

COMPANY

Holden Special Vehicles

LOCATION

Victoria, Australia

SOFTWARE

Autodesk® Alias® Surface
Autodesk® Alias® Design
Autodesk® Showcase® Professional

Showing off their muscles

Holden Special Vehicles speeds product development and streamlines marketing with Autodesk software

Autodesk Showcase is one of our primary insurance policies against surfacing, fit, and finish mistakes. Yes, Autodesk software saves us money and time. But even more importantly, it's allowing us to be more creative.

—**Julian Quincey**
Chief Designer
Holden Special Vehicles



Image courtesy of Holden Special Vehicles.

Project summary

For over two decades, Holden Special Vehicles (HSV) has been building high-performance muscle cars based on the Holden Commodore, a widely popular vehicle manufactured by the Holden division of General Motors (GM) in Australia. The company's flagship 7-liter LS7 is largely hand-built for performance and style, and retails for over AUD\$155,000. HSV's cars have a passionate and demanding customer base. To satisfy its loyal patrons, HSV must continually innovate distinctive vehicles on an aggressive timeline. To shave time and costs from its product development cycle, the company adopted both the Autodesk® Alias® and Autodesk® Showcase® family of products.

Using Autodesk Showcase visualization software, HSV can quickly explore and review styling options—and make confident design decisions without creating a physical prototype for each option. HSV is also using Showcase to help market and configure vehicles prior to production. To complete Class-A surfacing and model minor components, such as wheels and engine covers, HSV relies on Autodesk Alias. Thanks to Autodesk software, HSV has been able to:

- Save eight to 10 weeks by validating design digitally
- Identify fit, finish, and surfacing mistakes prior to releasing tooling models

- Market products more cost-effectively
- Develop online car configurators using CAD geometry instead of photography

The challenge

HSV sells roughly 4,000 cars a year—each one painstakingly crafted for superior power, performance, and style. HSV modifies Holden vehicles in any number of ways, from adding bigger engines, brakes, and wheels to creating entirely different fenders, side skirts, bumpers, and instrument graphics.

The company's customer base is comprised of driving enthusiasts who often own several HSV cars. "People buy our cars with their hearts, as well as their heads," says Julian Quincey, chief designer at HSV. "It's our job to deliver the quality they expect." Adding to the challenge, the company has a very compressed product development cycle. Quincey explains, "We don't get data for Holden's new models until they are nearly finished—but we have to launch our versions soon after Holden does. There's often limited time to build physical parts only to find they don't fit perfectly. We needed a good insurance policy for our work because we don't have much time to correct problems."

HSV delivers the styling and performance expected by its customers with Autodesk software

The solution

HSV uses Autodesk Alias to produce the Class-A surfaces required for tooling, and Autodesk Showcase to validate surfaces, visualize design options, make decisions on product direction, and market new cars to HSV customers.

Fast modeling

While HSV uses clay to model major items, the company models smaller components in Alias and produces parts directly from that data. For wheels, in particular, Autodesk Alias software helps HSV save time. “We can model one spoke, duplicate it, and add it to the virtual vehicle model,” explains Quincey. “We can tell very quickly whether the wheel is too spindly or heavy—without modeling time-consuming iterations in clay.”

Autodesk Alias software also helps reduce costly errors by enabling designers to model over the package it gets from engineers and part suppliers. “With an Alias model, you always maintain clearance between components,” says Quincey. “For example, on a wheel, there’s no danger of hitting the brake caliper.”

Superior Class-A surfaces

Whether a component is modeled directly in Alias software or in clay and laser-scanned into Alias, HSV creates all final Class-A surfaces for vehicle exteriors in Alias. “We have a lot of confidence in the Alias surfaces we send to the toolmaker,” says Quincey. “We’ve been using Alias for a decade, and it’s been fantastic for us.”

HSV validates surfaces by importing models into Autodesk Showcase. The company brings together all the digital components and can assess the



Image courtesy of Holden Special Vehicles.

tangency of surfaces in Showcase. And if there are issues with the finish of an element? “We can zoom in and correct problems easily,” says Quincey. “Autodesk Showcase is one of our primary insurance policies against surfacing, fit, and finish mistakes.”

Better design decisions

Autodesk Showcase also plays a crucial role in HSV’s design review process. Designers can use Showcase to easily swap out finishes, colors, and components for decision makers to review. “We load a model into Showcase and simply flick through the different alternatives,” says Quincey. “We can compare like-for-like, rotate the car around, and see options from different angles. It even helps to drop the model into different environments—we can consider extra dimensions before we finalize the design.”

Marketing without photography

HSV has even started using Autodesk Showcase models, instead of photography, on its website. It’s also using Showcase software to build online configurators to show customers how different options, such as paint color and wheels, change the look of a vehicle. For a limited 40th anniversary edition of several models, Showcase allowed HSV to create buzz without setting up expensive, time-consuming photo shoots. “We built about 50 of each car,” explains Michael Jones, web master at HSV. “With Showcase, we created photorealistic imagery and configurators for the web that let customers fly around, explore paint and wheel options, and see a lot more detail than they would with a static image.”

Jones continues, “We can see a day in the future where we won’t have to rely on photography at all—we’ll use Showcase 100 percent for imagery. It’s much more flexible, less costly, and buys us time at the end of the product development cycle.”

The result

By developing realistic fly-arounds and configurators for its website, HSV is igniting the interest of its passionate customers. And with Autodesk software, the company has been able to deliver faster on its promise. Together, Autodesk Alias and Autodesk Showcase software have helped HSV deliver products on time while eliminating fit, finish, and surfacing mistakes. As a result, it’s easier for HSV to meet its tight product development deadlines.

HSV credits Autodesk reseller Envizage, a division of Concentric Asia Pacific, with helping the company get the most out of its Autodesk software. “They took our existing model and highlighted how we could produce much better imagery than we had before using Showcase,” says Lee Webster, chief information officer at HSV. “They were very good about walking us through in fine detail and showing us how to add realism to our vehicles.”



Image courtesy of Holden Special Vehicles.

“The pressure is on to get it right the first time,” says Quincey. “With the ability to visualize designs in Showcase, our physical prototypes work for us the first time around 99 percent of the time. We’re shaving eight to 10 weeks from our design time.”

But these aren’t the only reasons why HSV is excited about using Autodesk software now and in the future. Quincey explains, “One of the biggest benefits of using Autodesk software is that it gives us confidence that, when we start building a car, it will be what we expect. Yes, Autodesk software saves us money and time. But even more importantly, it’s allowing us to be more creative.”

For more information

To find out how Autodesk solutions for Digital Prototyping can help you complete projects faster and at a lower cost, visit www.autodesk.com/automotive.