



### Holden Commodore VE

#### Nolathane complete overview of products to suits the Commodore VE.

Holden's "Billion Dollar Baby" overall is a fantastic new design from the earlier model and suspension platform. Although with the wide customer demographic, it comes with some compromises from vehicle handling dynamics to component quality. This is good news for an enthusiast as there is a lot of potential for improvements on top of good underpinnings.

The high ride height, high roll angle, soft springs and shocks make for a very comfortable ride, however, being a large family sedan, this is fine for driving to the shops, but inappropriate for any kind of spirited driving. Steering feedback feels very suppressed via hydraulic radius rod bushes and voided rear cross member bushes, and the car in general feels heavily insulated. When driving at moderate speeds on twisty roads, there is a long delay between steering input and the time when the car reacts, which is out of sync with the driver and the road. The combination of soft cross-member bushings, poor dampening and low roll resistance in the rear adds to the very sloppy ride, resulting in uncontrolled cyclic roll and pitch motions.

Although the completely new design does bring some welcomed improvements, particularly to the front end, it is not without its problems. The longer wheelbase and wide track gives a much better weight distribution with smaller over-hangs, which noticeably improves turn-in and directional change compared to previous models. As a result of the new front suspension geometry, it feels as though the front end has crisper turn-in and high stability, if not even to the point of over-sensitive steering that was out of tune with the sloppy and uncontrolled rear end.

#### Nolathane's Solutions

##### Nolathane Swaybars

The best bang for your buck and biggest improvements to the handling on the VE Commodore is by fitting front and rear **Nolathane** swaybars to the vehicle. Adjustable versions for the front and rear are recommended as this allows each driver to quickly and easily change the under/over-steer balance. By stabilising excessive body roll and suspension movement, cornering loads are spread more evenly across the tyres. Comfort improves because your car sits flatter through bends, so a **Nolathane** swaybar will make your suspension system deliver more grip, improved tyre wear as your tyres stay flatter and more upright, making the car more responsive, while delivering more grip without reducing comfort.



**Nolathane's** polished alloy front strut brace **44468** does more than just look pretty. Like previous versions of the Commodore, it helps on the VE just as much, by tying together the front-end and reducing any unwanted chassis flex.



##### Essential Front Kits

**Nolathane's** low compliance bushings are available for all mounting points and improve the handling and responsiveness of the vehicle. **Nolathane's** caster lock washer kit **45572** positively locks the vehicles caster to a more desired setting. **Nolathane** have in development a solution for further camber adjustment, with front camber using factory adjustment is limited to approximately  $-1.75$  deg.



45572 caster lock washers



Inner Control Arm Mounting Slots which allows slippage and caster setting changes. Nolathane 45572 kits prevents this movement.

##### Essential Rear Kits

High compliance bushings used throughout the car, and in particular the rear cross-member to chassis mounts, made the car very dull and unresponsive. This was addressed by installing **Nolathane 49169**, rear cross-member urethane inserts. These inserts fit into the voiding of the original bush which greatly reduces the disconnection between the rear suspension and the chassis without any noticeable detrimental effect to comfort.



Nolathane kit 49169 fits into the original bush voiding to remove unwanted and uncontrolled movement



Nolathane kit 49169 being fitted to the original rear cross member bushings

### VE Commodore

#### Nolathane's complete range of products to suit the VE Commodore (continued)

The rear toe adjustable arm chassis' mounting point is located inside a long horizontal slot, to the extent of 14mm lateral movement. Moving this point effects the bump steer, so it is critical that it is positively located and in the desired position. This was achieved by fitting **Nolathane's** rear bump-steer correction kit **46268**, utilising specially designed locating washers to positively lock the rear toe settings.

Due to the above modifications putting extra load on the suspension pivots, critical areas such as front lower control arm and radius rod bushing were upgraded using new low compliance polyurethane replacements. But again, a lot of emphasis was put on retaining factory comfort level and articulation characteristics. Rear anti-squat bushes may also be an area for improvement, with initial measurements already conducted but further testing on our latest designs required before this part becomes available.

Please find below a full listing for all **Nolathane** parts to suit VE Commodore

For R	Description	Nolathane Part #	Kits Req	# in Pack	Veh Kit	Notes	Comments
Commodore VE Incl Ute & HSV 8/06-on 6/8cyl							
F	Control arm - front lower inner	45560	1	2		Radius arm to chassis	<b>Essential</b>
F	Control arm - rear lower inner	45561	1	4			
F	Control arm - caster lock washers	45572	1	4		Positively corrects & locks vehicles caster via offset lock washers	<b>Essential</b>
F	Steering - rack & pinion mount	41112	1	1			
F	Strut - brace	44468	1	1		Adjustable polished alloy - requires drilling for fitment	<b>It works</b>
F	Strut - mount standard	44018	1	2		Re-use original bearings	
F	Strut - mount standard	44019	1	2		Contains new bearings	
F	Swaybar - heavy duty	NHF62	1	1		26mm	
F	Swaybar - heavy duty blade adjustable	NHF62Z	1	1		26mm	<b>Important</b>
F	Swaybar - link kit	42716	1	2		Heavy duty vehicle specific ball/ball style sway bar link	
F	Swaybar - link kit	42790	1	2		Heavy duty universal ball/ball style link must cut to 300mm	
F	Swaybar - mount 23mm	42508	1	2			
F	Swaybar - mount 26mm	42554	1	2		Suits <b>Nolathane</b> NHF62 & NHF62Z sway bars - replacement kit	
R	Control arm - lower inner	46264	1	2			
R	Control arm - lower outer	46266	1	4			
R	Control arm - upper inner rear	46263	1	2			<b>Important</b>
R	Crossmember - front mount	49165	1	4			
R	Crossmember - rear mount	49166	1	2			
R	Crossmember - mount insert	49169	1	8		Contains inserts that install into original front & rear bushes - reduces axle tramp	<b>Essential</b>
R	Diff - mount	49167	1	6			
R	Shock absorber - lower	43106	1	4			
R	Swaybar - heavy duty	NHR82	1	1		20mm	
R	Swaybar - X heavy duty	NHR82X	1	1		22mm	
R	Swaybar - heavy duty blade adjustable	NHR82Z	1	1		20mm	<b>Important</b>
R	Swaybar - X heavy duty blade adjustable	NHR82XZ	1	1		22mm	
R	Swaybar - link kit	42707	1	2		Vehicle specific ball/ball style sway bar link	
R	Swaybar - link kit	42790	1	2		Heavy duty universal ball/ball style link must cut to 108mm	
R	Swaybar - mount 14mm	42510	1	2			
R	Swaybar - mount 16mm	42509	1	2			
R	Swaybar - mount 18mm	42511	1	2			
R	Swaybar - mount 20mm	42555	1	2		Suits <b>Nolathane</b> NHR82 & NHR82Z sway bars - replacement kit	
R	Swaybar - mount 22mm	42556	1	2		Suits <b>Nolathane</b> NHR82X & NHR82XZ sway bars - replacement kit	
R	Toe link - inner	46267	1	4			
R	Toe link - inner lock washers	46268	1	4			<b>Essential</b>
R	Trailing arm - front	46265	1	2			
R	Trailing arm - rear	46266	1	4			

**Nolathane's** VE Commodore being put through it's paces during one of its many testing days to develop all of the above parts and collecting research data, to ensure all parts are street, track, & race proven.



**Part of a total handling system.** Designed to integrate and offer a fully balanced handling solution, **Nolathane** suspension offers bushes, sway bars & alignment products. So for a catalogue, brochure or technical information on the new VE range or any of the **Nolathane** product contact the Redranger team on 1300 882355 or visit [www.nolathane.com.au](http://www.nolathane.com.au)

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