

# Crash Test Results

## New Car Safety

### HOLDEN VOLT

From 2012 Front+side+head+knee airbags



Offset crash test at 64km/h (Euro NCAP)



**ANCAP**

Rated ★★★★★

**Occupant Protection**

**Occupant Protection Score 34.56 out of 37**

Tested variant: Opel Ampera Eng: Electric  
Kerb mass 1730 kg Category: CAR - MEDIUM  
Vehicles built: 2011 Tested by Euro NCAP

**Important note:** The *left-hand-drive* Opel Ampera was tested by Euro NCAP. ANCAP was provided with information which showed that the star rating can be applied to the Holden Volt.

#### Model History and Safety Features

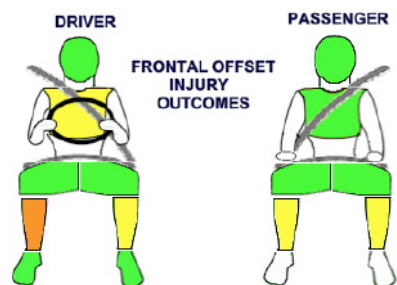
The Holden Volt was introduced in Australia during 2012. Dual front airbags, side airbags, head-protecting side curtains and driver and passenger knee airbags are standard equipment. Antilock brakes (ABS), electronic brakeforce distribution (EBD) and electronic stability control (ESC) are also standard. Intelligent seat belt reminders are fitted to all seats.

Pretensioners are fitted to the front seat belts to reduce slack in the event of a crash.

#### OCCUPANT PROTECTION: 5 Stars

The Volt scored 13.56 out of 16 in the offset crash test. The passenger compartment held its shape well. Protection from serious leg injury was marginal for the driver.

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



FRONTAL OFFSET INJURY OUTCOMES



SIDE IMPACT INJURY OUTCOMES DRIVER



#### Whiplash Protection (RCAR Protocol)



#### FRONTAL OFFSET CRASH TEST

Body region scores out of 4 points each: Head/neck 4 pts, chest 3.21 pts, upper legs 4 pts, lower legs 2.35 pts.

The passenger compartment held its shape well in the offset crash test. The accelerator pedal moved rearwards by 52 mm and upwards 2 mm. The steering wheel hub moved 44mm forward, 6mm downward and 3 mm sideways. The front ("A") pillar moved 5 mm rearwards. All doors remained closed during the crash. After the crash the all doors could be opened with normal effort.

The airbag cushioned the head of the driver and contact was stable. ANCAP was provided with manufacturer's test data which showed that there were no knee hazards. This was not available at the time of the Euro NCAP rating.

#### SIDE IMPACT CRASH TEST

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

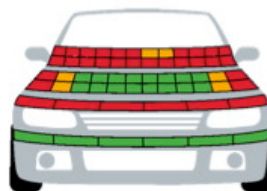
The vehicle was eligible for a pole impact test, since it had head-protecting side airbags. The vehicle earned the maximum two points in this test.

#### PEDESTRIAN PROTECTION: Marginal

The bumper offered good protection to pedestrians' legs and the bonnet was mostly good in those areas likely to be struck by the head of a child. However, no points were scored by the front edge of the bonnet and the bonnet surface offered almost entirely poor protection to the head of an adult.

PEDESTRIAN PROTECTION	Child head impacts	8.78
<b>MARGINAL</b>	Adult head impacts	0.13
	Upper leg impacts	Zero
	Lower leg impacts	6
	Total (out of 36)	14.90

Tested by Euro NCAP v5.3



KEY  
PASS (green)  
MARGINAL (orange)  
FAIL (red)

**AUGUST 2012**

PO Box 4041  
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volt12.doc Rated: 2012  
Issued 28/8/2012



**ANCAP**

Crash testing for safety

AUSTRALASIAN  
NEW CAR ASSESSMENT  
PROGRAM

# TECHNICAL DATA - HOLDEN VOLT - From 2012

## INJURY MEASUREMENTS

Body region	Offset Crash Test at 64km/h (v5.2)		Side Impact Crash Test at 50km/h (v5.2)
	Driver	Passenger	Driver
<b>Head HIC</b>	293	572	18
Acceleration (g for 3ms)	38.5	59.0	14.6
<b>Neck - Shear (kN)</b>	0.66	0.55	-
Tension (kN)	0.91	0.92	-
Extension (Nm)	4.9	19.4	-
<b>Chest Accln (g for 3ms)</b>	-	-	-
Compression (mm)	27.52	10.58	8.43
Viscous criterion (m/s)	0.11	0.01	0.02
<b>Abdomen - Force (kN)</b>	-	-	0.500
<b>Pelvis - Force (kN)</b>	-	-	1.950
<b>Upper legs Force (kN)</b>			
Left	1.57	0.80	
Right	1.93	0.60	
Knee displ (mm)			
Left	2.20	0.40	
Right	0.30	1.40	
<b>Lower legs Force (kN)</b>			
Left	2.78	3.00	
Right	4.47	3.22	
Index (Upper/Low)			
Left	0.28 /0.36	0.41 /0.32	
Right	0.49 /0.33	0.34/0.25	

### Bonus points (maximum 5)

Pole Test: 2 pts

Seat belt reminders: 3 (see table below for details)

### Modifiers - deductions from offset test scores

Head	No deduction
Chest	No deduction
Upper leg	No deduction
Lower leg	No deduction
Foot score	Score 4 points

### Modifiers - deductions from side impact test scores

Chest	No deduction
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### Safety features

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



Driver airbag	S	Antilock (ABS) brakes / Electronic brake 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 seat belt for all forward-facing seats	S
Side airbags, front seats - head protection	S	Whiplash protection (RCAR protocol)	Good
Side airbags, rear seats - head protection	S	Intelligent seat belt reminder - driver	S
Driver/passenger knee airbag	S/S	Intelligent seat belt reminder - front passenger	S
Seat belt pretensioners (Front/Rear outboard)	S/X	Intelligent seat belt reminder - rear seats	S

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