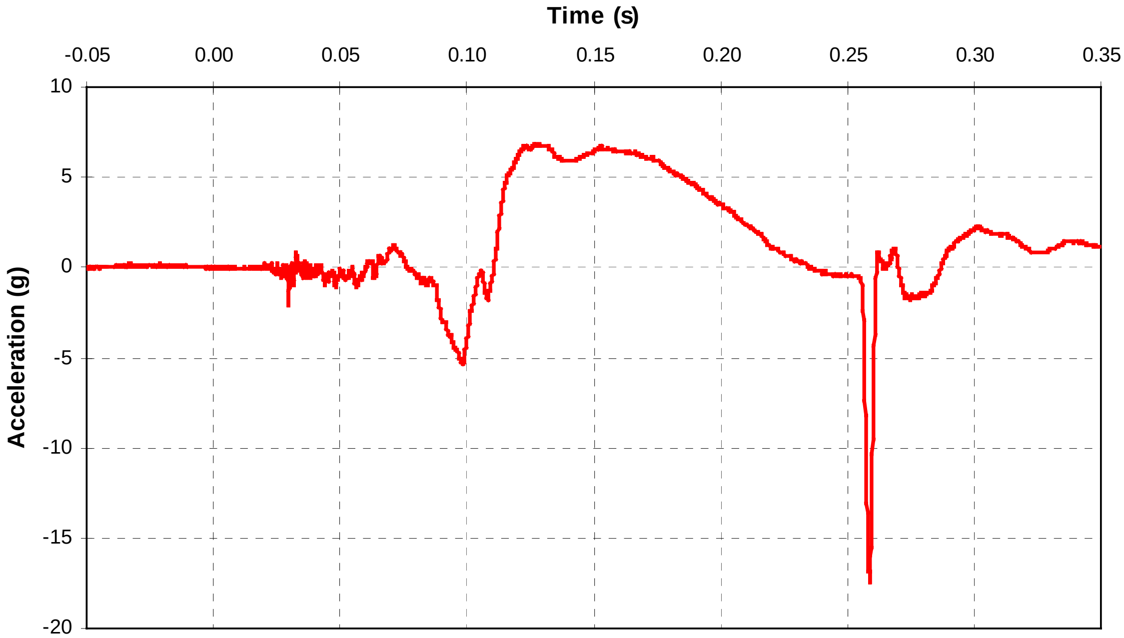
A- 5 CF99024 1999 Mazda 626 Integration of Vehicle Longitudinal Acceleration



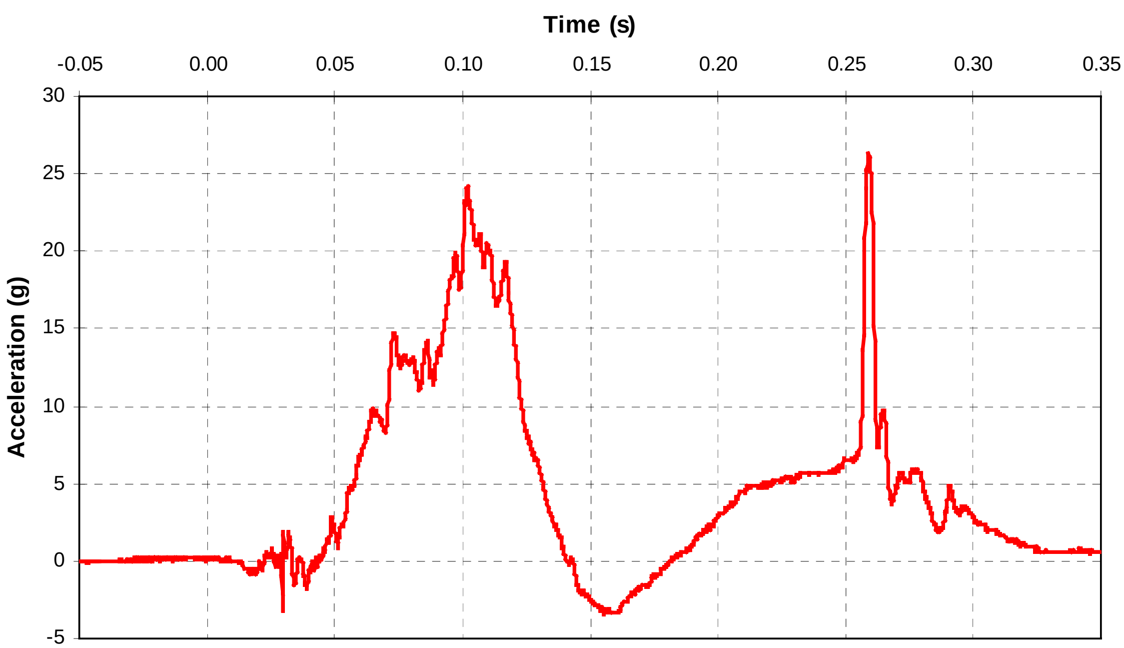
A- 6 CF99024 1999 Mazda 626 Head A-P Acceleration



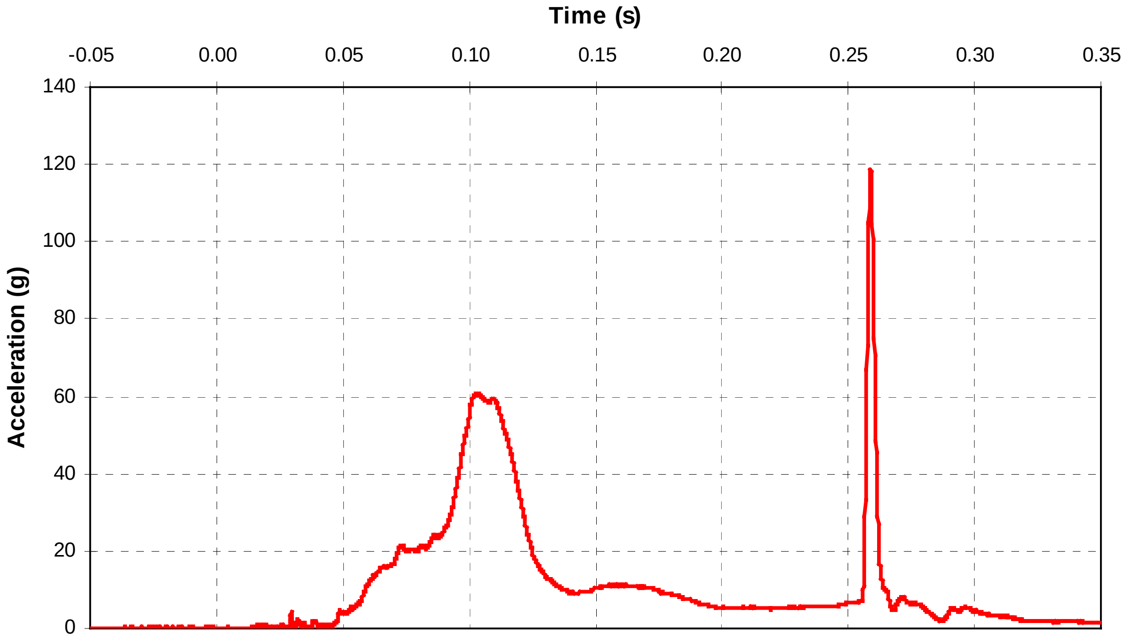
A- 7 CF99024 1999 Mazda 626 Head L-M Acceleration



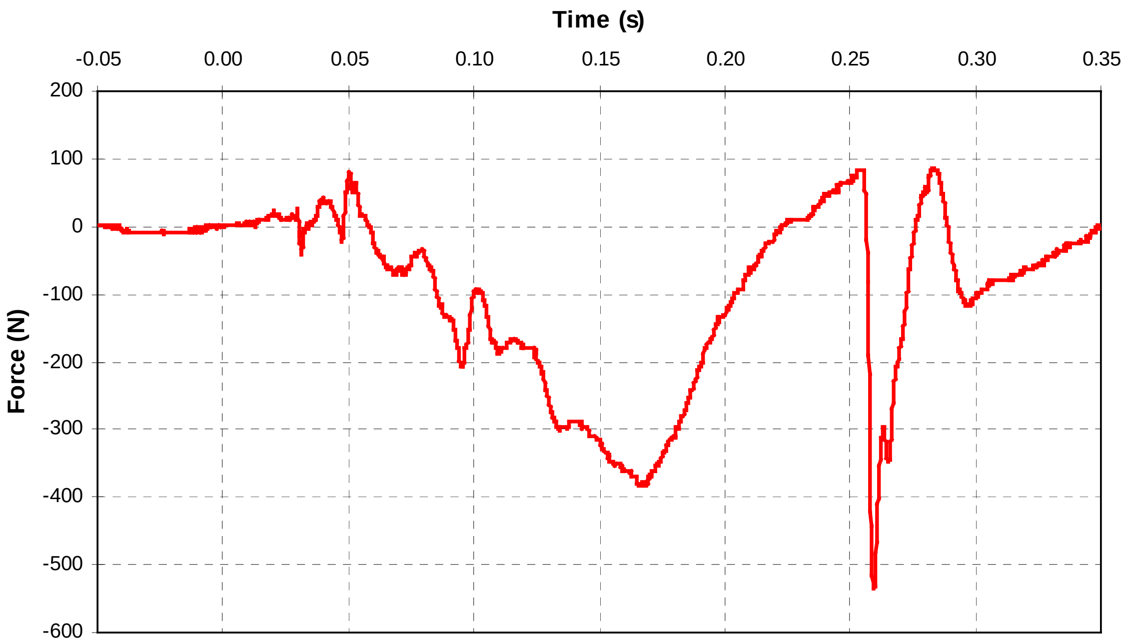
A- 8 CF99024 1999 Mazda 626 Head I-S Acceleration



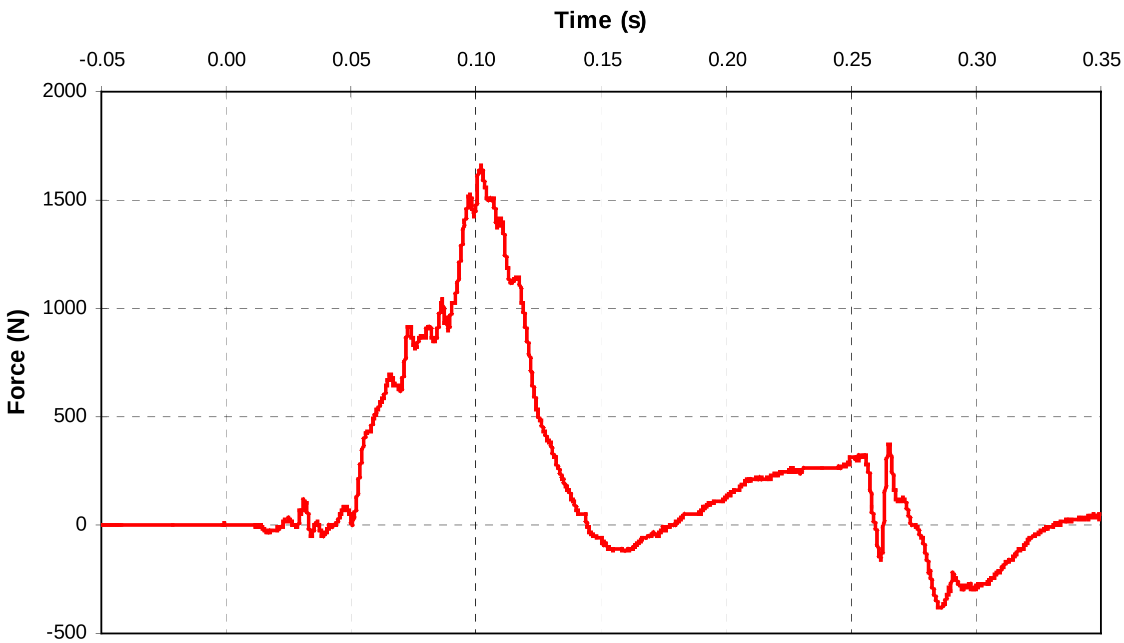
A- 9 CF99024 1999 Mazda 626 Head Vector Resultant Acceleration



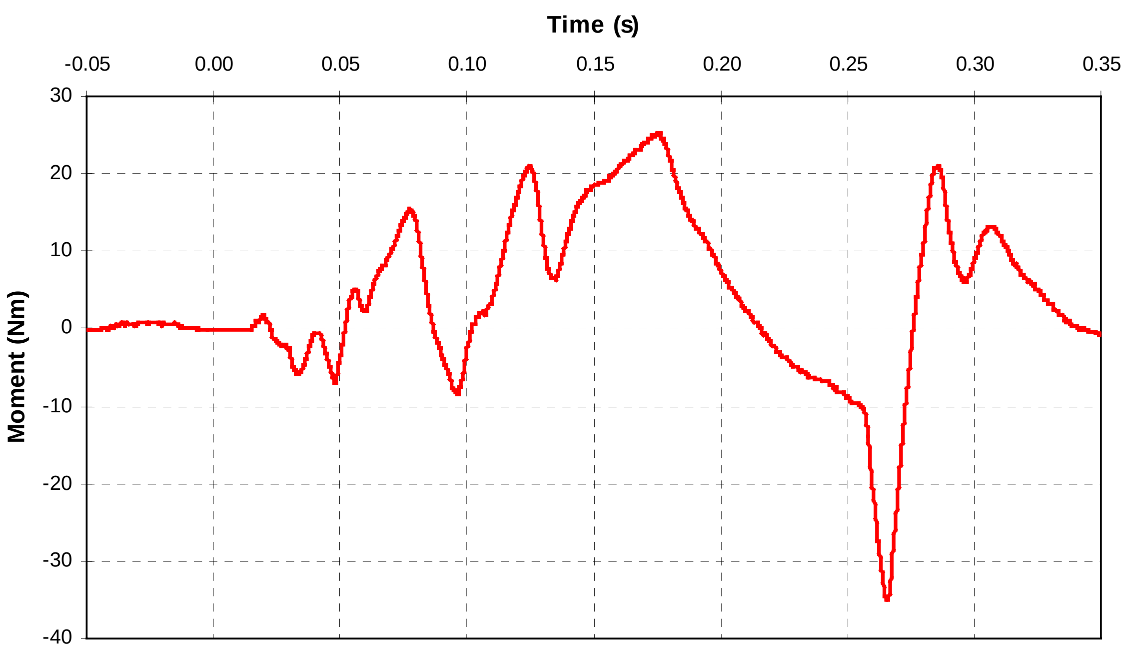
A- 10 CF99024 1999 Mazda 626 Neck A-P Shear Force



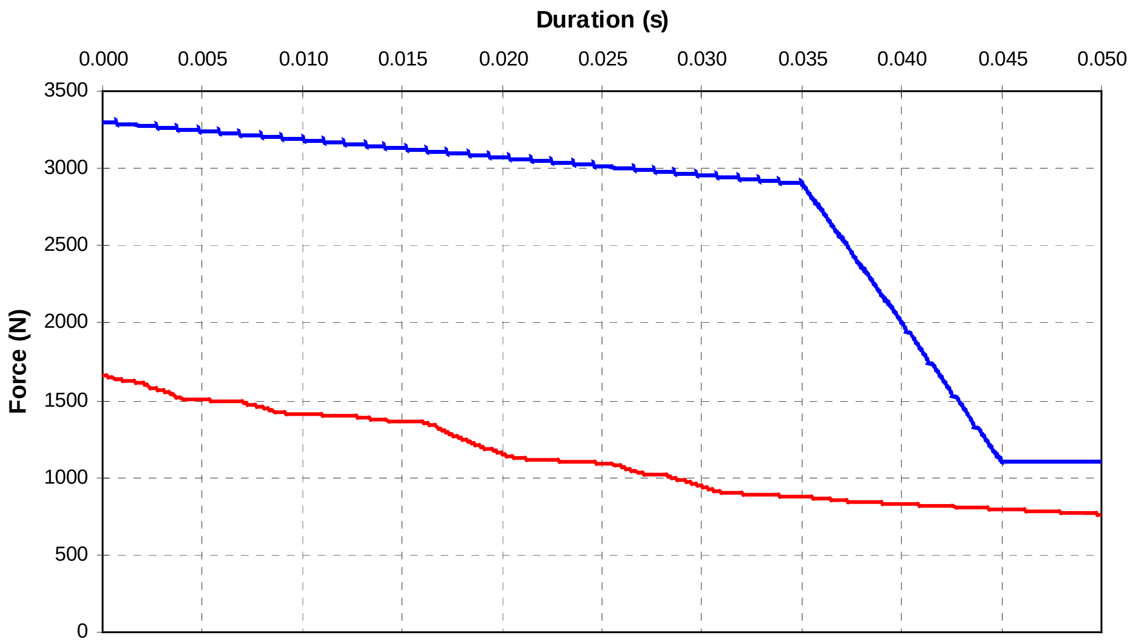
A- 11 CF99024 1999 Mazda 626 Neck Axial Force



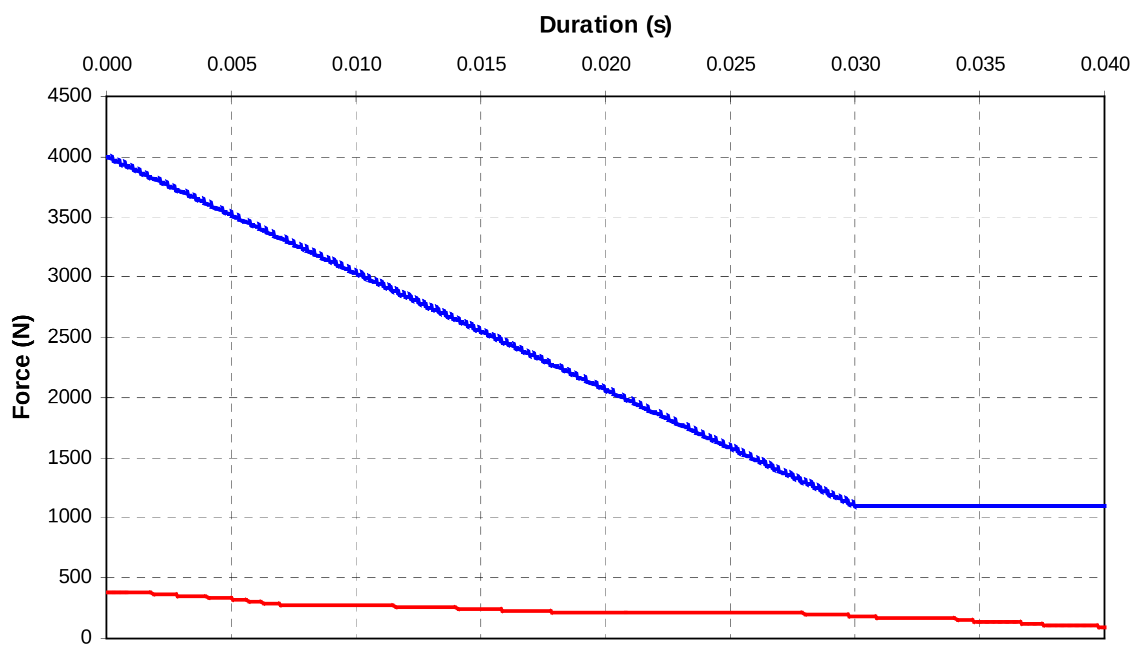
A- 12 CF99024 1999 Mazda 626 Neck Occipital A-P Moment



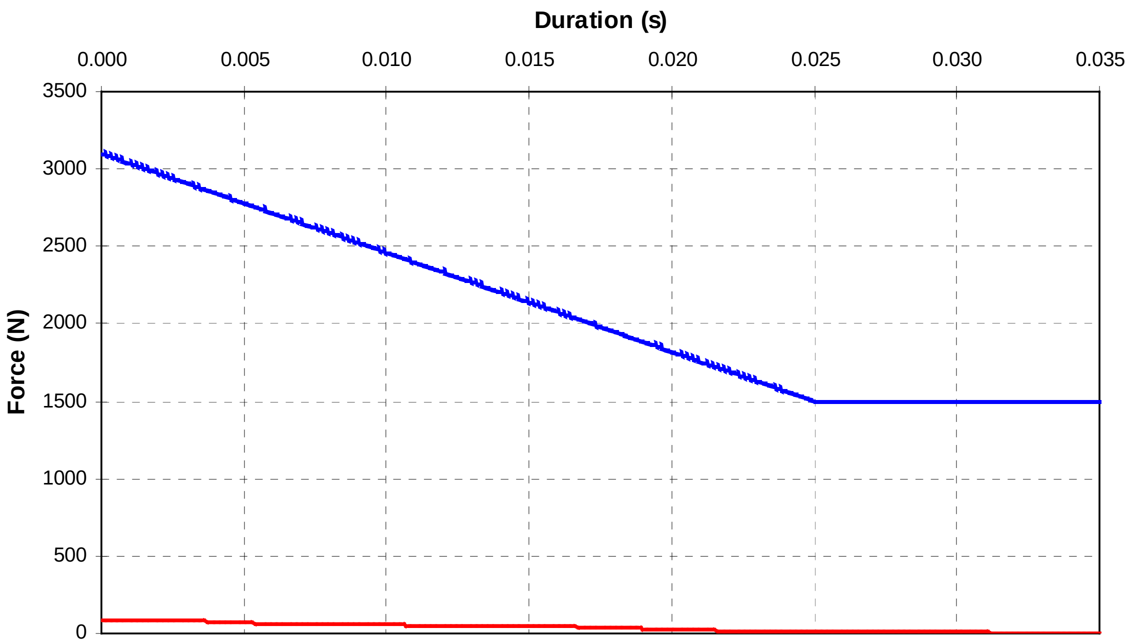
A- 13 CF99024 1999 Mazda 626 Neck Tension Analysis



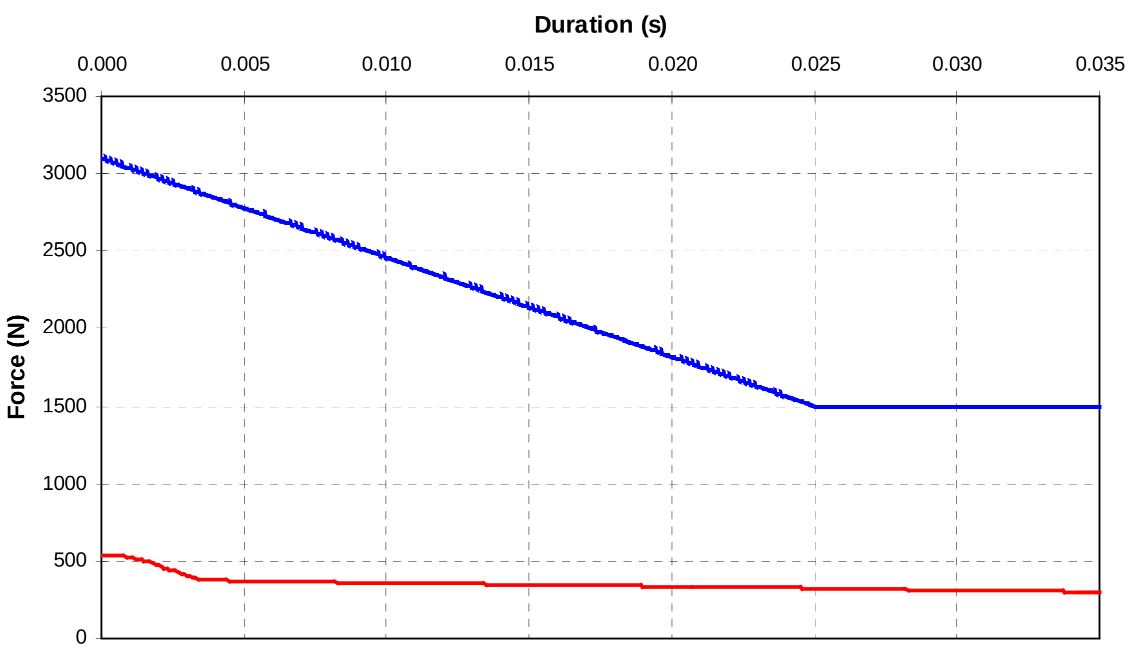
A- 14 CF99024 1999 Mazda 626 Neck Compression Analysis



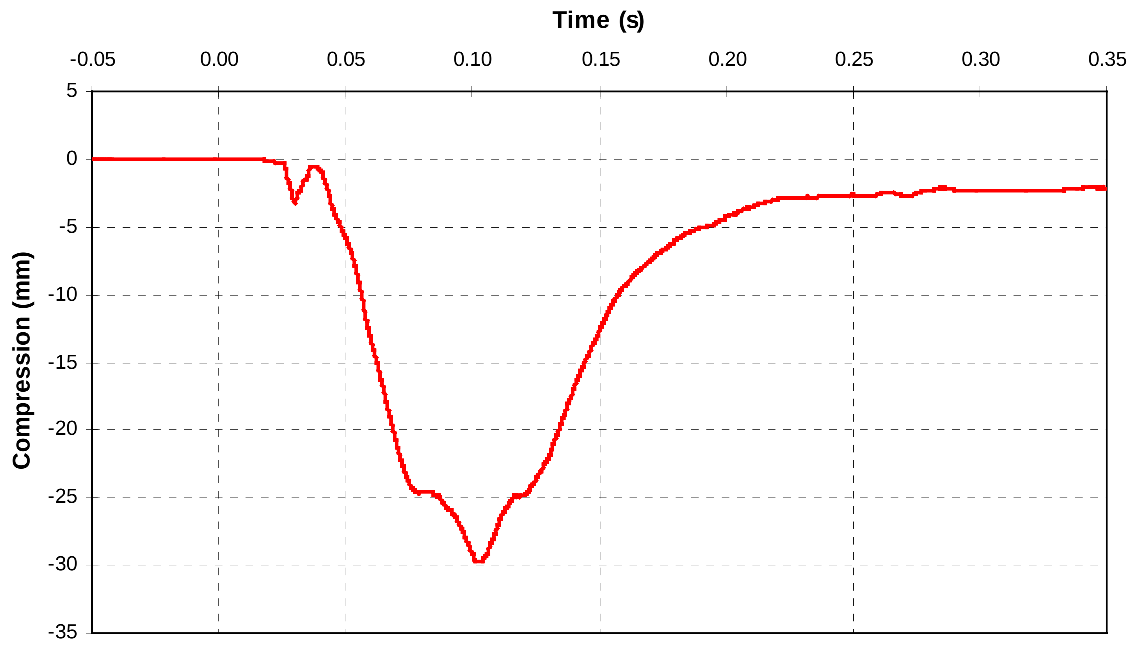
A- 15 CF99024 1999 Mazda 626 Neck A-P Shear (Positive) Analysis



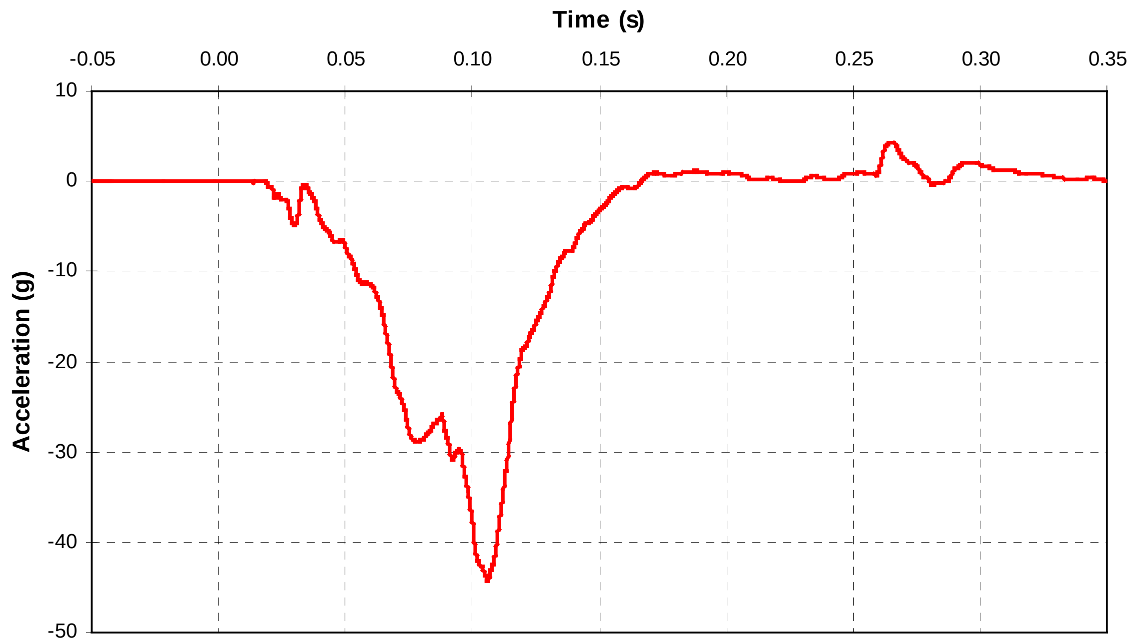
A- 16 CF99024 1999 Mazda 626 Neck A-P Shear (Negative) Analysis



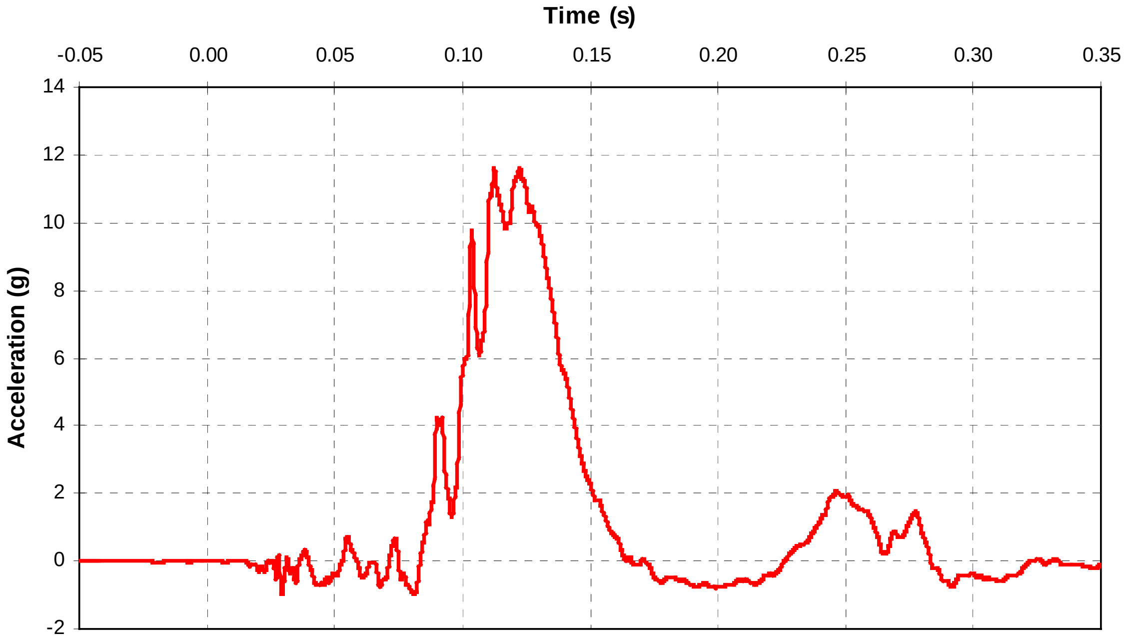
A- 17 CF99024 1999 Mazda 626 Chest Compression



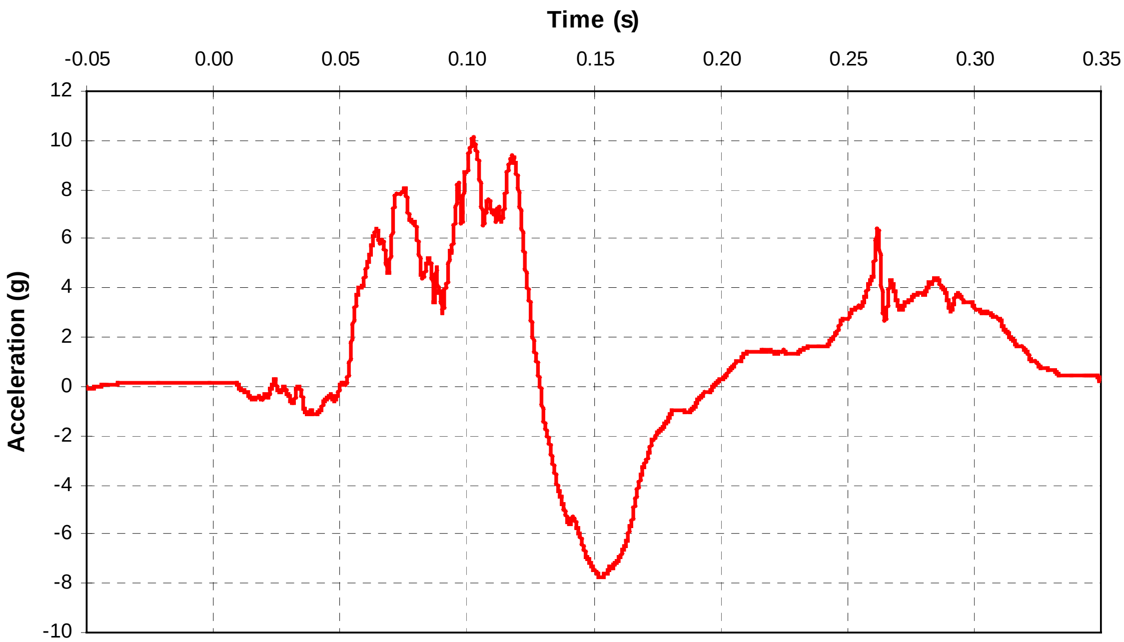
A- 18 CF99024 1999 Mazda 626 Chest A-P Acceleration



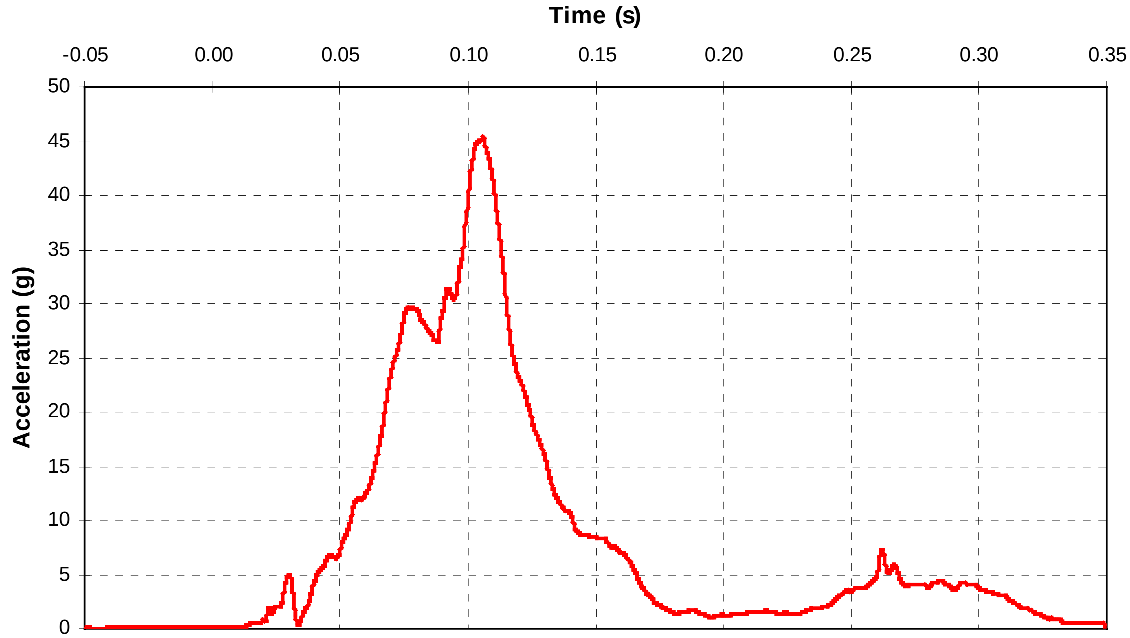
A- 19 CF99024 1999 Mazda 626 Chest L-M Acceleration



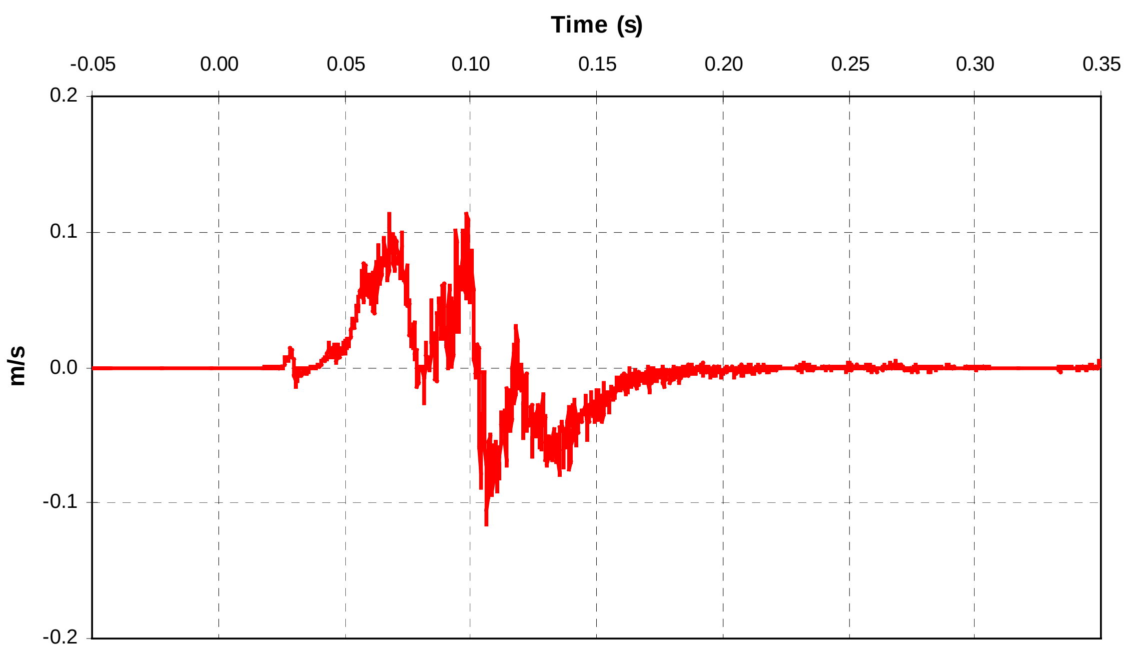
A- 20 CF99024 1999 Mazda 626 Chest I-S Acceleration



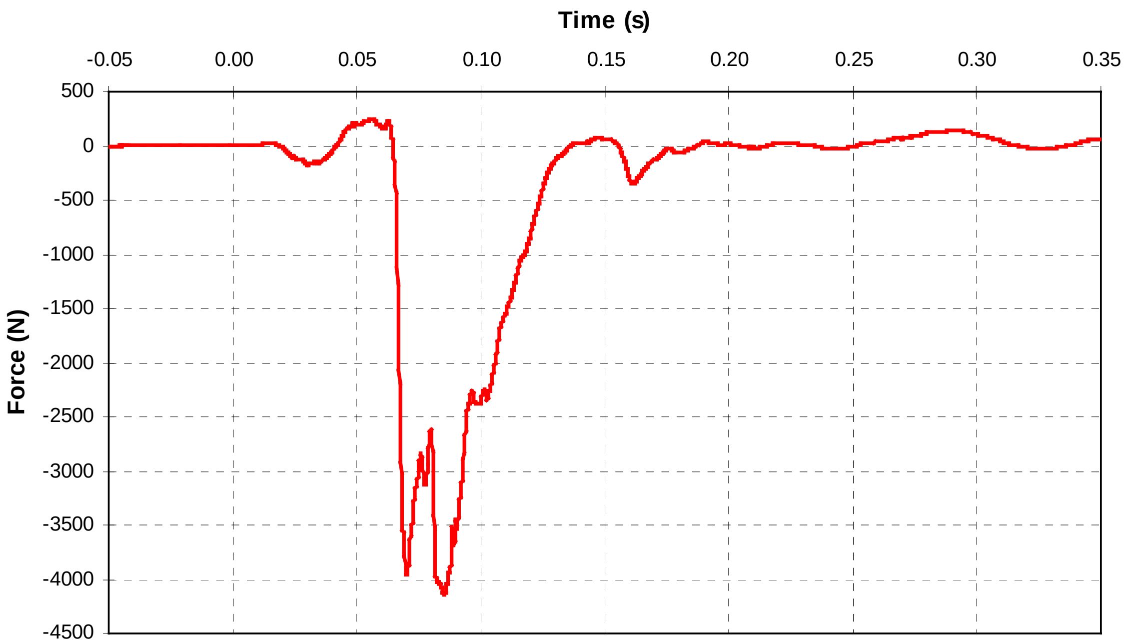
A- 21 CF99024 1999 Mazda 626 Chest Vector Resultant Acceleration



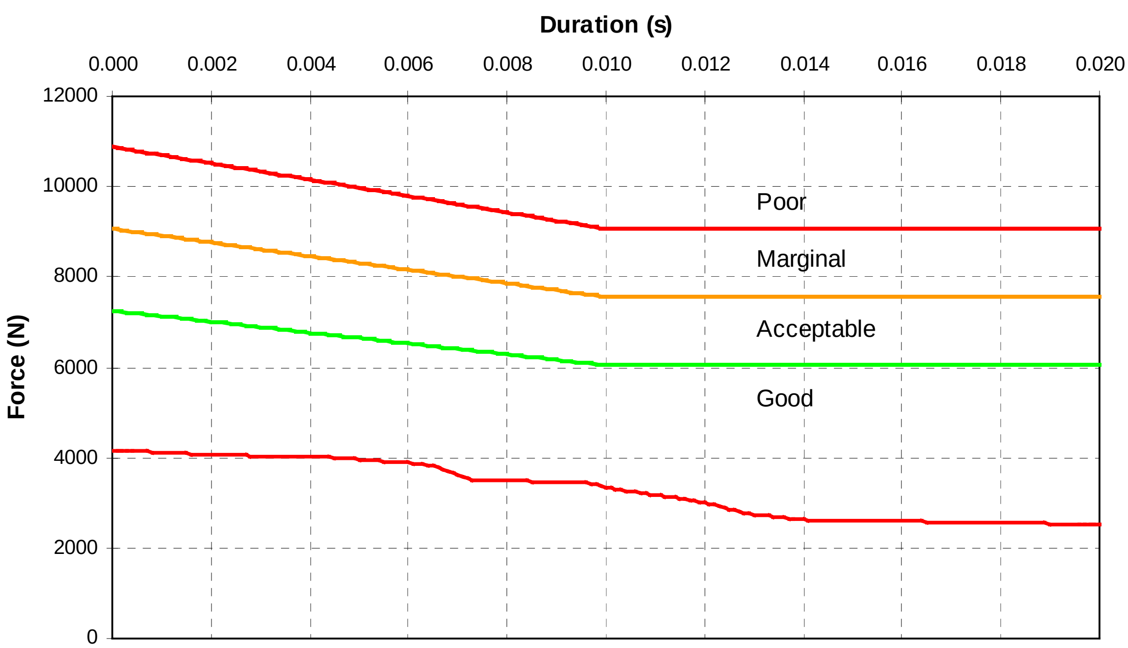
A- 22 CF99024 1999 Mazda 626 Viscous Criterion



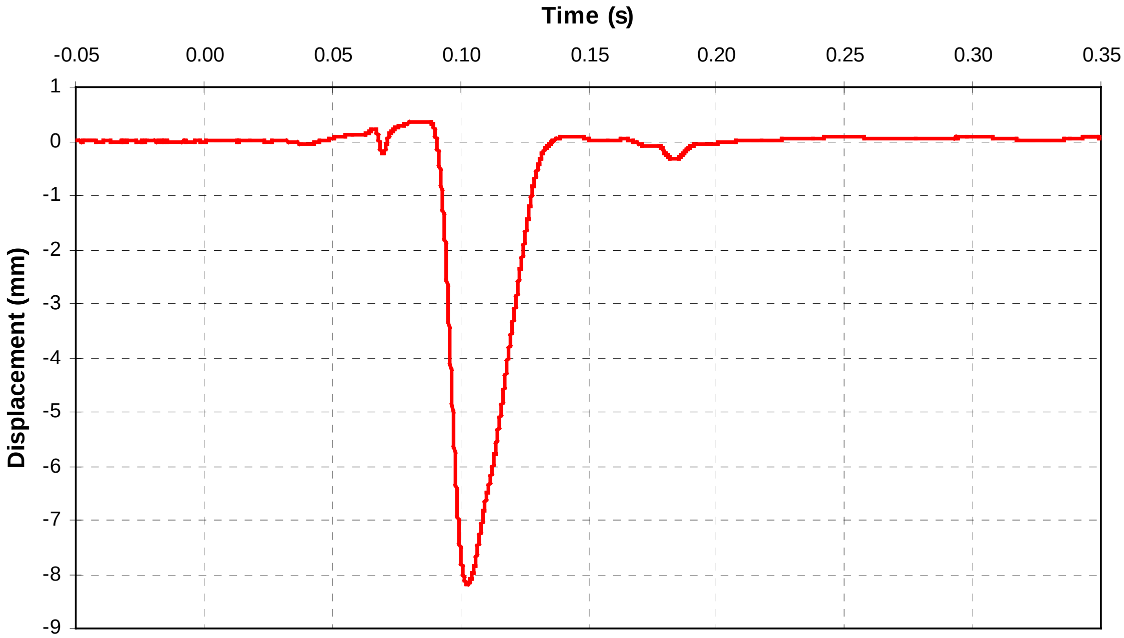
A- 23 CF99024 1999 Mazda 626 Left Femur Axial Force



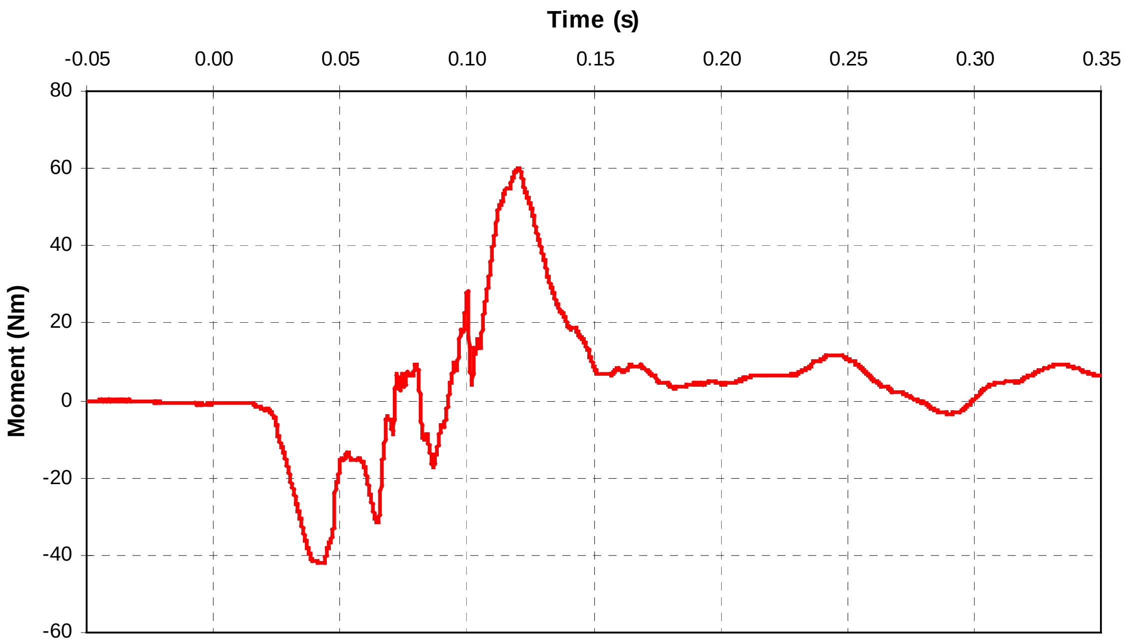
A- 24 CF99024 1999 Mazda 626 Left Femur Axial Force Analysis



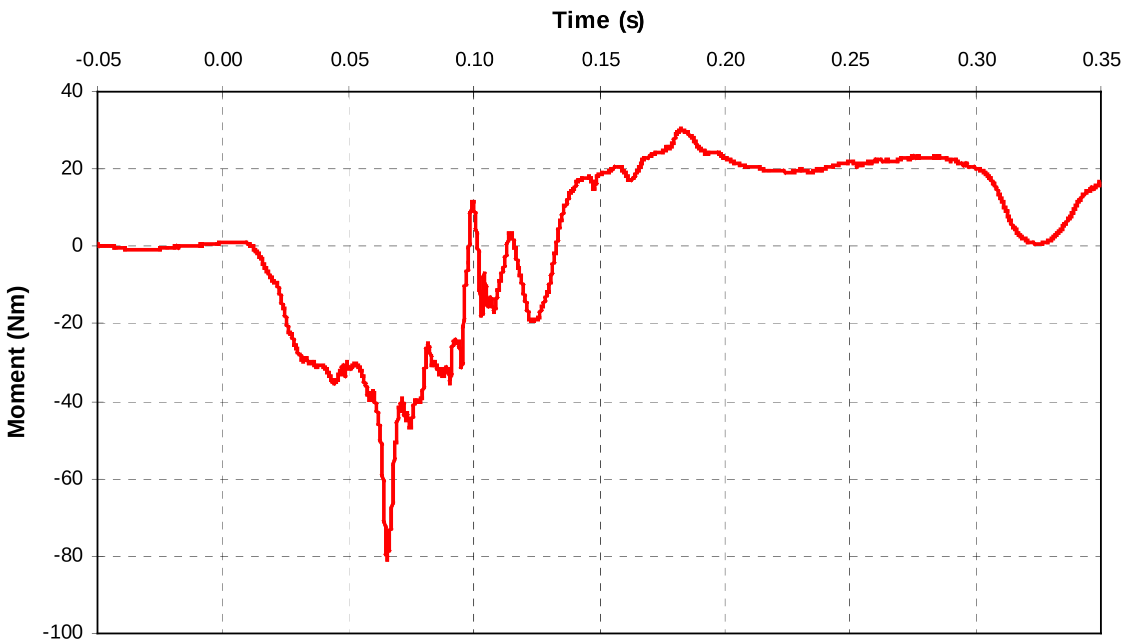
A- 25 CF99024 1999 Mazda 626 Left Tibia-Femur Displacement



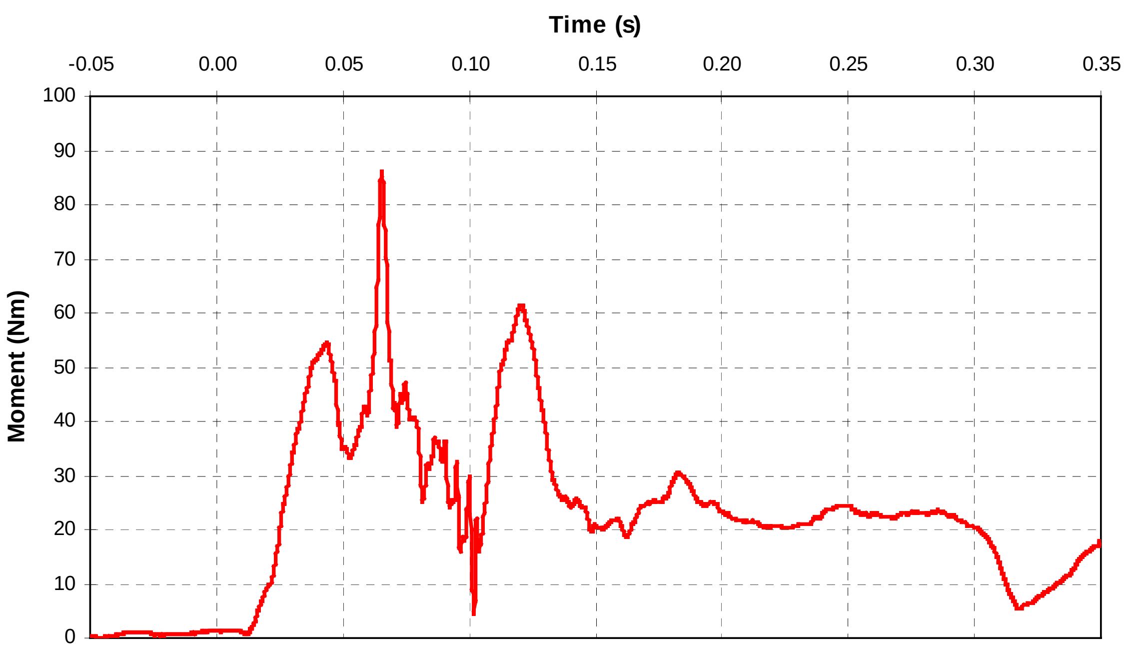
A- 26 CF99024 1999 Mazda 626 Left Upper Tibia L-M Moment



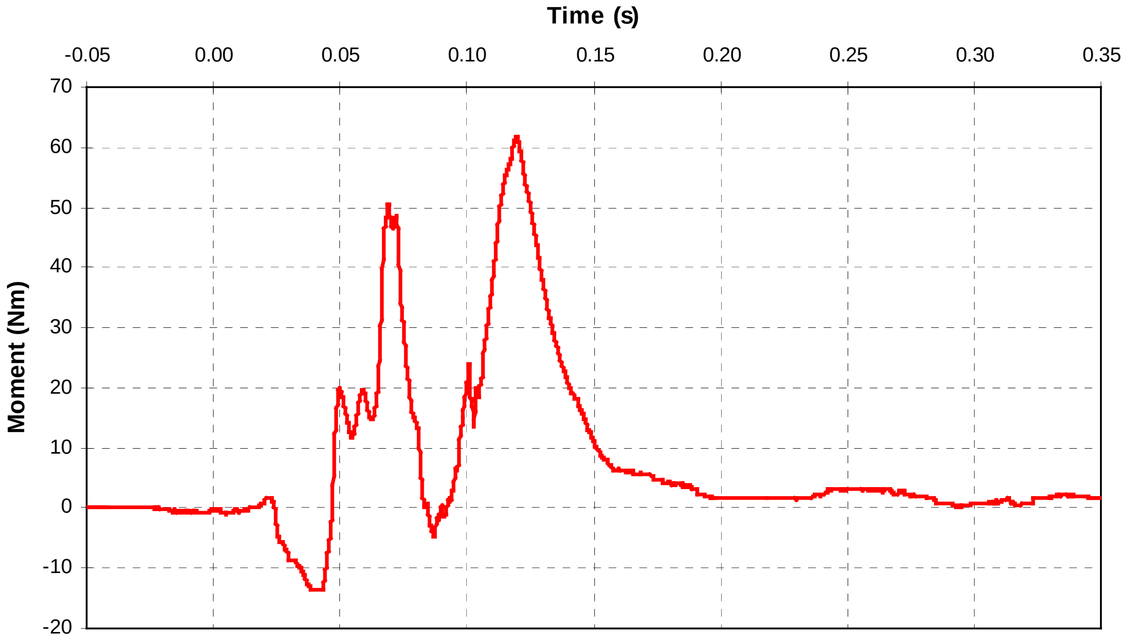
A- 27 CF99024 1999 Mazda 626 Left Upper Tibia A-P Moment



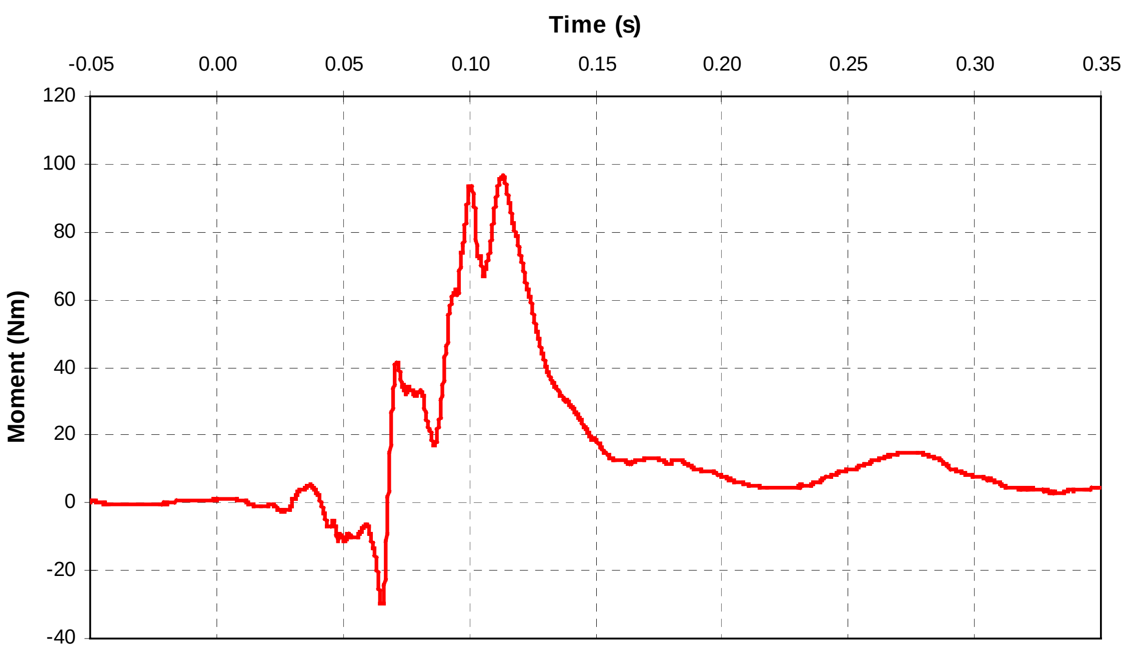
A- 28 CF99024 1999 Mazda 626 Left Upper Tibia Vector Resultant Moment



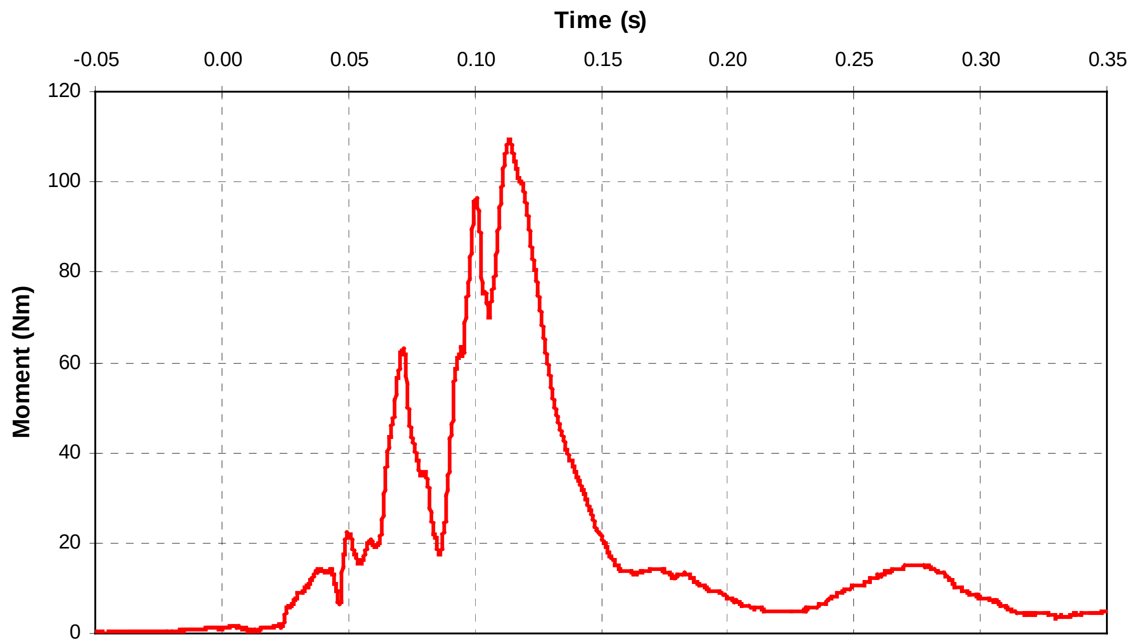
A- 29 CF99024 1999 Mazda 626 Left Lower Tibia L-M Moment



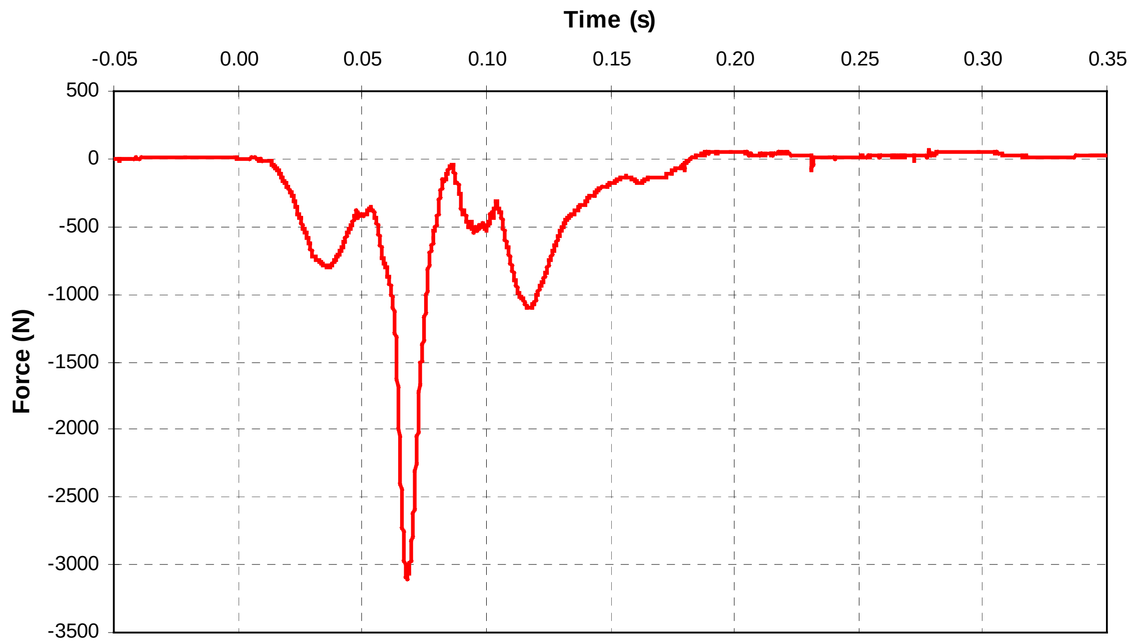
A- 30 CF99024 1999 Mazda 626 Left Lower Tibia A-P Moment



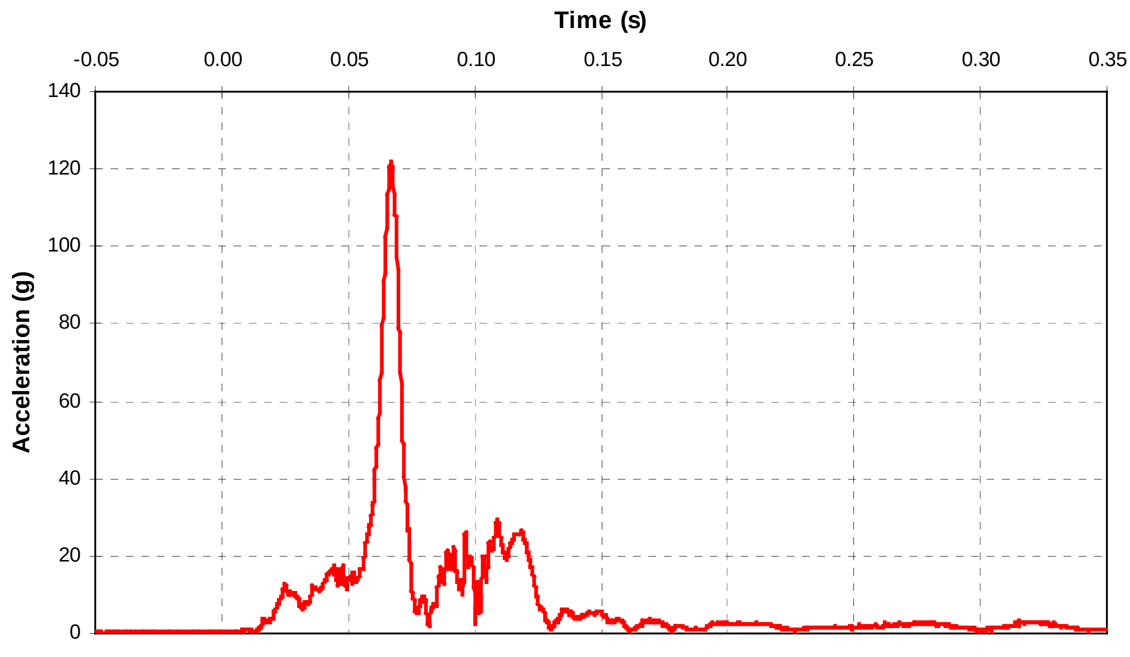
A- 31 CF99024 1999 Mazda 626 Left Lower Tibia Vector Resultant Moment



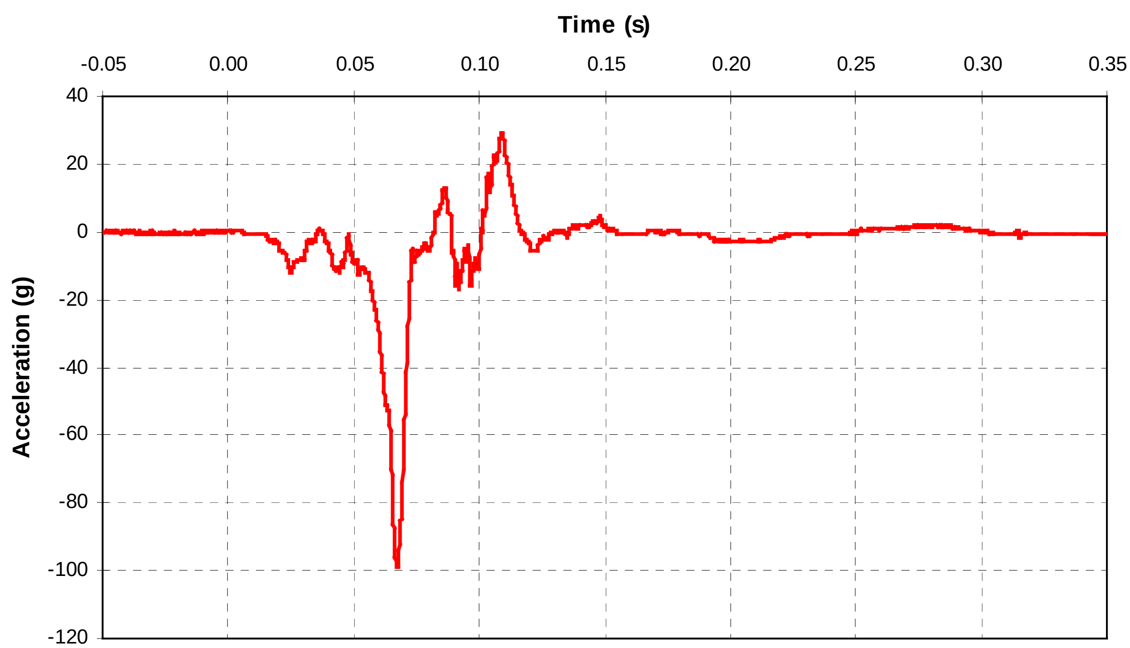
A- 32 CF99024 1999 Mazda 626 Left Lower Tibia Axial Force



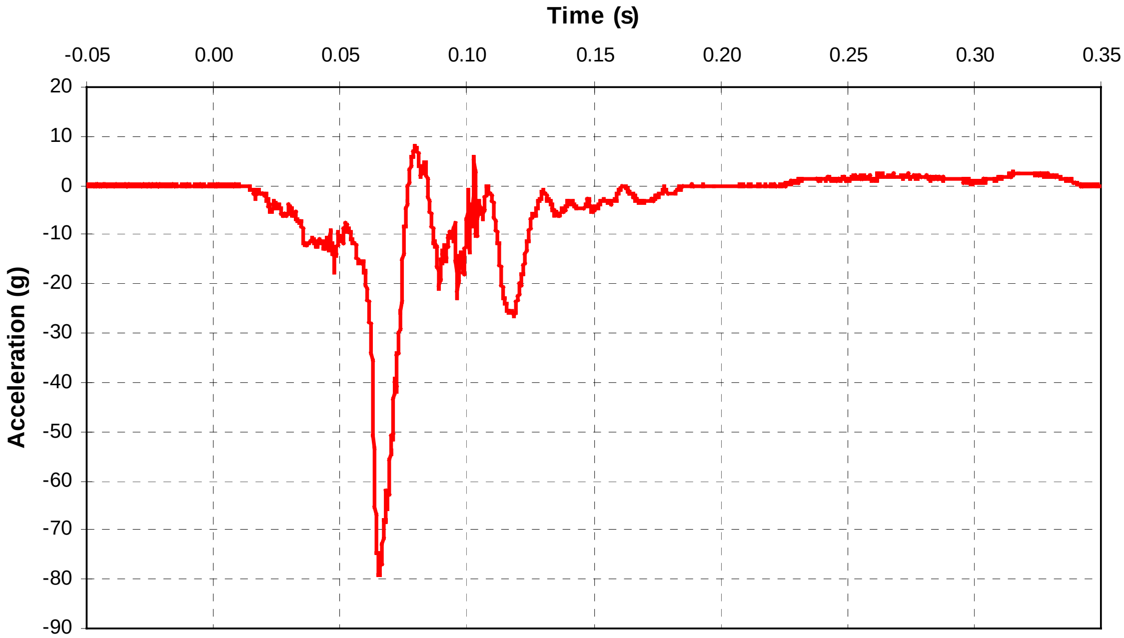
A- 33 CF99024 1999 Mazda 626 Left Foot Vector Resultant Acceleration



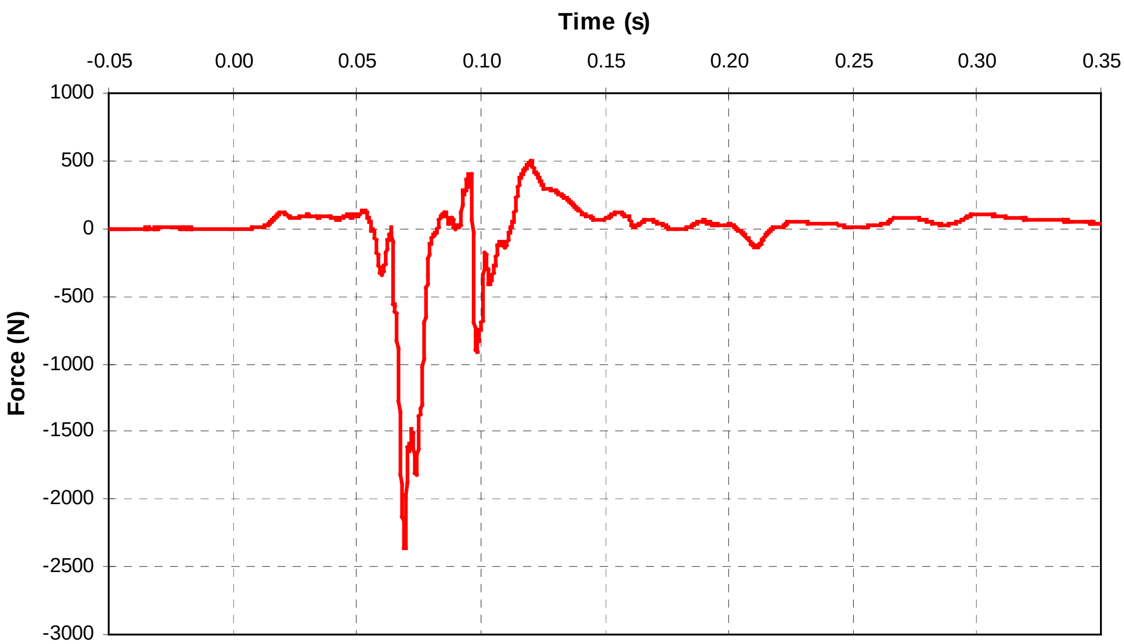
A- 34 CF99024 1999 Mazda 626 Left Foot A-P Acceleration



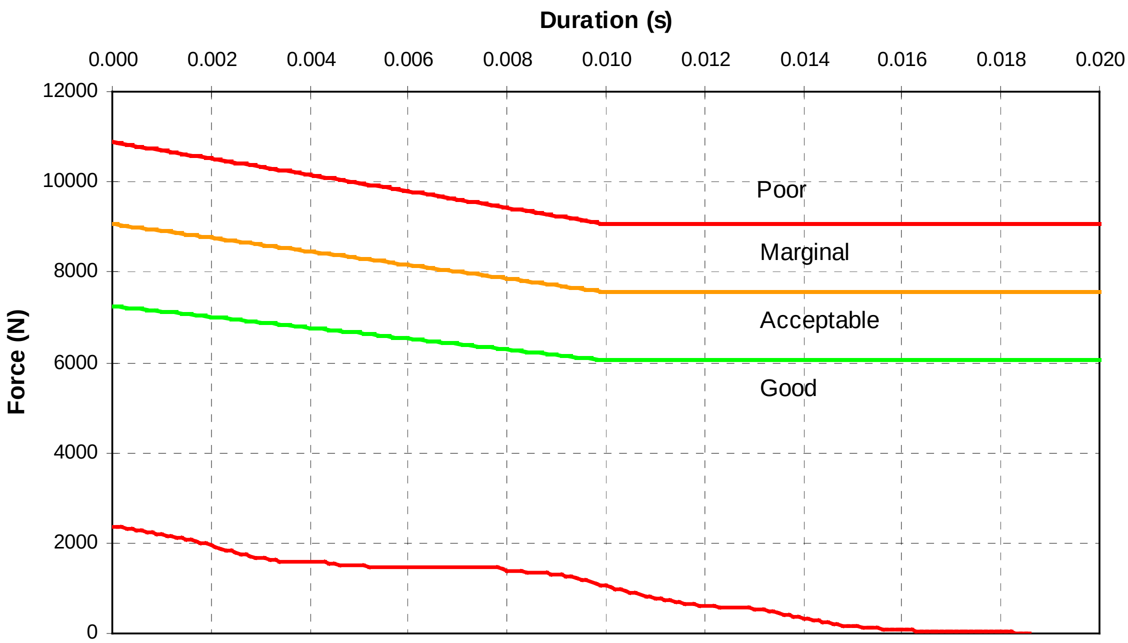
A- 35 CF99024 1999 Mazda 626 Left Foot I-S Acceleration



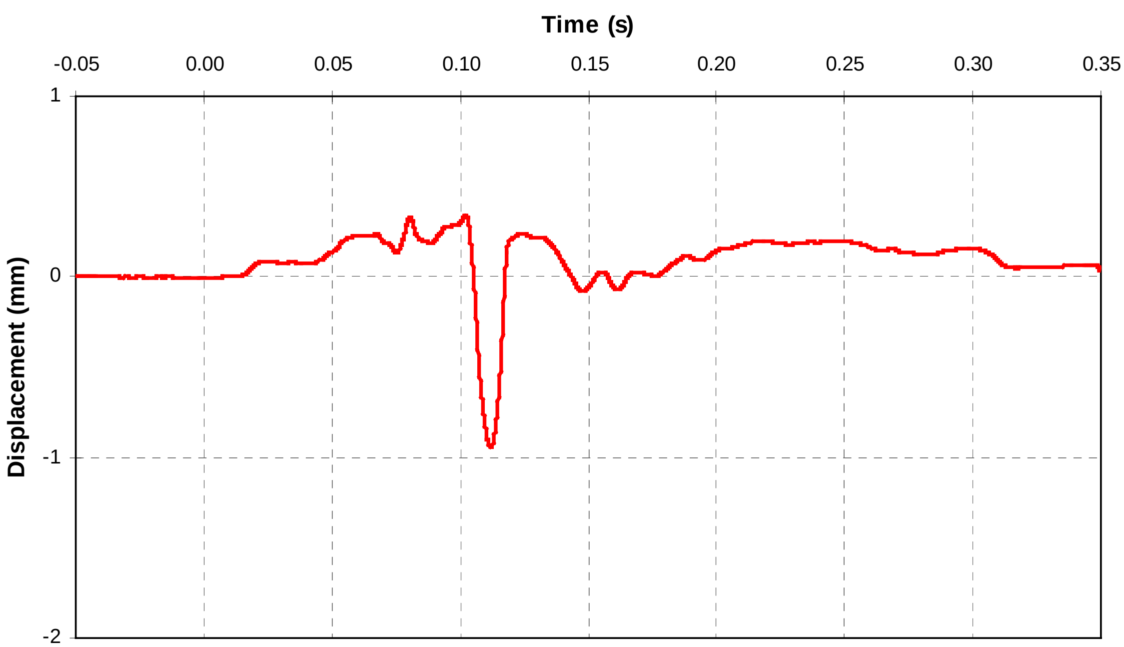
A- 36 CF99024 1999 Mazda 626 Right Femur Axial Force



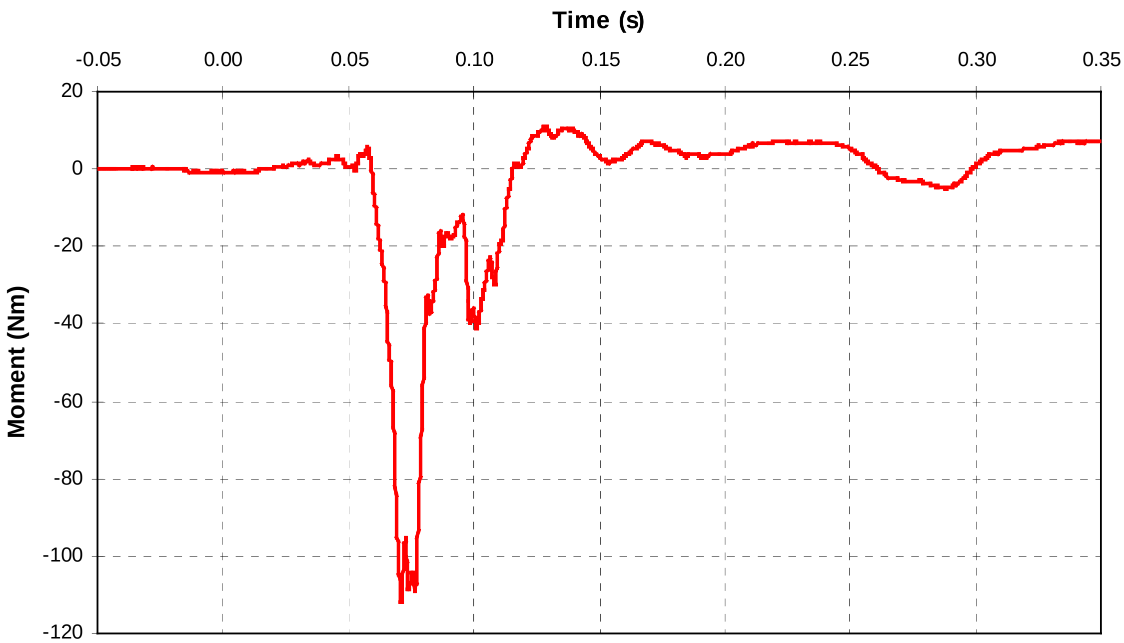
A- 37 CF99024 1999 Mazda 626 Right Femur Axial Force Analysis



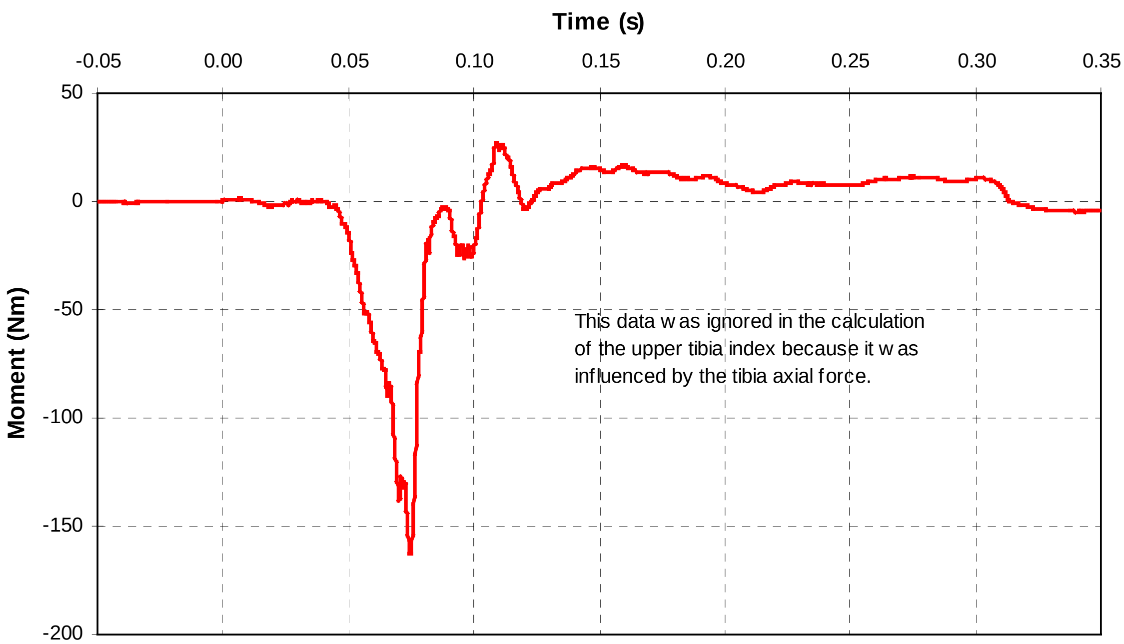
A- 38 CF99024 1999 Mazda 626 Right Tibia-Femur Displacement



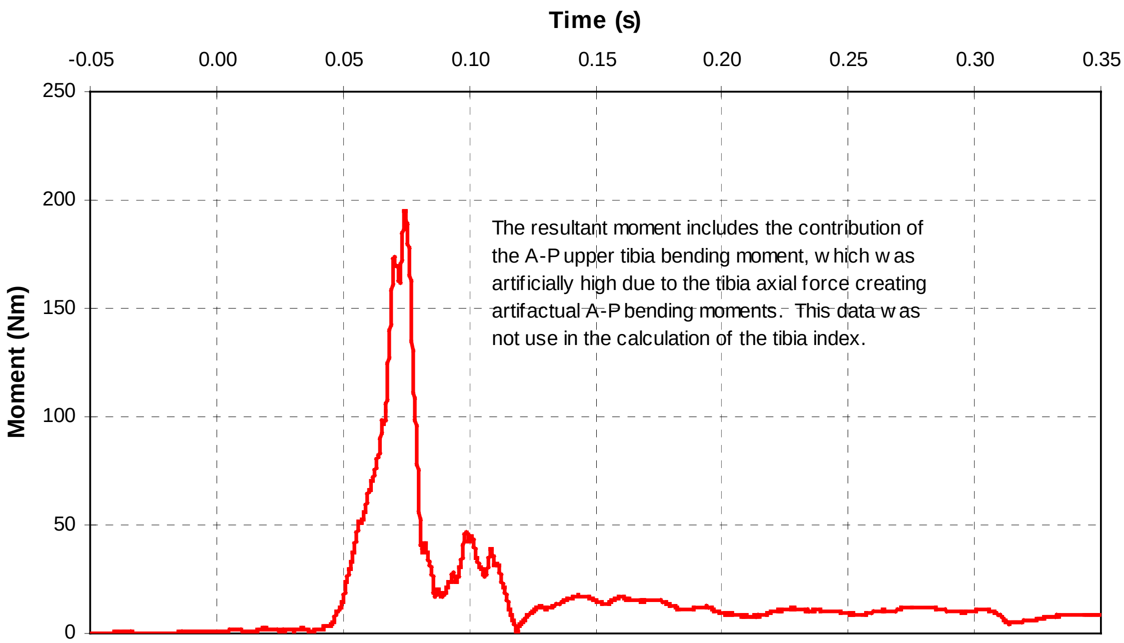
A- 39 CF99024 1999 Mazda 626 Right Upper Tibia L-M Moment



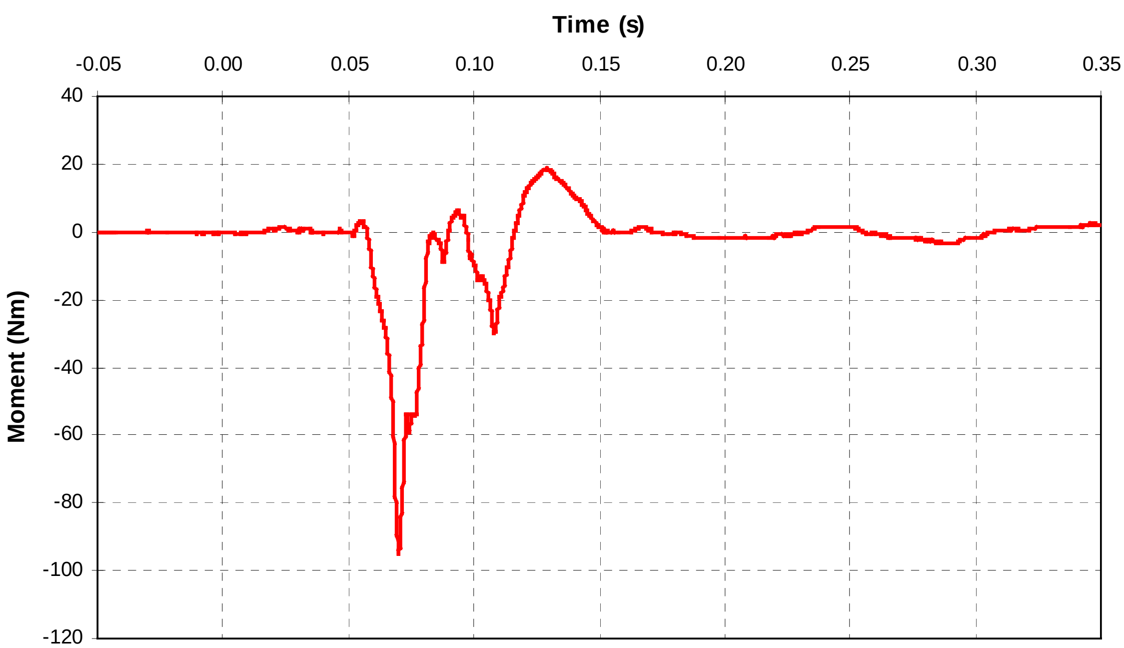
A- 40 CF99024 1999 Mazda 626 Right Upper Tibia A-P Moment



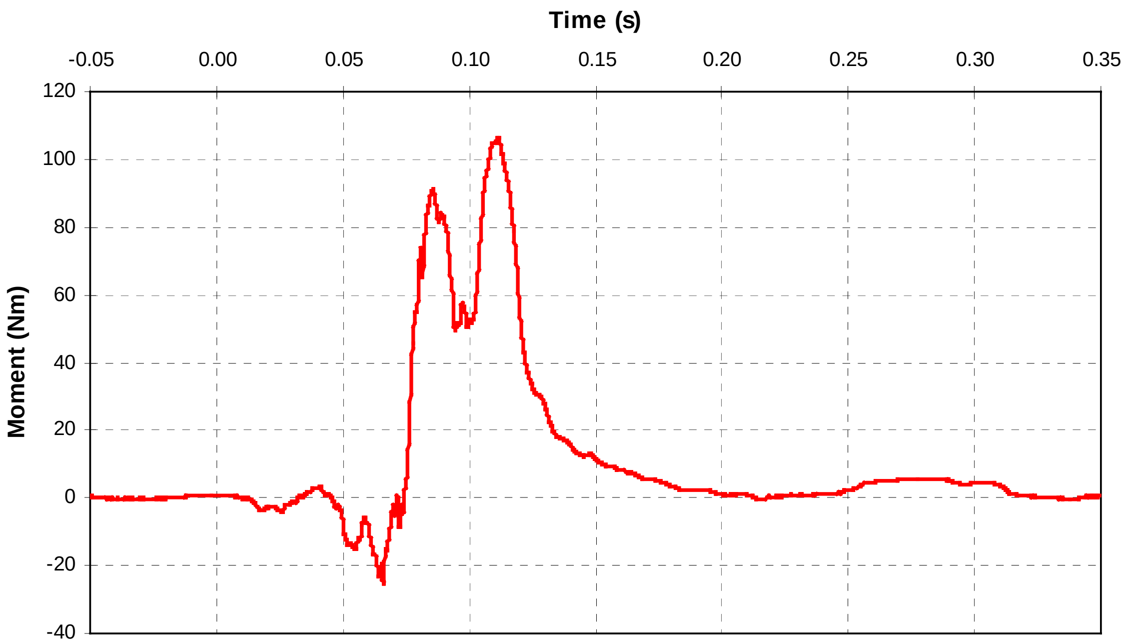
A- 41 CF99024 1999 Mazda 626 Right Upper Tibia Vector Resultant Moment



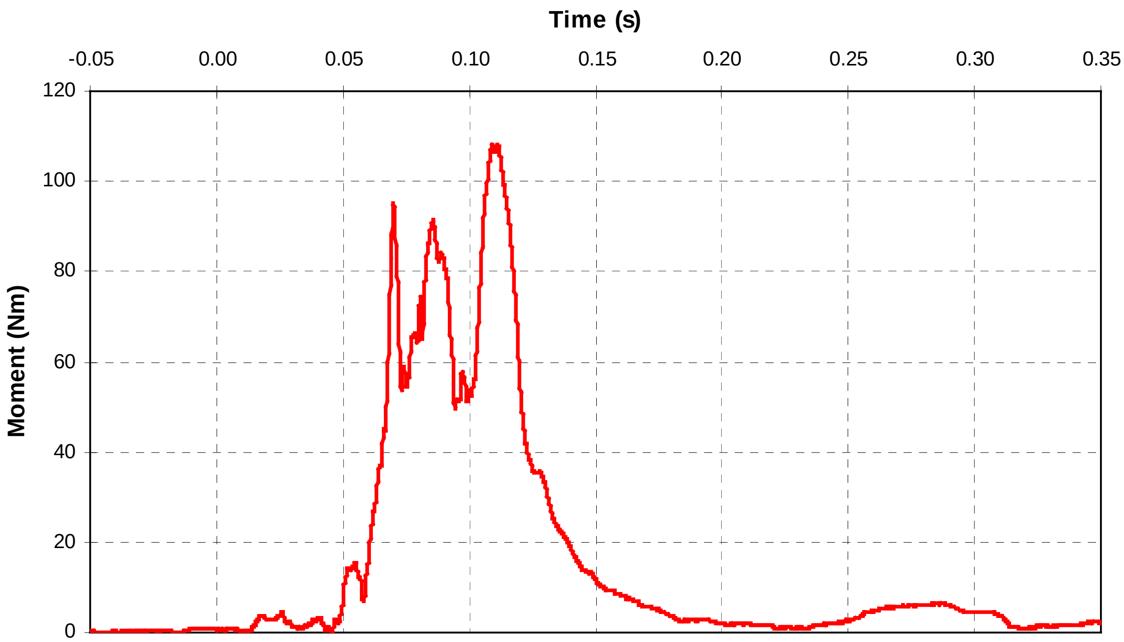
A- 42 CF99024 1999 Mazda 626 Right Lower Tibia L-M Moment



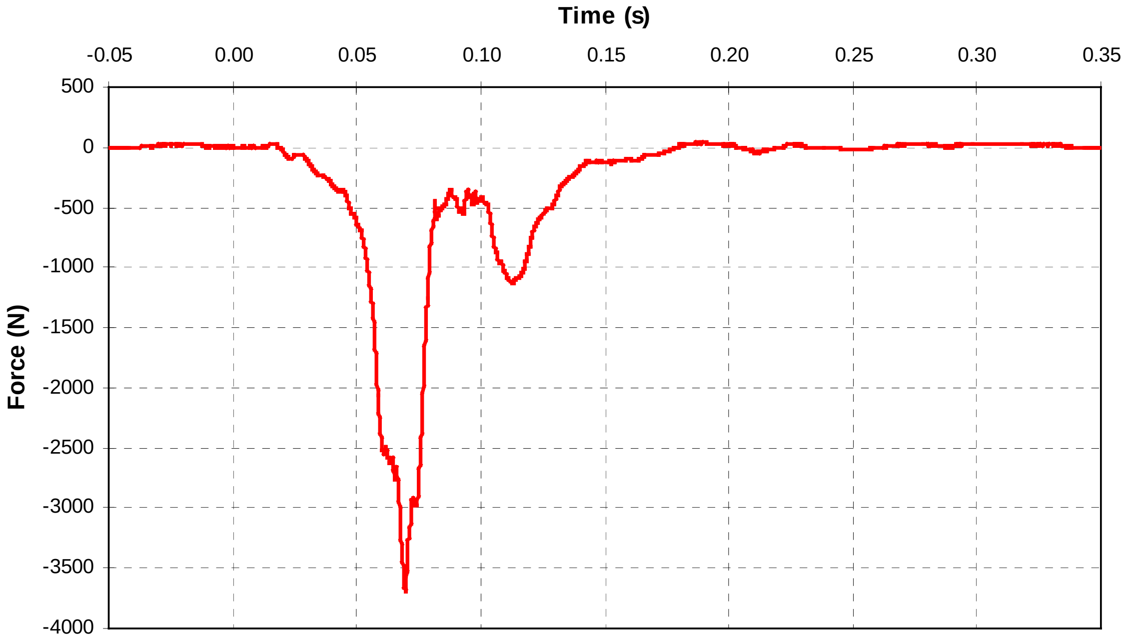
A- 43 CF99024 1999 Mazda 626 Right Lower Tibia A-P Moment



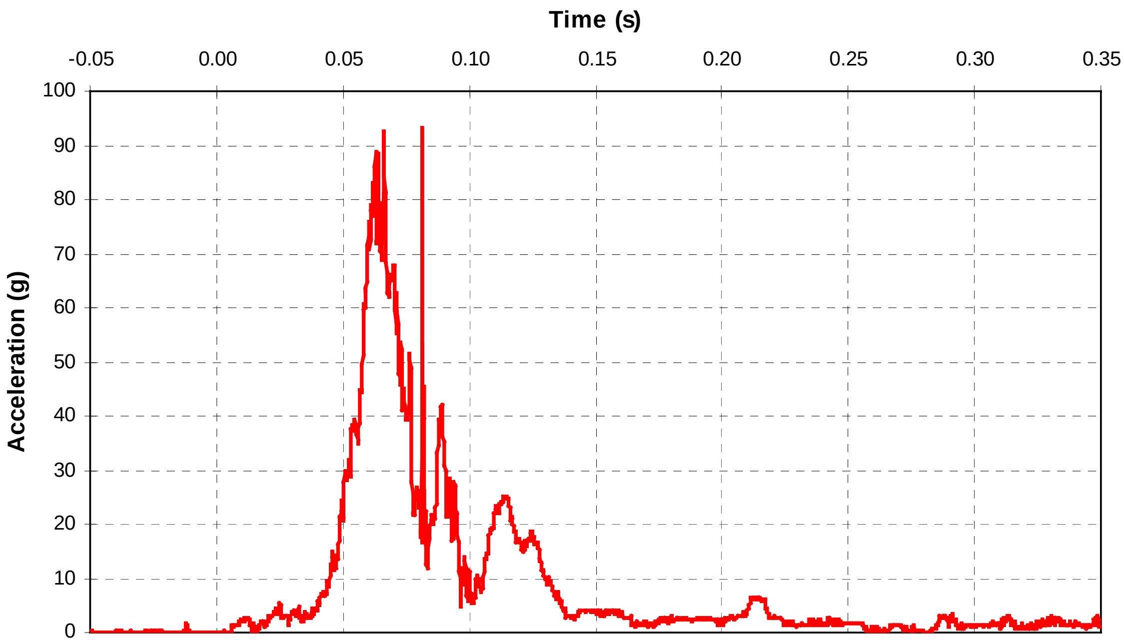
A- 44 CF99024 1999 Mazda 626 Right Lower Tibia Vector Resultant Moment



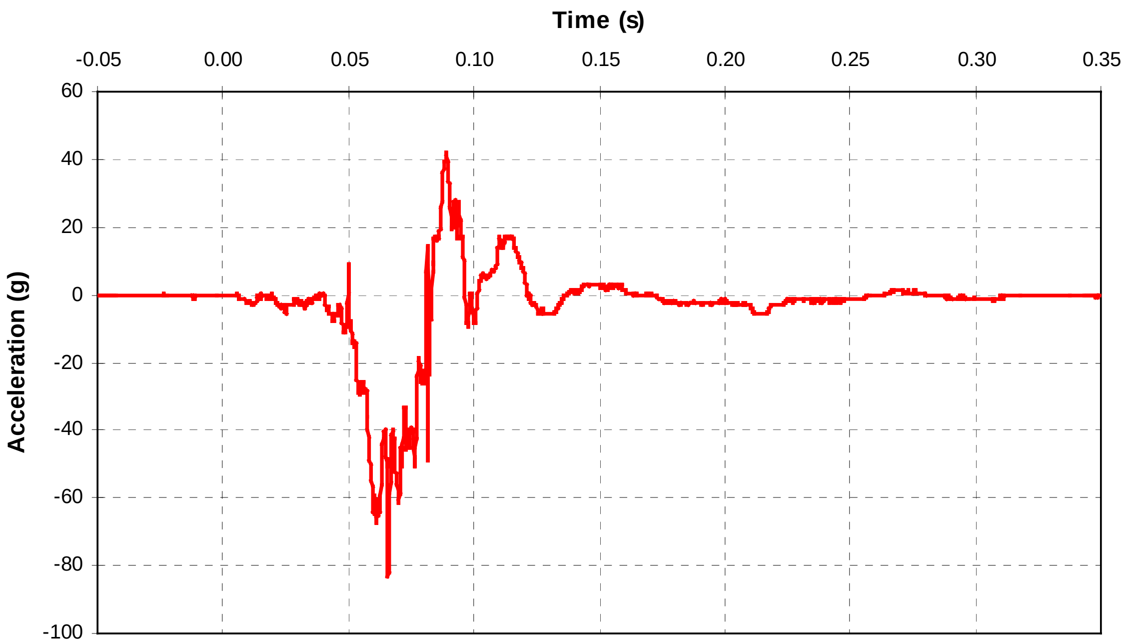
A- 45 CF99024 1999 Mazda 626 Right Lower Tibia Axial Force



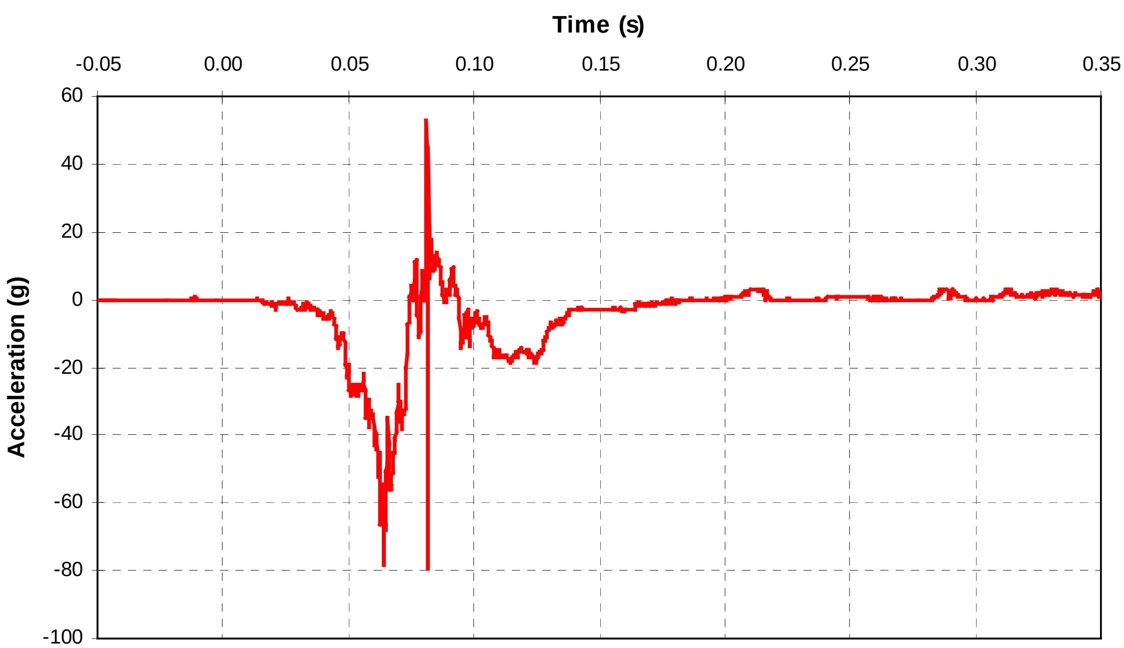
A- 46 CF99024 1999 Mazda 626 Right Foot Vector Resultant Acceleration



A- 47 CF99024 1999 Mazda 626 Right Foot A-P Acceleration



A- 48 CF99024 1999 Mazda 626 Right Foot I-S Acceleration



mazda®

Model: 1999 626 LX A
Exterior Color: DRIFTWOOD
Interior Color: BEIGE

Compare this vehicle to others in the FUEL ECONOMY GUIDE available at the dealer.

CITY MPG

22

Fuel Economy Information (DOE EPA)

HIGHWAY MPG

29

Actual Mileage will vary with options, driving conditions, driving habits and vehicle's condition. Results reported to EPA indicate that the majority of vehicles with these estimates will achieve between **18** and **26** mpg in the city, and between **24** and **34** mpg on the highway.

1999 MAZDA 626

4-CYLINDER. 122 CUBIC INCH DISPLACEMENT. ELECTRONIC GASOLINE INJECTION. 4-SPEED AUTOMATIC OD TRANSMISSION. CATALYST EQUIPPED.

Estimated Annual Fuel Cost:
$719

For Comparison Shopping, all vehicles classified as

MID-SIZE

have been issued mileage ratings ranging from **11** to **26** mpg city and **16** to **37** mpg highway.

STANDARD EQUIPMENT

MANUFACTURER'S SUGGESTED RETAIL PRICE

THE FEATURES LISTED BELOW ARE INCLUDED AT NO EXTRA CHARGE IN THE STANDARD VEHICLE PRICE

SAFETY AND SECURITY FEATURES
* 36 MONTH / 50,000 MILE BUMPER-TO-BUMPER WARRANTY
* REMOTE KEYLESS ENTRY
* FRONT AND REAR CRUSH ZONES
* DUAL FRONT AIR BAGS (SRS)

INTERIOR FEATURES
* 5-PASSENGER SEATING
* AM/FM/CD STEREO 4-SPKRS
* AIR CONDITIONING
* POWER WINDOWS/DOOR LOCKS
* 60/40 SPLIT FOLD-DOWN REAR SEATBACK
* VELOUR CLOTH UPHOLSTERY
* TILT STEERING WHEEL
* AUTOMATIC CRUISE CONTROL
* RECLINING FRONT BUCKET SEATS
* REMOTE TRUNK/HOOD RELEASES
* CENTER CONSOLE ARMREST WITH STORAGE AND DUAL CUP HOLDERS
* ILLUMINATED VANITY MIRRORS
* L/R FRONT DOOR MAP POCKETS

EXTERIOR FEATURES
* P185/70R14 ALL-SEASON RADIAL TIRES
* FULL WHEEL COVERS
* DUAL POWER DOOR MIRRORS
* FLUSH-MOUNT HALOGEN HEAD-LIGHTS
* VARIABLE INTERMITTENT WIPERS
* POWER ANTENNA
* PROTECTIVE BODY-SIDE MOLDING
* TINTED GLASS WITH SUNSHADE
* REAR WINDOW DEFOGGER

ENGINE/MECHANICAL FEATURES
* 125HP 2.0L DOHC 16-VALVE I-4 ENGINE
* 5-SPEED MANUAL TRANSMISSION W/OVERDRIVE
* FRONT-WHEEL DRIVE
* POWER FRT DISC/RR DRUM BRAKES
* POWER RACK AND PINION STEERING
* 4-WHEEL INDEPENDENT SUSPENSION
* FRONT AND REAR STABILIZER BARS
* COMPLIMENTARY FULL TANK OF FUEL

BASE PRICE $17,815.00

OPTIONAL EQUIPMENT

FLM CARPETED FLOOR MATS	$80.00
AT1 AUTOMATIC TRANSMISSION	$800.00
CE1 NLEV EMISSIONS EQUIPMENT	$150.00
TOTAL VEHICLE AND OPTIONS	$18,845.00
INLAND FREIGHT	$450.00
TOTAL VEHICLE PRICE	$19,295.00

SOLD TO: 50522
BILL BRITT MAZDA
5208 JEFFERSON DAVIS HIGHWAY
FREDERICKSBURG, VA 22408

SHIP TO: 50522
BILL BRITT MAZDA
5208 JEFFERSON DAVIS HIGHWAY
FREDERICKSBURG, VA 22408

SERIAL NUMBER
1YVGF22C7X5898149
FF

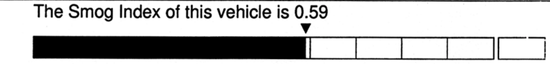
PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE:
U.S./CANADIAN PARTS CONTENT: 65%
MAJOR SOURCE OF FOREIGN PARTS CONTENT:
JAPAN: 25%

FOR THIS VEHICLE:
FINAL ASSEMBLY POINT: FLAT ROCK, MI, U.S.A.
COUNTRY OF ORIGIN:
ENGINE PARTS: JAPAN
TRANSMISSION PARTS: U.S.A.

NOTE: "PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS."

The Smog Index of this vehicle is 0.59



Note: The Smog Index (SI) indicates the relative level of pollutants emitted by the vehicle. The lower the SI, the lower the vehicle's emissions.

GD8D825-WN----WN----19990709

THIS LABEL IS AFFIXED PURSUANT TO FEDERAL AUTOMOBILE DISCLOSURE ACT. GASOLINE, LICENSE AND TITLE FEES, STATE AND LOCAL TAXES, AND DEALER INSTALLED OPTIONS ARE NOT INCLUDED.