

# Crash Test Results

## New Car Safety

### HOLDEN COMMODORE OMEGA

From Oct 08 to Aug 09  
Front+side+head airbags



Offset crash test at 64km/h

#### FRONTAL OFFSET CRASH TEST (v4.1)

Body region scores out of 4 points each: Head/neck 4 pts, chest 2.70 pts, upper legs 4 pts, lower legs 2.76 pts.

The passenger compartment held its shape very well in the offset crash test. The accelerator pedal moved rearwards by 7 mm and the brake pedal moved rearwards 4mm. The steering wheel hub moved forwards 59mm (as it was design to do, to reduce injury risk), downwards 61mm and sideways 17 mm. The front ("A") pillar moved 3 mm rearwards. All doors remained closed during the crash. After the crash all doors could be opened with normal effort. The airbag cushioned the head of the driver and contact was stable. There were no knee hazards with the revised steering column design. The passenger's head was cushioned by the airbag.

#### SIDE IMPACT CRASH TEST (v4.1)

Body region scores out of 4 points each: Head 4 pts, chest 4 pts, abdomen 4 pts, pelvis 4 pts.

The vehicle was eligible for an optional pole impact test, since it had head-protecting side airbags and it was within reach of a 5 star rating. The manufacturer decided to go ahead with the pole test and the vehicle earned a further two points.

#### PEDESTRIAN PROTECTION: 1 Star

The Commodore's bonnet provided fair to marginal protection for many of the adult and child head zones. Leg results were uniformly poor, and performance could be improved in this area.

| PEDESTRIAN PROTECTION |                    |       |
|-----------------------|--------------------|-------|
| <br>v4.1              | Child head impacts | 5.980 |
|                       | Adult head impacts | 3.000 |
|                       | Upper leg impacts  | 0.000 |
|                       | Lower leg impacts  | 0.000 |
|                       | Total (out of 36)  | 8.980 |



Occupant Protection Score 33.45 out of 37

Variant: OMEGA sedan Eng: 3.6 V6

Kerb weight: 1700 kg Category: LARGE CAR

#### Model History and Safety Features

The tested model of Holden Commodore was introduced in Australia during 2006. This 5 star ANCAP rating applies to Commodore sedan and Sportwagon variants with several upgrades, including a front passenger seat belt reminder and a redesigned steering column cover. The Omega variant was the first with these upgrades, applicable to vehicles built from October 2008 and includes V6, V8 and LPG engines.

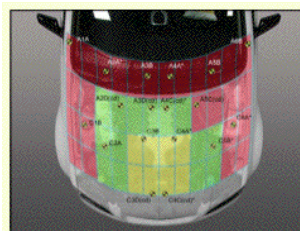
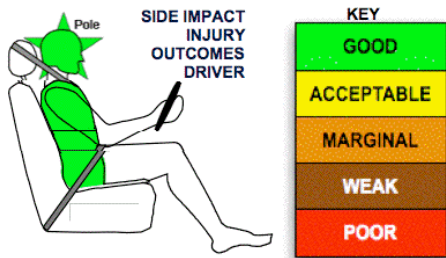
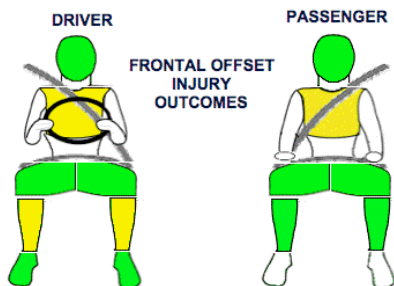
Dual front airbags, side airbags and head-protecting side curtains are standard equipment. Antilock brakes (ABS), electronic brakeforce distribution (EBD) and electronic stability control (ESC) are also standard. Advanced seat belt reminders are fitted to both front seats.

The front seat belt buckles are mounted on the seats and the upper anchorages are adjustable. These features improve the fit of the seat belt. Pretensioners are fitted to the front seat belts to reduce slack in the event of a crash. A three point seat belt is fitted to the centre rear seat. This provides better protection than a two point (lap) seat belt.

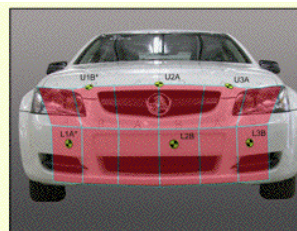
#### OCCUPANT PROTECTION: 5 Stars

The Commodore scored 13.45 out of 16 in the offset crash test. The passenger compartment held its shape very well. There was a slight risk of serious chest and lower leg injury for the driver.

The vehicle scored 16 out of 16 in the side impact crash test and a further 2 points in the optional pole test.



Child and adult head impact



Adult leg impact (upper and full legforms)

fair marginal poor

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Commodore08.doc

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# TECHNICAL DATA - HOLDEN COMMODORE VE OMEGA

## INJURY MEASUREMENTS

| Body region                    | Offset Crash Test at 64km/h<br>(v4.1) |            | Side Impact Crash<br>Test at 50km/h<br>(v4.1) |
|--------------------------------|---------------------------------------|------------|---|
|                                | Driver                                | Passenger  | Driver  |
| <b>Head HIC</b>                | 314                                   | 221        | 25  |
| Acceleration (g for 3ms)       | 45.1                                  | 36.8       | 16.2  |
| <b>Neck - Shear (kN)</b>       | 0.49                                  | 0.43       | -   |
| Tension (kN)                   | 0.82                                  | 0.91       | -   |
| Extension (Nm)                 | 6.8                                   | 22.6       | -   |
| <b>Chest Accln (g for 3ms)</b> | 38.100                                | 35.800     | -   |
| Compression (mm)               | 31.13                                 | 28.73      | 20.50   |
| Viscous criterion (m/s)        | 0.07                                  | 0.07       | 0.12  |
| <b>Abdomen - Force (kN)</b>    | -                                     | -          | 0.561   |
| <b>Pelvis - Force (kN)</b>     | -                                     | -          | 1.320   |
| <b>Upper legs Force (kN)</b>   |                                       |            |   |
| Left                           | 0.42                                  | 0.25       |   |
| Right                          | 0.57                                  | 0.30       |   |
| Knee displ (mm)                |                                       |            |   |
| Left                           | 0.27                                  | 0.67       |   |
| Right                          | 0.13                                  | 0.29       |   |
| <b>Lower legs Force (kN)</b>   |                                       |            |   |
| Left                           | 2.32                                  | 1.33       |   |
| Right                          | 3.30                                  | 1.55       |   |
| Index (Upper/Low)              |                                       |            |   |
| Left                           | 0.42 /0.50                            | 0.32 /0.12 |   |
| Right                          | 0.53 /0.68                            | 0.39/0.24  |   |

### Bonus points (maximum 5)

Pole Test: 2 points

Seat belt reminders: 2 (see table below for details)

### Modifiers - deductions from offset test scores

|                                    |                |
|------------------------------------|----------------|
| Head                               | No deduction   |
| Chest                              | No deduction   |
| Upper leg Variable & conc. loading | No deduction   |
| Lower leg                          | No deduction   |
| Foot score                         | Score 4 points |

Note: Steering column and pedal movements are measured relative to the driver's seat.

### Modifiers - deductions from side impact test scores

|       |              |
|-------|--------------|
| Chest | No deduction |
|-------|--------------|

### Safety features

These specifications are subject to change. Please check with manufacturer for the latest specifications.

|   |     |   |       |
|---|-----|---|-------|
| Driver airbag                                 | S   | Antilock (ABS) brakes / Electronic brakeforce distribution / Brake Assist | S/S/S |
| Passenger front airbag                        | S   | Electronic stability control (ESC, VSC, DSC, ESP, VSA)                    | S#    |
| Side airbags, front seats - chest protection  | S   | 3 point centre rear seat belt   | S     |
| Side airbags, front seats - head protection   | S   | Active head restraints - front seats                                      | S     |
| Side airbags, rear seats - head protection    | S   | Intelligent seat belt reminder - driver                                   | S     |
| Driver knee airbag                            | X   | Intelligent seat belt reminder - front passenger                          | @     |
| Seat belt pretensioners (Front/rear outboard) | S/X | Rear seat belt status indicator   | X     |

@ Front passenger seat belt reminder standard on Omega variant from October 2008. Other variants have this feature, which is needed for a 5 star rating, from 31 August 2009.

Key:

S = standard on all variants

O = optional on base variant. May be standard on higher variants

V= not available on base variant but standard or optional on higher variants

X = not available on any variant

# ESC required by ANCAP for 5 star rating from 2008

