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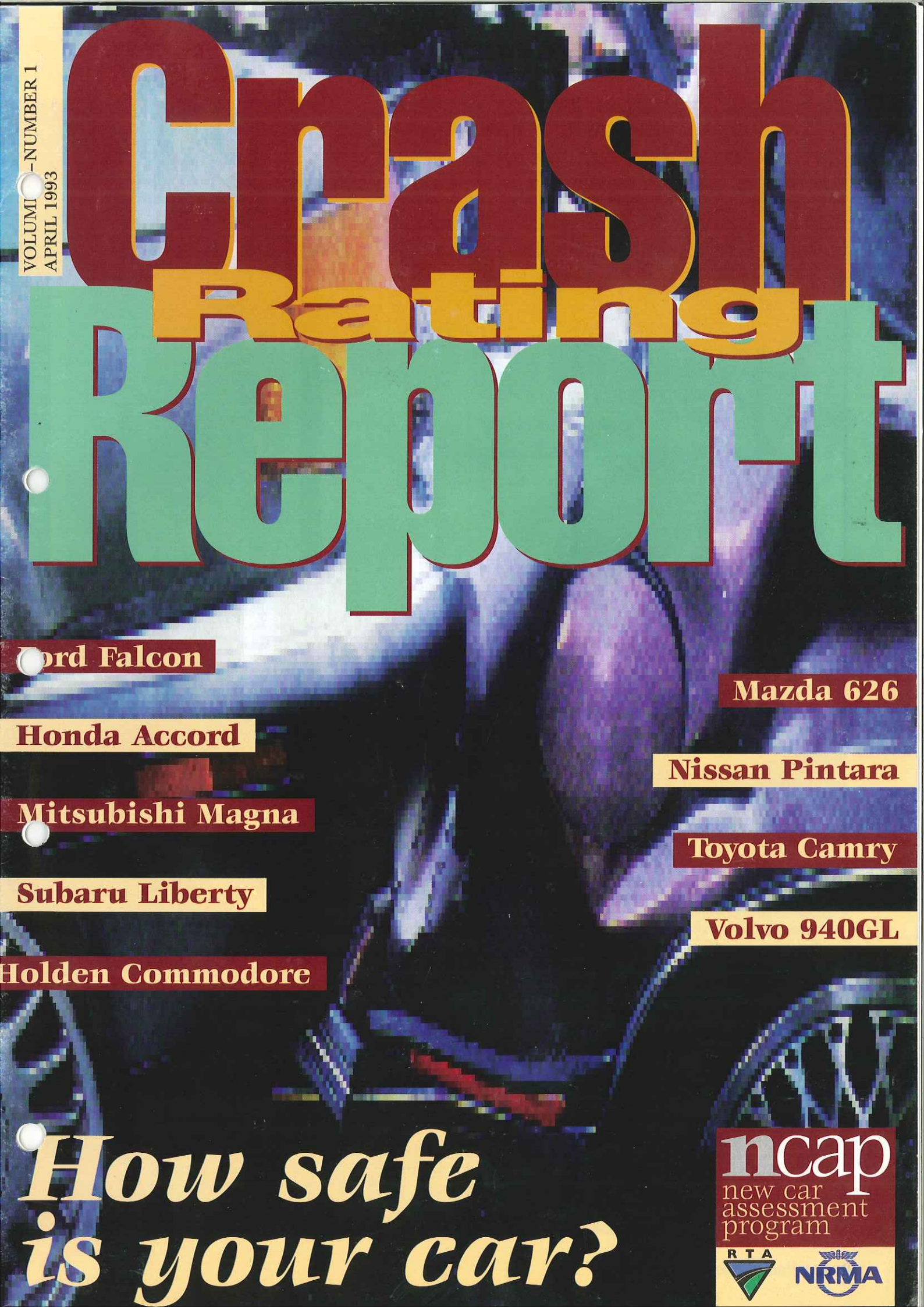
Crash Rating Report



Ford Falcon

Honda Accord

Mitsubishi Magna

Subaru Liberty

Holden Commodore

Mazda 626

Nissan Pintara

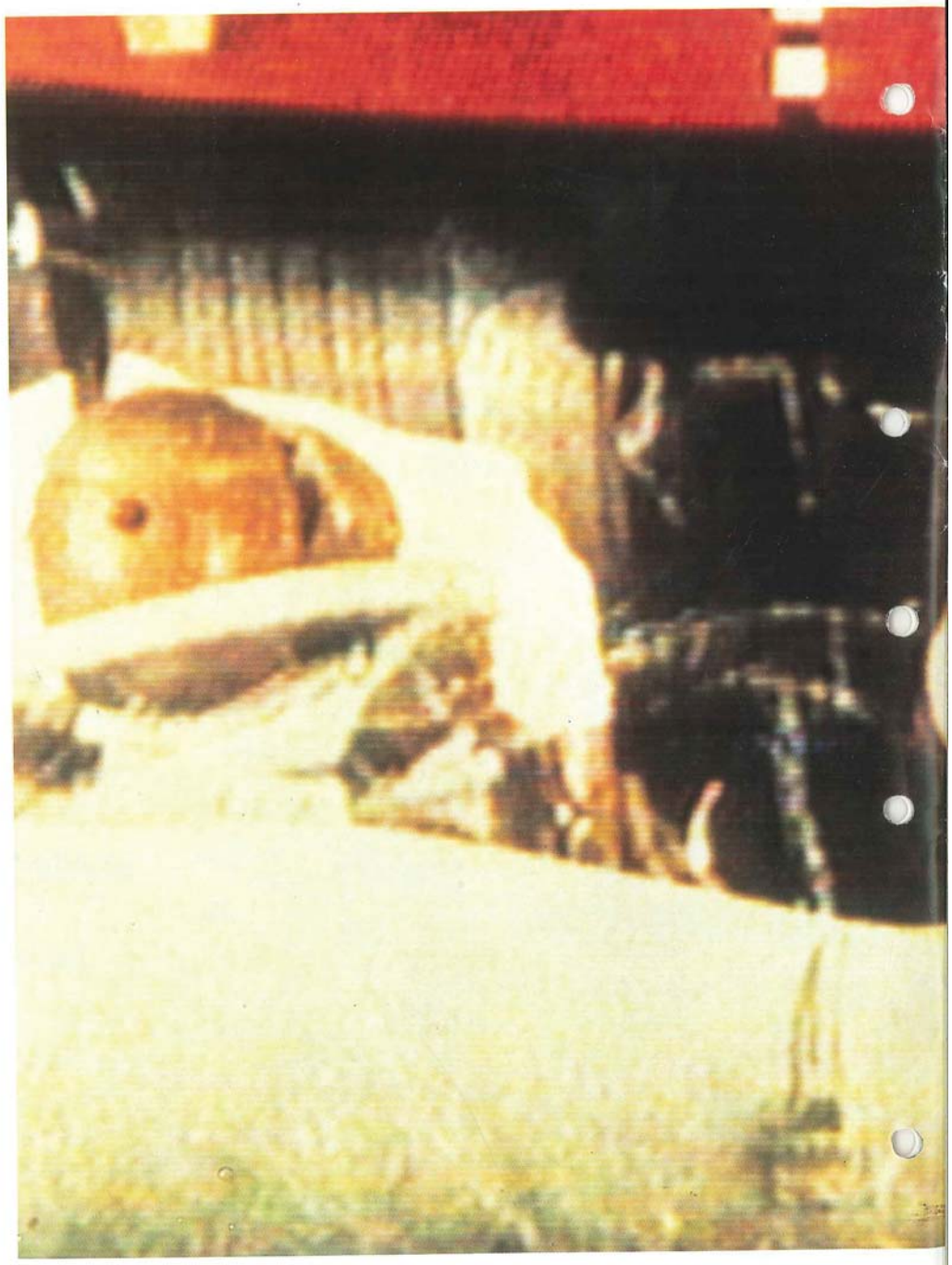
Toyota Camry

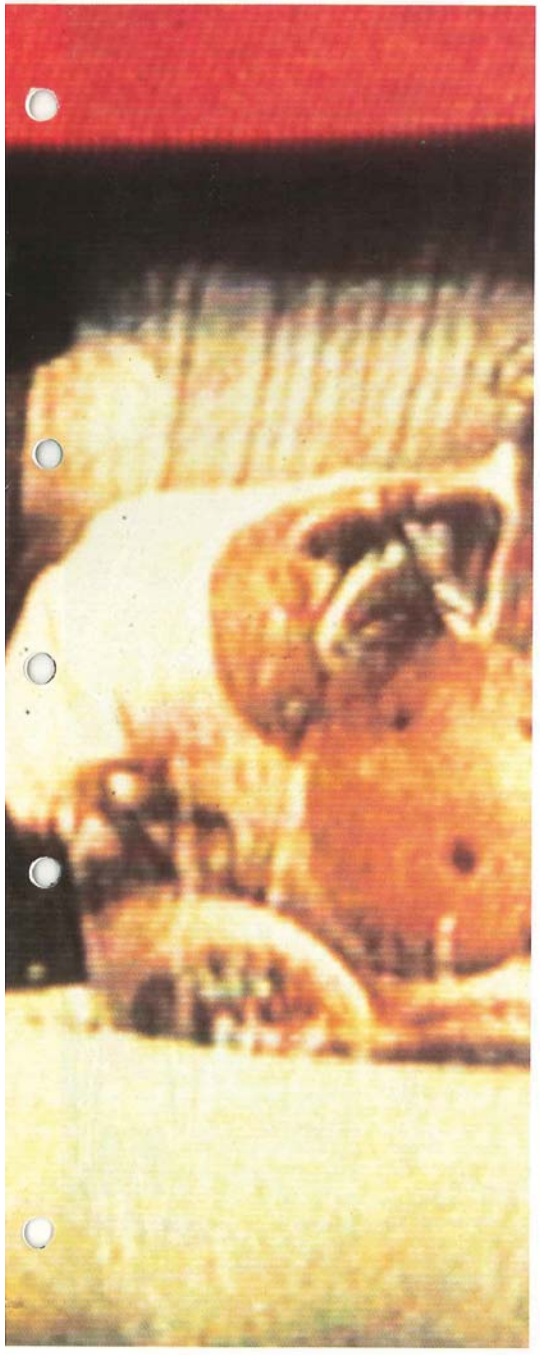
Volvo 940GL

How safe is your car?

ncap
new car assessment program

RTA NRMA





Crash Rating Report

Issue No. 1 • April 1993

CONTENTS

The findings in this report are based on a series of nine crash tests conducted at 56 km/h by the NSW RTA's Crashlab. The results were reviewed by the United States Department of Transportation. Vehicle manufacturers were given the opportunity to view their test and examine their vehicle before and after the test. They were supplied with comprehensive data output from instrumentation and with copies of high-speed film, and were invited to provide comment on their test result. It is assumed that the vehicles purchased for the test program were typical of those which might be supplied to a new car purchaser. NCAP tests do not prove that a vehicle is safe or unsafe. They indicate the relative protection provided to front seat occupants when standard restraints are used. NCAP data is meaningful only in assessing relative injury risk in multi-vehicle crashes when vehicles compared are within a weight range of 230 kgs.

ncap
new car
assessment
program

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How safe is your new car?

More than 20,000 people are seriously injured in car accidents in Australia a year most of them drivers and passengers hurt when they hit the interior of their vehicles in a crash.

Yet to date, motorists have been unable to consider safety performance when buying a new car because of a lack of information on the amount of protection provided by different car models.

While most Australian manufacturers conduct crash tests on their vehicles, this information is generally not provided to the public.

This first edition of the Crash Rating Report provides for the first time an objective assessment of how nine of the most popular family sedans will perform in a head-on collision.

The Crash Rating Report summarises the results of independent crash tests, conducted as part of a three-year New Car Assessment Program (NCAP).

NCAP is a unique joint venture involving some government road authorities and all the motoring organisations from around Australia.

In NCAP, nine different car models were crashed into a solid concrete wall at a speed of 56.3km/h (35mph).

Sophisticated test dummies were used to measure the potential head, chest and leg injuries of a driver and front seat passenger.

The results of this New Car Assessment Program are detailed in the following pages, and aim to provide potential car buyers with valuable comparative information.

The ultimate aim of the program is to make safety as important to car buyers as engine size, styling and comfort.

The following organisations are supporting the $2.6 million testing program: NSW Roads and Traffic Authority, VicRoads, Queensland Department of Transport, South Australia Department of Transport, NRMA, Royal Automobile Club of Victoria, Royal Automobile Club of Queensland, Royal Automobile Association of South Australia, Royal Automobile Club of Western Australia, Royal Automobile Club of Tasmania.

During the next three years, the NCAP scheme will involve crash tests on 90 cars, including large, medium, and small passenger cars, passenger vans, and four-wheel-drives. The results of every test will be published so that the public can review the comparative performance of vehicles.

In this issue, we report the findings of crash tests on the following large and medium-sized 1992 model passenger cars:

Holden Commodore
Ford Falcon
Mitsubishi Magna
Volvo 940GL
Toyota Camry
Nissan Pintara
Subaru Liberty
Mazda 626
Honda Accord

Note: NCAP tests demonstrate the relative protection provided to front-seat occupants when the vehicles' standard seat belts are used.

In a frontal collision with a rigid object, NCAP measures the performance afforded to restrained occupants, regardless of vehicle weight. In such crashes, it is acceptable to compare NCAP scores of small and large vehicles.

However, in full frontal collisions between vehicles of different weights, the occupant of the lighter vehicle is exposed to a higher injury risk. Therefore, NCAP data is meaningful only in assessing relative injury risk in multi-vehicle crashes when vehicles compared are within a weight range of 230kgs.

NCAP's test facility for the head-on collision crash test

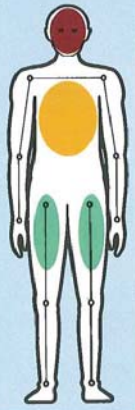
SUMMARY
Driver

Assessment of injury risks

Head
High

Chest
Medium

Legs
Low



Australian drivers face greater risk

The Australian New Car Assessment Program crash data was evaluated by United States expert Mr Jim Hackney of the National Highway Transport Safety Administration (NHTSA).

NHTSA has been conducting independent crash tests since 1978 and assisted in the design and supervision of the Australian NCAP program.

Mr Hackney's report concluded:

- There was a significant difference in the safety performance of passenger cars available to United States consumers compared with those available to Australian consumers.
- The current status of vehicle occupant safety in frontal crashes for Australian consumers who wear their safety belts appears to be about the same as the safety which existed for US consumers in 1980.
- For those who wear their safety belts, the probability of a life-threatening head injury is three times as great for the Australian driver and front seat occupant as for the US driver and occupant in a high-speed frontal crash.

In 1987, the US introduced a Federal Motor Vehicle Safety Standard (FMVSS) which set maximum injury criteria for frontal crashes.

To comply with the standard, the Head Injury Criterion reading must not exceed 1000.*

Eighty percent of vehicles currently on sale in the US meet the FMVSS injury criteria in the NCAP test. However, only one vehicle in the Australian NCAP program would meet the US requirement.

Since the beginning of the US program in 1978, and the enactment of the FMVSS in 1987, very significant safety improvements have been incorporated into the design of passenger cars which are marketed in the US.

These actions indicate the ability and desire of automobile manufacturers to respond very positively to consumer information programs as well as to government regulatory actions.

Since manufacturers which produce vehicles for the Australian market have already developed the vehicle safety designs (including airbags, reduced intrusion, belt pretensioners and controlled steering assembly motion) for the US market, improvement in vehicle safety in Australia could occur very rapidly.

It is hoped that the influence of the NCAP program will lead to informed consumer reaction.

This should quickly lead to better safety for vehicle occupants on Australian roadways.

** Head Injury Criterion reflects the potential for injury, usually when the occupant's head hits a hard object inside the vehicle.*

How the crash tests were calculated

Each of the crash tests uses sophisticated test dummies to record the risk of injuries to both the driver and front seat passenger.

Data collected in each crash test assesses the risk of injury to the head, the chest, and the legs.

The results for each vehicle test are depicted using a colour-coded system to illustrate the degree of injury risk - namely, red for a serious injury risk, amber for a moderate injury risk, and green a minimal risk of injury.

The exact performance of both dummies in each test vehicle are recorded alongside the colour-coded figures.

(See example on page opposite)

Briefly, the risk of head injury is calculated using "Head Injury Criteria" or HIC - a measure drawn from the amount of deceleration experienced by the dummy's head.

The head injury results are presented as follows:

Red - HIC values of over 1250: brain damage is likely.
Amber - HIC values of 750-1250: brain damage is possible.
Green - HIC values of 750 or under: brain damage is unlikely.

With HIC readings below 500, occupants are not likely to be injured. At 1000, about one in six occupants may have a life-threatening skull fracture or brain damage. Over 2000, nearly all crash victims may experience life-threatening head injuries with probable death or long-term disability.

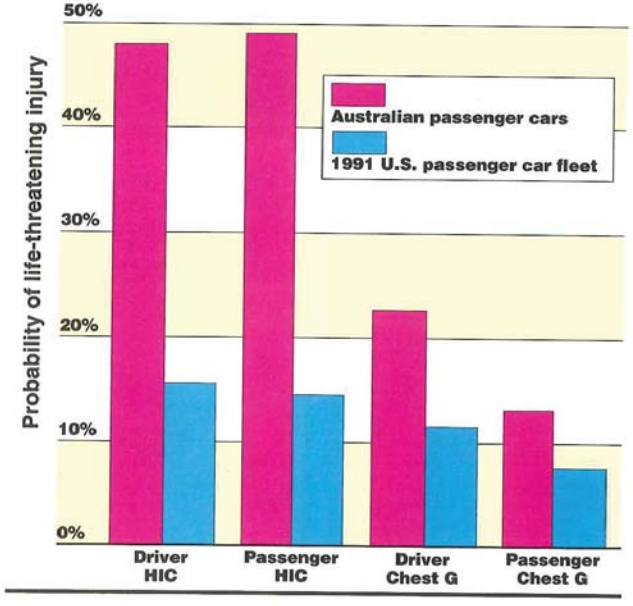
The risk of chest injury is calculated by recording the depth of compression of the sternum (or chest). Chest deflection results are presented as follows:

Red - chest compressed by more than 75mm: serious injury is likely.
Amber - chest compressed by between 50-75mm: serious injury is possible.
Green - chest compressed by 50mm or less: chest injury is unlikely.

To assess leg injury potential, the amount of force on the femur (upper leg) is measured in kiloNewtons:

Red - l0kN or more, leg injury is likely.
Amber - between 5kN and l0kN: leg injury is possible.
Green - 5kN or less: leg injury is unlikely.

Life-threatening injury probability
U.S. vs Australian passenger car 56 km/h crashes



Mazda 626 LXI (1992)

The Mazda driver dummy's face struck the steering wheel then hit the top of the steering column. The driver recorded a mid-range Head Injury Criteria (1160) indicating that brain injury was possible.

The passenger dummy's head struck the dashboard during the crash, recording a mid-range HIC (930), indicating that brain injury was possible.

The driver dummy's chest hit the steering wheel during the crash. Chest deflection values for the driver (49mm) and passenger (34mm) indicated serious chest injury for the passenger was unlikely.

The driver dummy's knees struck the lower side of the dashboard and the steering column, and the passenger dummy's knees struck the glove box. The chances of serious upper leg injury was unlikely for both the vehicle's occupants.

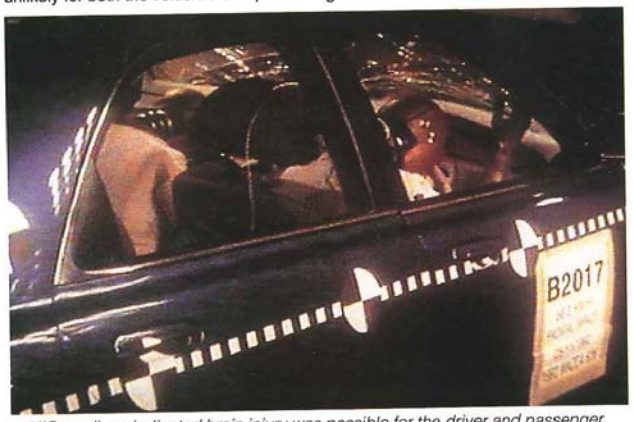
Sedan: 4-door.
Engine: 4-cylinder (2 litre).
Front-wheel-drive.
Transmission: t/bar auto.
Power steering.
Air conditioning.
Built: 6/92
Test weight: 1431.0kg

Vehicle damage

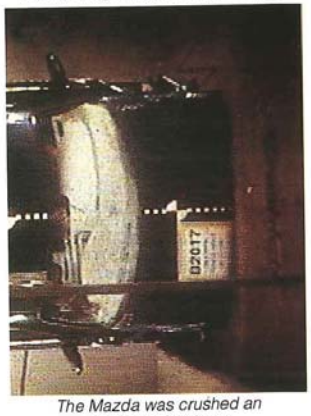
The Mazda's windscreen was cracked but remained in place and in one piece. The front of the car was crushed an average of 682mm.

There was minor damage to the front doors and almost no damage to the rear panels. A small amount of roof buckling was recorded.

All doors remained functional, although the left front door was slightly fouled by the guard.



HIC readings indicated brain injury was possible for the driver and passenger.



The Mazda was crushed an average of 682mm.

The driver's face struck the steering wheel.

SUMMARY Driver

Assessment of injury risks

Head
Medium
(HIC 1160)

Chest
Low
(49mm)

Legs
Low
(left 2.63kN,
right 2.57kN)

SUMMARY Passenger

Assessment of injury risks

Head
Medium
(HIC 930)

Chest
Low
(34mm)

Legs
Low
(left 3.48kN,
right 3.11kN)

Nissan Pintara PR Executive (1992)

The Pintara driver dummy's head struck the hub of the steering wheel which, along with the steering column, pushed inwards and upwards during impact. The Head Injury Criteria (HIC) of 1750 indicated that brain injury was likely.

A mid-range HIC reading (890) was recorded for the passenger after the dummy's forehead struck its knees. This result indicated that brain injury was possible.

The chance of serious chest injury for the driver and passenger was unlikely (low 44mm and 40mm chest deflections, respectively).

The driver dummy's knees struck the underside of the dashboard and steering column and the passenger dummy's knees hit the glove box, however the risk of serious leg injury was unlikely.

Sedan: 4-door.
Engine: 4-cylinder (2 litre)
Front-wheel-drive.
Transmission: t/bar auto.
Power steering
Built: 5/92
Test weight: 1414.0kg

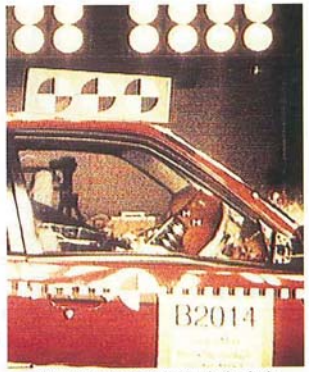
Vehicle damage

The Pintara's windscreen cracked on vehicle impact with the crash barrier due to pressure exerted from both the vehicle body and from the bonnet which was pushed onto the lower portion of the windscreen. But the windscreen remained intact and stayed in position.

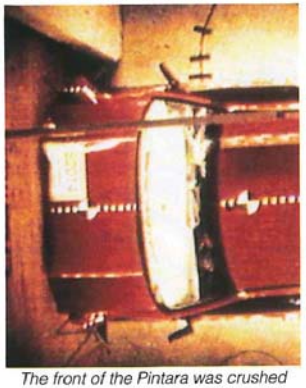
The front of the Pintara was crushed by an average of 683mm along its length. Length reduction was due to extensive crushing in the Pintara's front panels and bonnet.

The side panels from the front doors back were relatively undamaged.

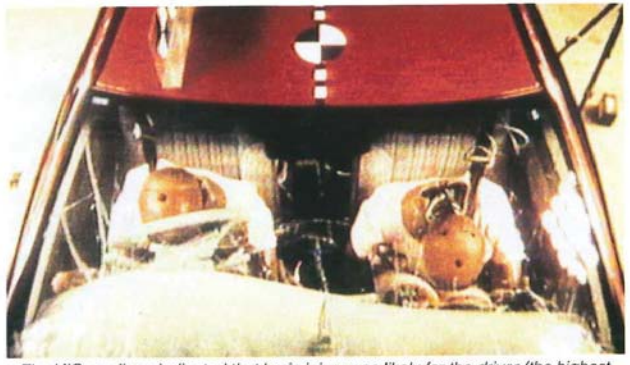
The two front doors could be partially opened manually after the crash. The rear doors could be opened fully.



The driver's head struck the hub of the steering wheel.



The front of the Pintara was crushed an average of 683mm.



The HIC readings indicated that brain injury was likely for the driver (the highest driver HIC reading of this test series) and possible for the passenger.

SUMMARY Driver

Assessment of injury risks

Head
High
(HIC 1750)

Chest
Low
(44mm)

Legs
Low
(left 1.29kN,
right 2.42kN)

SUMMARY Passenger

Assessment of injury risks

Head
Medium
(HIC 890)

Chest
Low
(40mm)

Legs
Low
(left 0.78kN,
right 0.74kN)

Toyota Camry Executive (1992)

The Camry driver dummy's forehead struck the top of the rim of the steering wheel, then hit the steering wheel hub. The medium-range Head Injury Criteria (1090) indicated that brain injury was possible.

The passenger dummy recorded a medium-range HIC reading (1240) after its forehead hit the dashboard during the crash. This result indicated that brain injury was possible.

Low chest compression values for both the driver and passenger (41mm and 39mm, respectively) indicated that serious injury was unlikely.

Serious leg injury to driver and passenger was also unlikely. The driver dummy's knees struck the dashboard and steering column. The passenger dummy's knees struck the glove box.

Sedan: 4-door.
Engine: 4 cylinder (2 litre).
Front-wheel drive.
Transmission: t/bar auto
Power steering.
Built: 5/92.
Test weight: 1498.7kg

Vehicle damage

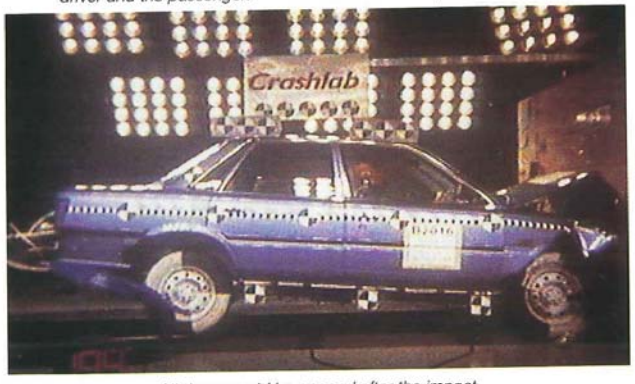
The Camry's windscreen was cracked but remained in one piece and in place. Frontal crushing reduced the vehicle's length by an average of 568mm. Most of the damage was confined to the front panels and bonnet.

There was minimal damage to the front doors and the roof

All doors could he opened after the impact.

Brain injury was possible for both the driver and the passenger.

Most of the damage was confined to the front panels and bonnet.



All doors could be opened after the impact.

SUMMARY Driver

Assessment of injury risks

Head
Medium
(HIC 1090)

Chest
Low
(41mm)

Legs
Low
(left 1.59kN,
right 3.93kN)

SUMMARY Passenger

Assessment of injury risks

Head
Medium
(HIC 1240)

Chest
Low
(39mm)

Legs
Low
(left 1.57kN,
right 2.52kN)

Holden Commodore VP Executive (1992)

The driver dummy's forehead hit the top of the steering wheel rim and then the hub of the steering wheel, resulting in a high Head Injury Criteria (1690). This reading indicated that brain injury was likely.

The Commodore passenger recorded a severe head strike to the dashboard directly above the glove box. The high HIC value of 2410 indicated that brain injury was likely.

This was the highest passenger HIC reading in this test series.

Chest deflection indicated possible serious injury to the driver (52mm).

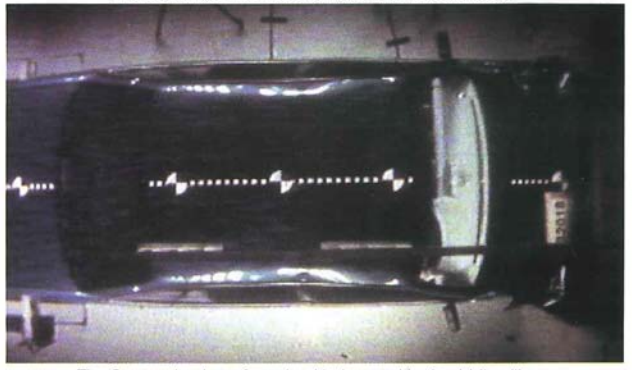
The driver's knee struck the lower dashboard and underside of the steering column and the passenger's knees hit the glove box. Serious leg injury was unlikely in both cases.

Sedan: 4-door.
Engine: 6 cylinder (3.8 litre V6).
Rear-wheel drive.
Transmission: t/bar auto.
Power steering.
Air conditioning.
Built: 6/92.
Test weight: 1612.7kg

Vehicle damage

The Commodore's windscreen had minor cracks around the base of the front pillars and remained intact and in position. The front of the vehicle was crushed an average 730mm. The roof was buckled around both middle pillars. The Commodore's floor was also warped and both rear wheels were toed-in and cambered. All doors could be opened after the impact.

HIC readings indicated that brain injury was likely for the driver. The passenger HIC was the highest of this test series.



The Commodore's roof was buckled around both middle pillars.

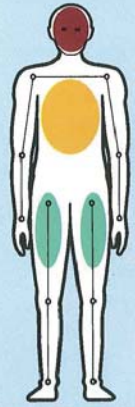
SUMMARY Driver

Assessment of injury risks

Head
High
(HIC 1690)

Chest
Medium
(52mm)

Legs
Low
(left - no data,
right 1.23kN)



SUMMARY Passenger

Assessment of injury risks

Head
High
(HIC 2410)

Chest
Low
(45mm)

Legs
Low
(left 2.22kN,
right 1.50kN)

Honda Accord (1992)

Sedan: 4-door.
Engine: 4 cylinder (2.1 litre).
Front-wheel-drive.
Transmission: t/bar auto.
Power steering.
Built: 5/92
Test weight: 1648.7kg

Both the driver and passenger recorded high Head Injury Criteria ratings, indicating likely brain injuries. The driver's HIC rating was 1500 while the passenger rated 1330.

The driver's chest deflection of 51mm indicated that serious injury was possible, while the passenger's deflection of 37mm indicated that serious injury was unlikely.

It was unlikely that the vehicle's occupants would have suffered serious leg injuries.

The driver's knees struck the underside of the dashboard and steering column and the passenger's knees kit the glove box.

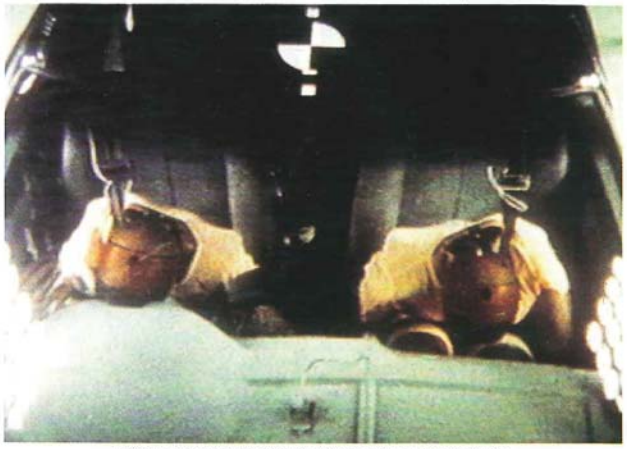
Vehicle damage

The Honda windscreen was cracked but intact and in position. The front portion of the car was crushed an average of 598mm but there was only minimal damage to the front doors and rear panels.

There was some buckling of the roof around the right-side middle pillar and also minor roof damage near the left-side middle pillar.

Both the rear doors remained functional, but neither of the front doors could be opened manually.

There was only minimal damage to the front doors and rear panels of the Honda.



HIC readings indicated that brain injury was likely for both the driver and passenger.

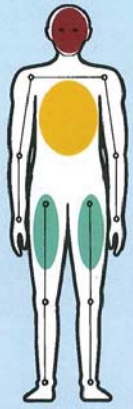
SUMMARY Driver

Assessment of injury risks

Head
High
(HIC 1500)

Chest
Medium
(51mm)

Legs
Low
(left 2.81kN,
right 3.13kN)



SUMMARY Passenger

Assessment of injury risks

Head
High
(HIC 1330)

Chest
Low
(37mm)

Legs
Low
(left 2.71kN,
right 4.38kN)

Ford Falcon EB S2 GLI (1992)

Sedan: 4-door.
Engine: 6 cylinder (4 litre).
Rear-wheel drive.
Transmission: t/bar auto.
Power steering.
Built: 3/92
Test weight: 1791.0kg

The dummy's forehead hit the top of the steering wheel rim and its face struck the steering wheel hub during the crash. The Falcon driver was likely to have suffered brain injuries after the driver dummy recorded a high Head Injury Criteria (1340).

The passenger dummy's head struck its knees and returned a lower HIC value (780), indicating that brain injury was possible. The Falcon was fitted with seat belt webbing clamps which are intended to reduce forward body movement during impact.

Serious chest injury was possible for the driver (54mm chest deflection) and unlikely for the passenger (47mm).

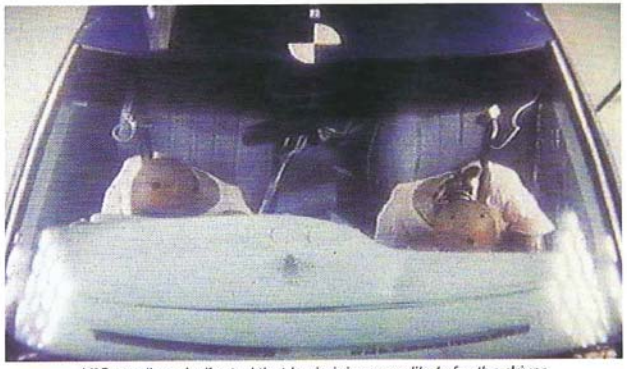
Injury was possible to the driver's upper right leg after the dummy's right knee struck the fuse box and side of the steering column. The driver's left knee struck the dashboard, handbrake, and steering column. The passenger's knees struck the glove box and dashboard but the chance of injury was unlikely.

** It should be noted that leg injuries, although not life-threatening, cannot be discounted after severe contact of this nature.*

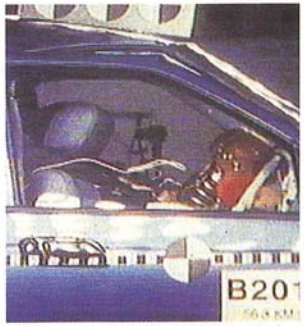
Vehicle damage

The windscreen of the Falcon had minor cracking around the base but remained in one piece and in place. The vehicle sustained damage to the front section with an average crush of 577mm. The roof of the Falcon was severely buckled with the middle pillars being bent inwards. Both rear wheels were also slightly toed-in and cambered.

All doors could be opened, but both front doors were very tight. The left front door could not be opened until the left rear door was first opened. Two people were needed to force open the rear left door.



HIC readings indicated that brain injury was likely for the driver and possible for the passenger.



The Falcon was fitted with seat belt webbing clamps.

The Falcon was crushed an average 577mm and the roof severely buckled.

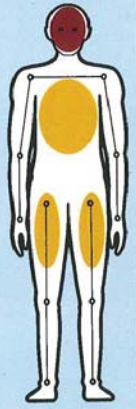
SUMMARY Driver

Assessment of injury risks

Head
High
(HIC 1340)

Chest
Medium
(54mm)

Legs
Medium
(left 2.71kN,
right 6.04kN)



SUMMARY Passenger

Assessment of injury risks

Head
Medium
(HIC 780)

Chest:
Low
(47mm)

Legs:
Low
(left 3.56kN,
right 1.75kN)

Mitsubishi Magna TR Executive (1992)

Sedan: 4-door.
Engine: 4 cylinder (2.6 litre).
Front-wheel-drive.
Transmission: t/bar auto.
Power steering.
Built: 3/92.
Test weight: 1611.7kg

The Magna driver dummy's forehead struck the top of the steering wheel rim and its face hit the top of the steering column during the crash. The mid-range Head Injury Criteria (1140) indicated brain injury was possible.

The top of the passenger dummy's head struck the dashboard, recording a high-range HIC (1580), indicating that brain injury was likely.

Chest injury was possible for the driver during the crash (51mm chest deflection) after the driver dummy's chest hit the steering wheel.

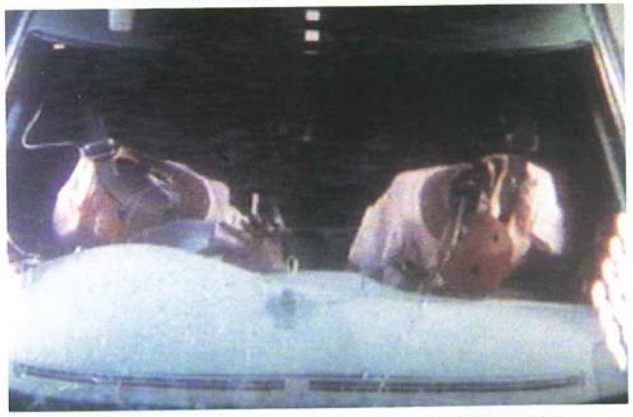
Serious injury to either the driver's or passenger's legs was unlikely. During the crash, the driver's knees struck the side of the steering column and the underside of the dashboard. The passenger's knees hit the glove box.

Vehicle damage

The lower edge of the Magna's windscreen cracked but remained intact and in place. Almost all panel damage was restricted to the front of the Magna with an average crush measurement of 644mm. The roof was slightly buckled at the right hand middle pillar.

The rear doors could be opened, but the front left door could only be partially opened. The front right door could only be opened after the rear right door was open.

Almost all panel damage was restricted to the front of the Magna.



HIC readings indicated that brain injury was possible for the driver and likely for the passenger.

SUMMARY Driver

Assessment of injury risks

Head
Medium
(HIC 1140)

Chest
Medium
(51mm)

Legs
Low
(left 3.42kN,
right 3.81kN)

SUMMARY Passenger

Assessment of injury risks

Head
High
(HIC 1580)

Chest
Low
(45mm)

Legs
Low
(left 0.92kN,
right 1.06kN)

Subaru Liberty LX (1992)

Sedan: 4-door.
Engine: 4 cylinder (2.2 litre).
Front-wheel-drive.
Transmission: t/bar auto.
Power steering.
Air conditioning.
Built: 5/92
Test weight: 1588.1 kg.

Results of this crash test indicate that brain injury was likely for both the driver and passenger of this test vehicle.

During impact, the driver's face struck the top of the steering wheel then hit the top edge of the instrument panel, recording a high HIC (Head Injury Criteria) of 1360, indicating that brain injury was likely.

The passenger dummy's head hit the dashboard then struck its knee. It was the knee impact which led to the high-range HIC reading of 1810.

The medium chest deflection reading for the driver (54mm) - after the chest of the crash dummy hit the steering wheel - indicated that serious injury was possible. The low chest deflection reading for the passenger (39mm) indicated that serious injury was unlikely.

Despite the driver dummy's knees striking the under side of the dashboard, and the passenger dummy's knees hitting the glove box, serious leg injury was unlikely.

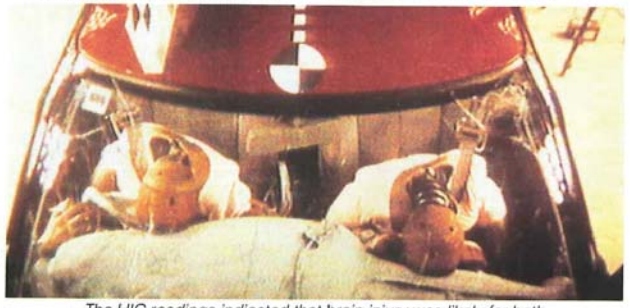
Vehicle damage

The Liberty's windscreen cracked on vehicle impact with the crash barrier due to pressure exerted from both the vehicle body and from the bonnet which was pushed onto the lower portion of the windscreen.

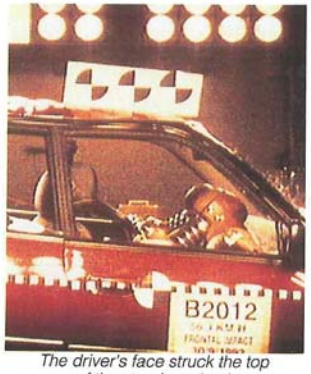
But the windscreen remained intact and stayed in position.

The front of the Liberty was crushed by an average of 674mm along its length. Extensive crushing of the front panels and bonnet was chiefly responsible for this reduction in vehicle length. Damage to the side panels from the front doors back was minimal but buckling occurred in the roof, especially around the top of the middle pillars.

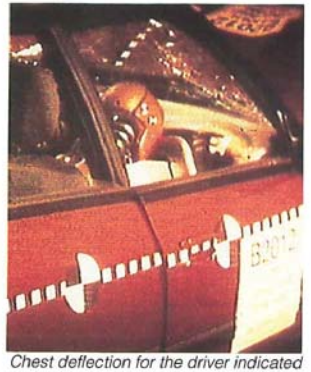
Neither of the two front doors could be opened manually after the crash, but the rear doors were still functional.



The HIC readings indicated that brain injury was likely for both the driver and passenger.



The driver's face struck the top of the steering wheel.



Chest deflection for the driver indicated that serious injury was possible.

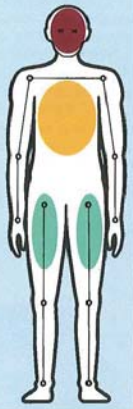
SUMMARY Driver

Assessment of injury risks

Head
High
(HIC 1360)

Chest
Medium
(54mm)

Legs
Low
(left 1.79kN,
right 3.87kN)



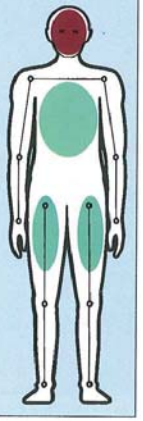
SUMMARY Passenger

Assessment of injury risks

Head
High
(HIC 1810)

Chest
Low
(39mm)

Legs
Low
(left 3.54kN,
right 1.57kN)



Volvo 940 GL (1992)

Sedan: 4-door.
Engine: 4 cylinder (2.3 litre).
Rear-wheel drive.
Transmission: t/bar auto.
Power steering.
Air conditioning
Built: 3/92
Test weight: 1673.7kg

The Volvo's air bag prevented the driver dummy's head from striking the steering wheel or dashboard. Head Injury Criteria (HIC) was 490 indicating that brain injury was unlikely. This was the lowest driver HIC result in this test series.

The passenger's HIC of 600 (the lowest passenger HIC of this test series) was largely due to the Volvo's seat belt pretensioner* which minimised the impact of the passenger dummy's head as it struck the dummy's knees. This result indicated that brain injury was unlikely.

** A device which tightens seat belt webbing on impact, reducing the forward movement of the occupants.*

With low chest deflection for the driver (48mm) and passenger (46mm), serious chest injury was unlikely.

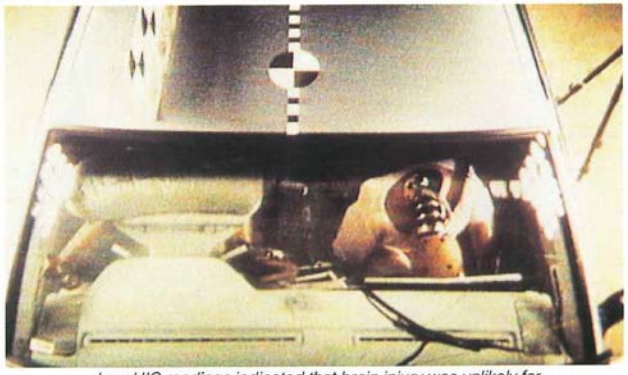
The chances of serious injury to the upper legs was also unlikely. The driver dummy's knees struck the underside of the dashboard and the passenger dummy's knees hit the glove box during the crash.

Vehicle damage

The Volvo windscreen cracked, but remained in one piece and in place.

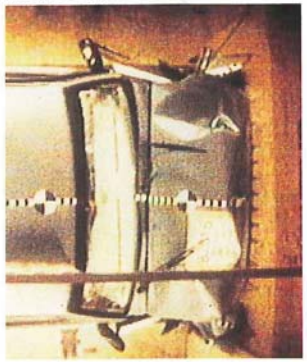
The front of the vehicle was crushed by an average of 734mm along its length. Side panels from the front doors back were mainly undamaged. A slight buckling of the roof around the middle pillars was detected.

The right front door could not be opened. The left front and right rear doors could be opened but force was required. There was no problem opening the left rear door.



Low HIC readings indicated that brain injury was unlikely for either the driver or the passenger.

The Volvo's air bag prevented serious injury to the driver.



The front of the vehicle was crushed an average 734mm along its length.

SUMMARY Driver

Assessment of injury risks

Head
Low
(HIC 490)

Chest
Low
(48mm)

Leg
Low
(left 3.97kN, right 2.32kN)

SUMMARY Passenger

Assessment of injury risks

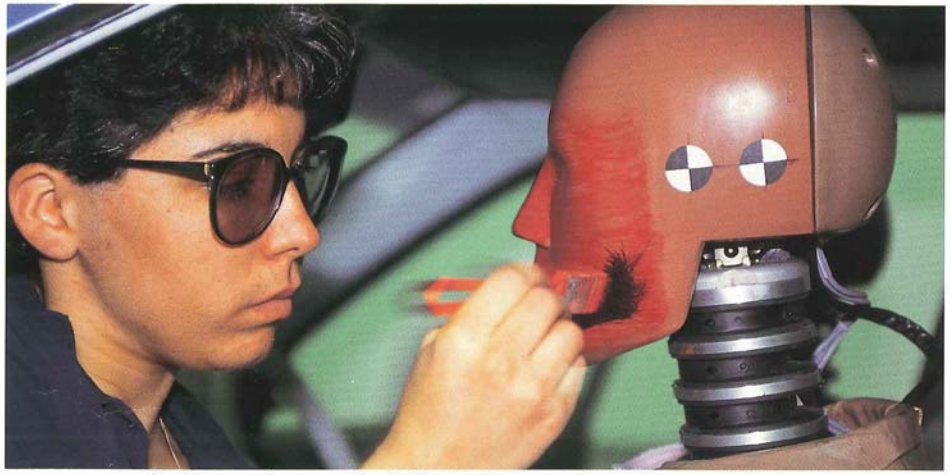
Head
Low
(HIC 600)

Chest
Low
(46mm)

Legs
Low
(left 1.44kN, right 0.39kN)

Test Results

Make/Model	Head Injury Criteria (HIC)	Chest Deformation (mm)	Femur Loads (kN) Left	Right
MEDIUM SIZE CARS				
Mazda 626				
Driver	1160	49	2.63	2.57
Passenger	930	34	3.48	3.11
Nissan Pintara				
Driver	1750	44	1.29	2.42
Passenger	890	40	0.78	0.74
Toyota Camry				
Driver	1090	41	1.59	3.93
Passenger	1240	39	1.57	2.52
LARGE CARS				
Holden Commodore				
Driver	1690	52	no data	1.23
Passenger	2410	45	2.22	1.50
Honda Accord				
Driver	1500	51	2.81	3.13
Passenger	1330	37	2.71	4.38
Ford Falcon				
Driver	1340	54	2.71	6.04
Passenger	780	47	3.56	1.75
Subaru Liberty				
Driver	1360	54	1.79	3.87
Passenger	1810	39	3.54	1.57
Mitsubishi Magna				
Driver	1140	51	3.42	3.81
Passenger	1580	45	0.92	1.06
Volvo				
Driver	490	48	3.97	2.32
Passenger	600	46	1.44	0.39



A crash dummy is prepared for the New Car Assessment Program head-on collision test

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