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VF COMMODORE – STRONGER, SAFER, SMARTER

- **Five-star ANCAP rating on all VF models**
- **70 barrier crash tests**
- **Three ISOFIX child seat mountings on rear seats**
- **New seat-mounted pelvis/thorax airbags**

Today, more than ever, safety is one of the primary considerations for many new car buyers, and the sophisticated VF Commodore, which uses more ultra high-strength steel in its construction than ever before, is one of the safest new cars on Australian roads.

Recently awarded a five-star ANCAP crash test rating, the body structure is stronger than ever. Passenger safety cage and rollover protection are reinforced by increased usage of advanced, high-strength and ultra high-strength steels, which now comprise 49 per cent of Commodore's robust crash-optimised body structure.

The VF has also been engineered for improved frontal pedestrian impact performance, reducing the risk of serious injury to people both inside and outside the car.

Its family car attributes are further enhanced by the addition of simple-to-use ISOFIX child seat anchorages. Commodore is one of the few cars on the road with the capability to accommodate three ISOFIX child seats across the rear seat, pending ADR approval.

It also comes with seatbelt automatic locking retractors for firmer child restraint fitment, along with a rear seat belt reminder in the Driver Information Display, so the driver can check rear passengers are properly restrained.

VF Commodore's larger volume seat-mounted airbag increases side impact protection by extending the area of body coverage. It incorporates an additional cell which inflates to a higher pressure to better distribute crash energy loads across the occupant's pelvic area as well as the chest.

The concept takes advantage of the pelvis's ability to take higher loads while limiting pressure on more sensitive thorax and abdominal areas. The thorax/pelvis airbag is located within the backrest frame of the vehicle's front seats and will deploy within milliseconds of a detected side collision contact.

The new front seat design also provides improved protection for whiplash in a rear impact. It includes a four-way adjustable head restraint.

Holden's Manager of Vehicle Structure and Safety Integration, Steve Curtis, said VF's safety system was almost all new.

"To balance all the changes driven by mass reduction imperatives in particular, we've touched everything – body structure, airbags, seatbelts, you name it - to deliver the best standard of injury risk protection yet," he said.

“We put VF Commodore through much more extensive crash scenario testing than ever before. It was very much a global activity because this vehicle is being sold in international markets and has to satisfy multiple requirements. The results exceed current 5-Star ANCAP rating requirements and satisfy broader and more demanding Holden safety engineering standards, including double rollover protection.”

“Development work covered a wide range of crash scenarios and occupant criteria, matched to real world driving environments,” Mr Curtis said.

“Demanding crash performance criteria drove the design to satisfy GM best practice and 5-Star ANCAP ratings in front, side and rear impact, whiplash and pedestrian protection. And our test schedules for the VF Commodore safety development program were even greater in number and complexity than the original VE program.”

Physical testing involved 48 prototype vehicles and a total of 70 barrier crashes (versus 55 for VE) at Holden’s Lang Lang Proving Ground and GM’s Milford safety test facility in North America.

Holden engineers also carried out an additional 105 dynamic simulation sled tests on VF safety systems.

Exponential growth in computing power made for a more extensive virtual crash modelling program. The virtual crash models employed for VF testing were far larger and more complex and the time taken to simulate crash models – a 64 km/h offset frontal barrier crash for example – almost halved, affording even more extensive virtual assessment of multiple crash test scenarios.

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For media inquiries, contact:

Craig Cheetham

Director Product Launch Communications

GM Holden

03 9647 5278

0439 998 523

craig.cheetham@gm.com

Shayna Welsh

Senior Manager, Product Communications

GM Holden

03 9647 1081

0418 116 074

shayna.welsh@gm.com