



## Australasian Road Rescue Organisation Inc

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### TECHNICAL BULLETIN No. 1/2007

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**SUBJECT**      *'Holden VE Commodore and WM Statesman'*



### INTRODUCTION

This bulletin highlights some of the features of the VE Holden Commodore and WM Statesman range released in August 2006. Significant changes have occurred in the materials used in construction, construction techniques and battery location. These changes may impact on techniques used by rescue agencies and this bulletin intends to highlight this for general use and information purposes. Rescuers should consider that these features will possibly flow to other models in the Holden fleet.

### VIN IDENTIFICATION

The VE and WM series are identified by the initial four figures of the Vehicle Identification Number (VIN); previously known as the body number. The starting VIN identifier codes for the VE range is 6G1E; then K – Omega model; P – SV model; L – Berlina; and C – CV model. WM Statesman commences with 6G1M... To assist rescue agencies to record and eventually identify how many VE Commodores they attend to at road rescue incidents and for post-incident reviews, it is recommended that obtaining the VIN should become a standardised practice. The VIN may also assist to identify the potential for roof curtains to be fitted to certain models.

The VIN is located at three (3) areas on the VE and WM models.

## VIN IDENTIFICATION cont

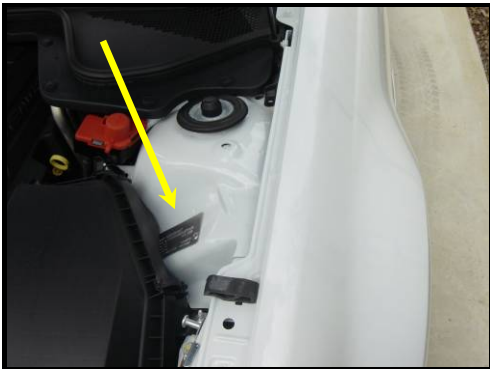
Passenger side front, lower windscreen



Passenger side 'B' pillar



Engine bay, left hand front, passenger side suspension tower



## BATTERY LOCATION AND ACCESS

Battery now located at the left hand rear, passenger side of the boot; behind internal trim



Access to the boot can be achieved by the following methods:

- ✓ Push button on ignition key and push button switch in glove box;
- ✓ Ignition key and boot lid keyhole; and
- ✓ Manual release on driver's side of rear seat pass through section when folded down (see photos next page).

## BATTERY LOCATION AND ACCESS cont

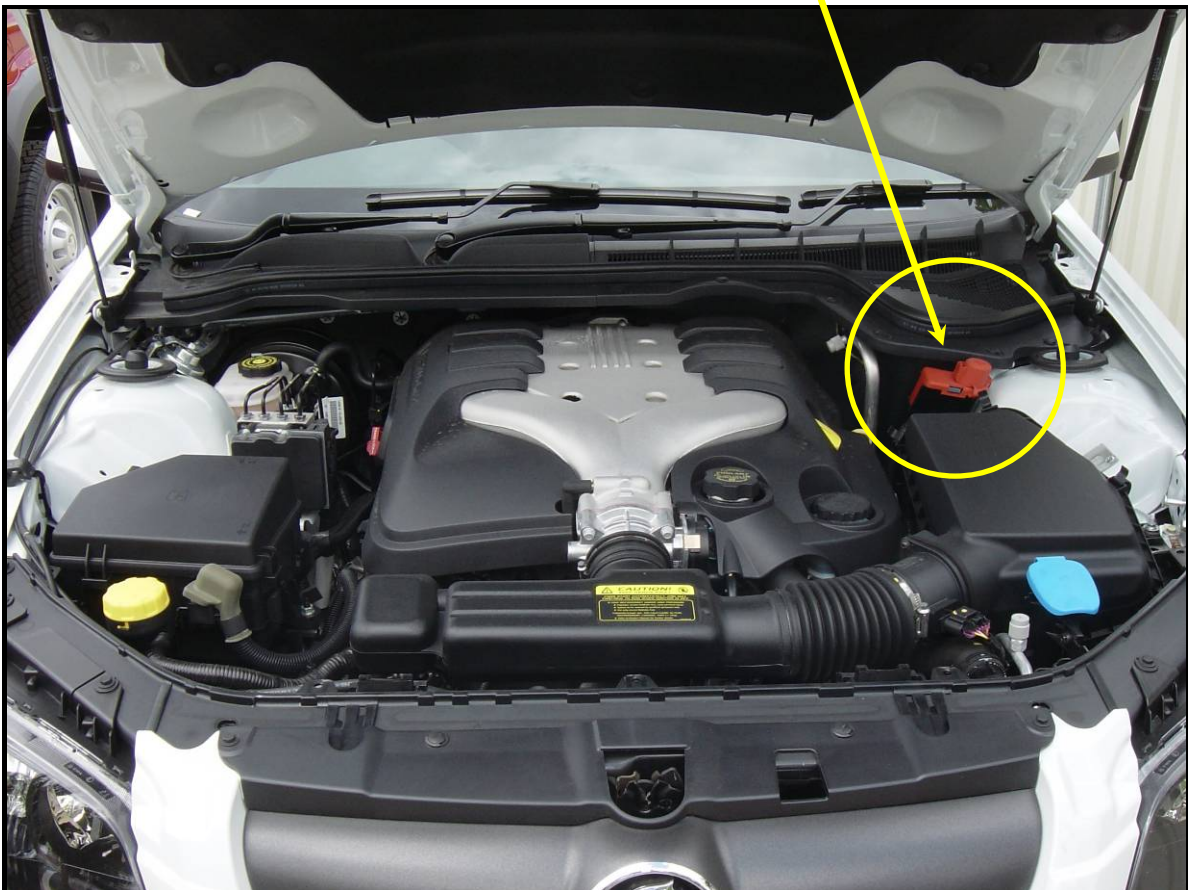
Manual release



Interior trim removed



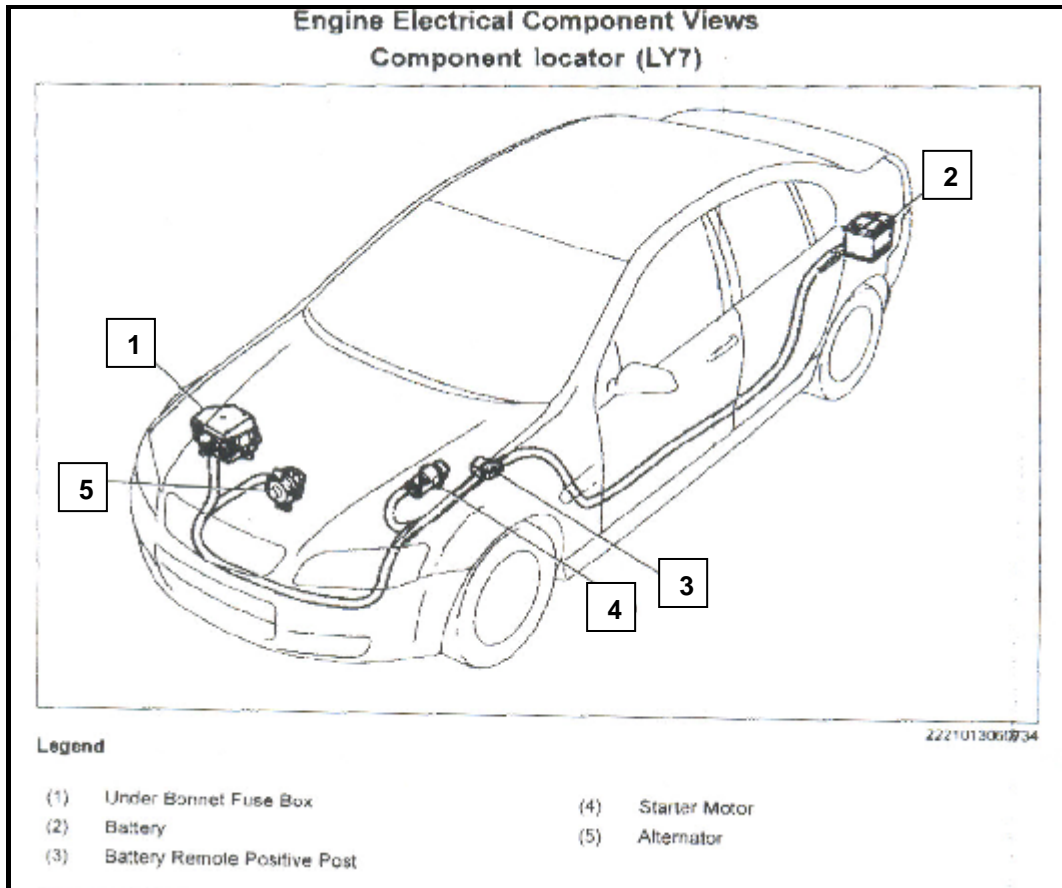
If the battery cannot be disconnected, the 'battery remote positive post' could be a potential live hazard for rescuers.



Under the red protective cover is the 'battery remote positive post' for jump starting the vehicle when the battery is flat. This terminal and the associated wiring loom may have the potential to be impacted or exposed when conducting evolutions to release a casualty from the vehicle. The vehicle bonnet is designed to lift up and away from this area in a frontal impact and may expose the 'battery remote positive post'. Care must be taken when conducting dash rolls, lifts, or using the 'A' Pillar Hold Technique (Technical Bulletin 3/2006) considering the location of this terminal.

## BATTERY LOCATION AND ACCESS cont

A thick red positive battery cable runs from the battery located in the boot along the length of the vehicle over the left rear wheel arch, along the floor pan, under the passenger seat, through to rear of the left front suspension tower, and around the front of the vehicle. The location of the specific components that feed from this supply and the positive battery cable route are identified on the diagram below.



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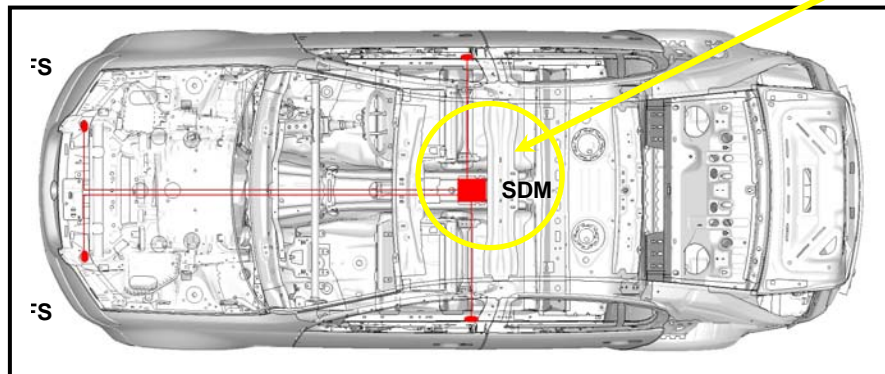
Rescuers should be wary of the location of the red positive battery cable throughout the vehicle, and the need to isolate the power supply located in the boot as early as possible after arrival on scene. Further vigilance should be directed to the areas where the positive battery lead runs to ensure its location is determined before applying tools and conducting rescue techniques.

### Battery Disconnection

Normal procedures of disconnecting the negative terminal first followed by the positive terminal apply, also covering terminals and leads so no further contact can be made.

Consideration must be given to when the right time is to disconnect the battery power, as once isolated; any internal options of moving seats and powering electric windows are removed. Also any reconnection of the battery power will also return battery power to the vehicle systems, potentially re-energising the vehicle's SRS.

A reserve energy supply is held within the sensing and diagnostic module (SDM) for up to 2 minutes after the battery is disconnected.



## Passive Safety Systems

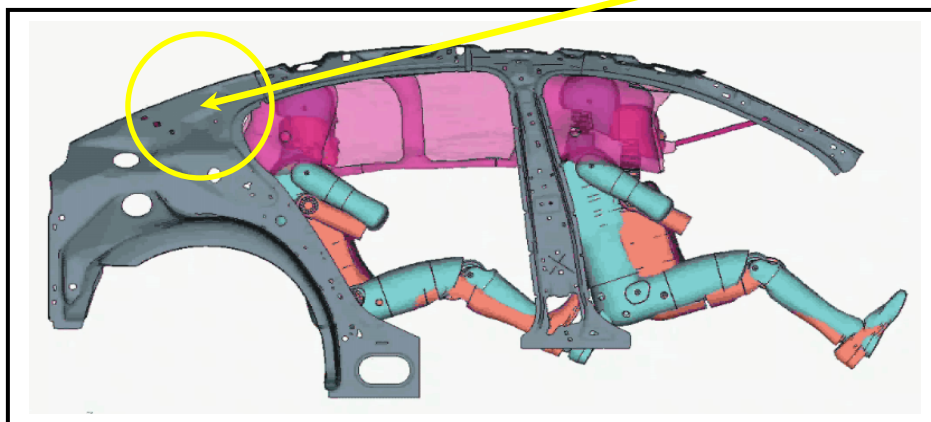
During the engineering program for the new Commodore and Statesman GM Holden has included the following elements into the passive safety systems of the vehicles:

- ✓ Material properties tailored to the application and multiple load path strategies;
- ✓ Multiple point airbag sensing system;
- ✓ Curtain, dual-stage front, thorax side airbags;
- ✓ Steering column protection;
- ✓ Active head restraints; and
- ✓ Breakaway pedal system.

The remaining sections of this bulletin will focus on the curtain airbag system and vehicle construction as critical information for rescuers.

### Roof curtain airbag system

The roof curtain airbag system is not standard on every model, but can be ordered as an option. The curtain airbag system runs behind the roof rail and is tethered midway along the A-pillar, with a stored pressure gas generator located in the C-pillar.

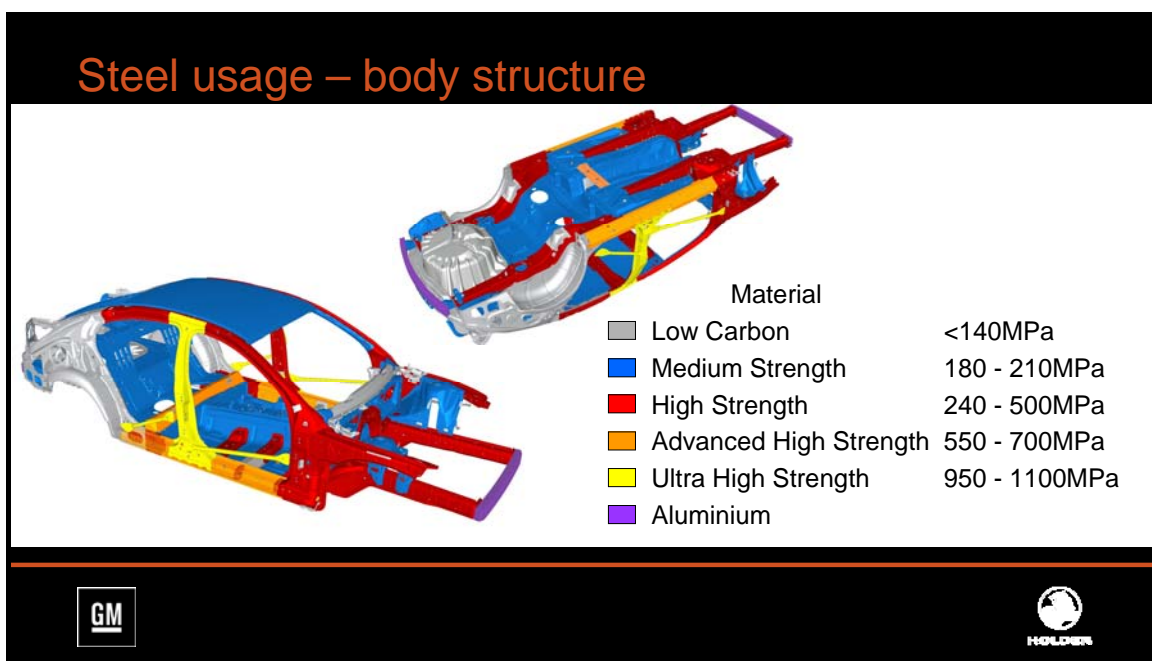
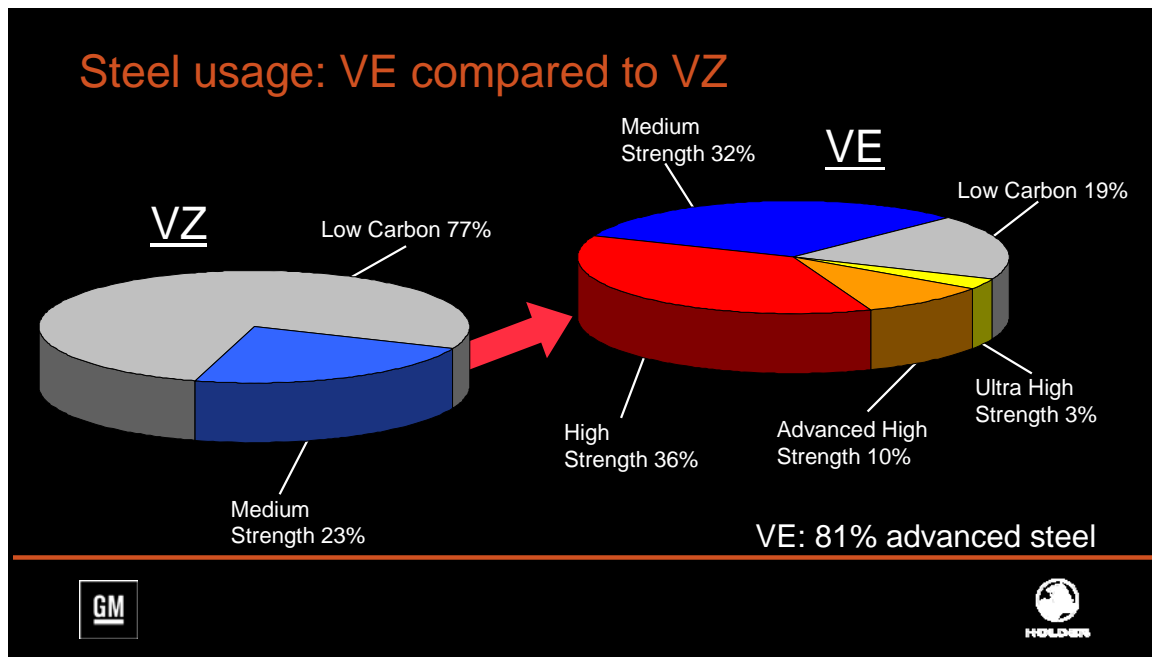


Rescuers should look for signs of SRS fitted to the accident damaged vehicle and should adopt an 'expose before you cut' methodology. The layout and features of SRS contained within modern vehicles (like the VE and WM) are changing regularly, and the first time many rescuers may come across these vehicles is at the scene.

## CONSTRUCTION

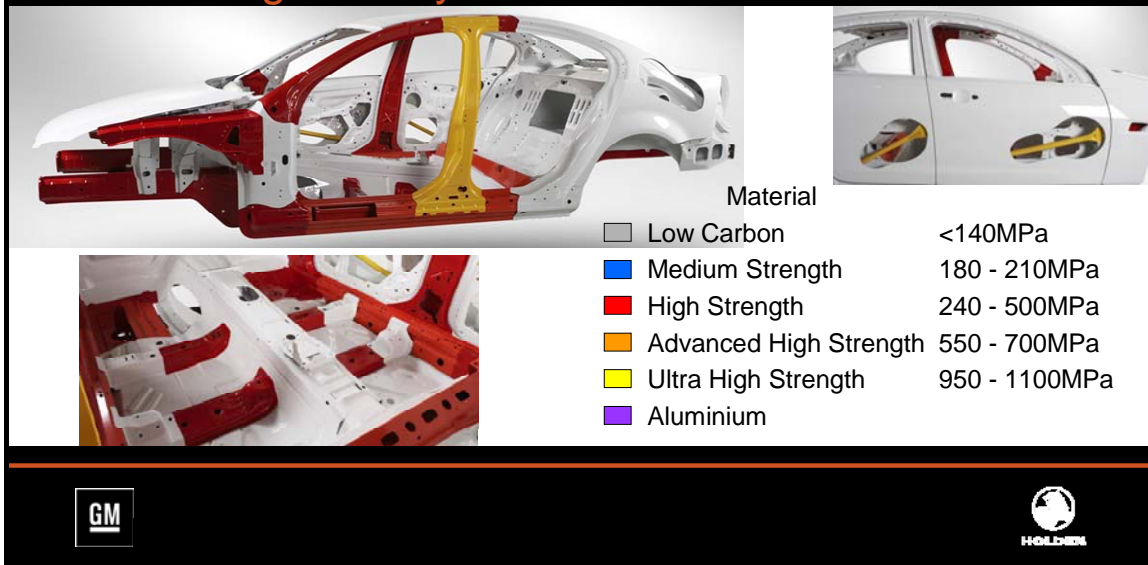
The VE Commodore series is structurally different to previous models, and is possibly not like any model previously encountered in Australia. Some of the construction methodology includes:

- ✓ Load path strategies to reduce absorb and reduce the affects of impacts;
- ✓ Tailor-welded stamped blanks that include a variety of metal thickness; and
- ✓ Use of high, ultra high and advanced strength steels.



These slides may be of assistance to agencies to identify potential areas that may be more structurally resilient than previous Commodore and Statesman models.

## Steel usage – body structure



## REVIEW

Agencies should review their operational policies when attending incidents with new vehicles, and the practices of identifying hazards and determining capabilities of equipment to deal with the changes being introduced by vehicle manufacturers.

ARRO acknowledges that many sources of information are available regarding new vehicles and recommends that agencies should access and review all sources to gain the best overall information to apply to their operational requirements.

The changes between the Holden VZ and VE Commodore and WM Statesman models should be considered as potential 'future directions' in vehicle design and construction from Holden Australia and other Australian vehicle manufacturers.

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This information is provided by ARRO as a service to members. ARRO does not guarantee its accuracy and wherever possible will quote the source of the information for further enquiries.

*Specific information for this Technical Bulletin gathered from Holden dealerships in Queensland and from a PowerPoint presentation released to ARRO by Tony Hyde, Executive Director, GM Holden Engineering titled; 'Safety Developments in Automotive Design'.*