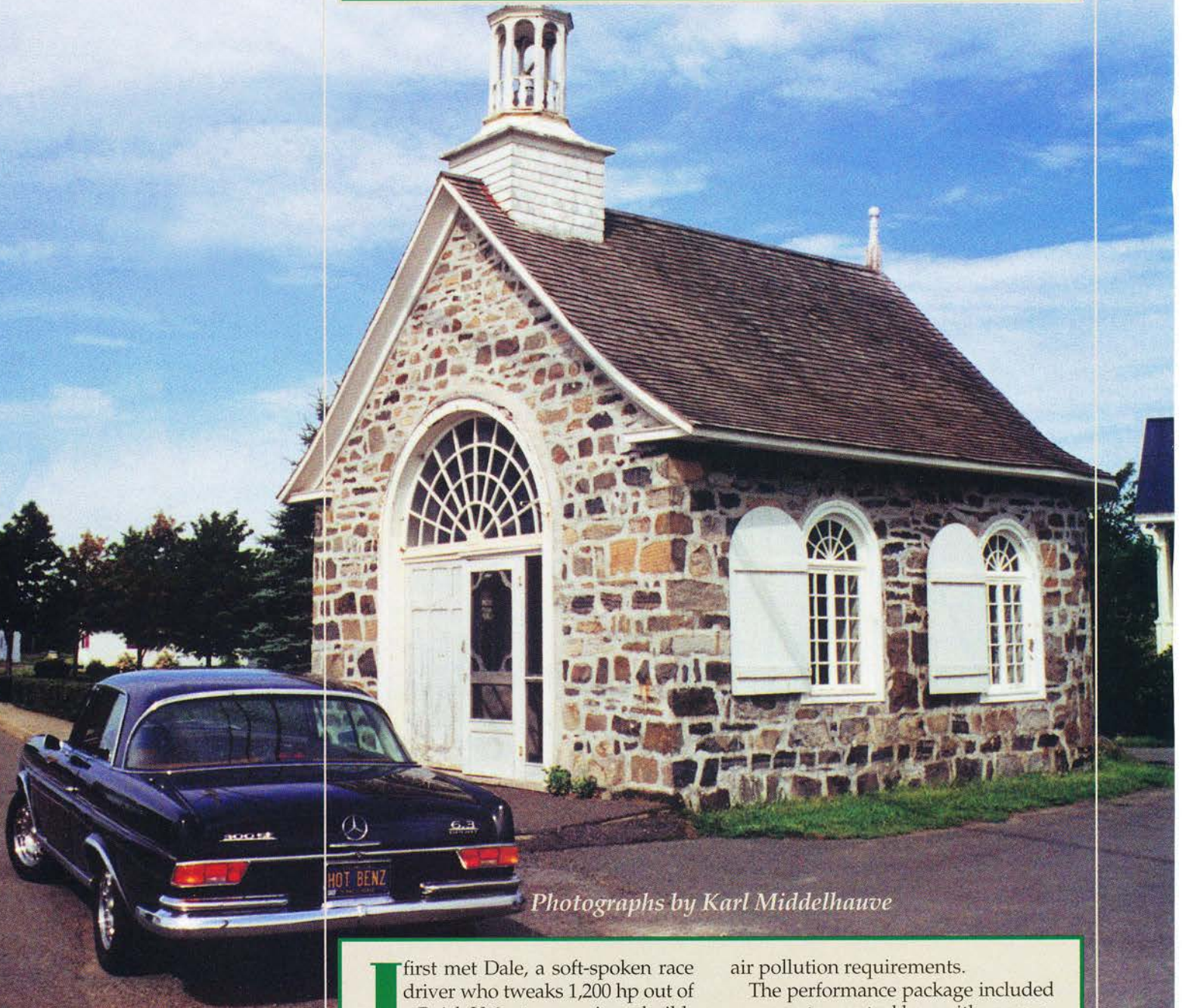


# Nova Scotia Test Drive

by Karl Middelhaue, Delaware Valley Section



*Photographs by Karl Middelhaue*

**I** first met Dale, a soft-spoken race driver who tweaks 1,200 hp out of a Buick V-6, at my engine rebuilding shop. After we talked for 10 minutes, I knew what I wanted to do: build an M100 6.3 engine with a computerized fuel management system.

Dale explained the advantages of smoother performance with the same or better gas mileage, an extra 100 to 150 hp, easy laptop computer adjustment while driving, fuel-air mixture adjustment from 10:1 to 17:1, and meeting the most stringent

air pollution requirements.

The performance package included a computer control box with sensors, injectors, and a fuel pump; tuned exhaust headers, good for an extra 40 hp; and a new air intake plenum with venturi effect, which I designed, and Ray, my expert machine shop man, built. All of this was installed in a 1966 300SE Coupe which had just had a ground-up restoration, including a fresh 6.3 engine with 10.5:1 compression and sport cams.



## On the Road

The car was ready to drive at our M100 Group meet in June, and Erich Waxenberger, the DBAG engineer who created the 300SEL 6.3, was the first test driver. His comment: "Karl, you did a terrific job, better than factory; no flat spots."

A few more adjustments were made, and when the odometer showed 182 miles, my wife Ruth said she really would like to see Nova Scotia. "You've been working until midnight for almost four months. Couldn't you take off one week for a short vacation?" I agreed. Why not take the Coupe for a test drive to Nova Scotia?

So on Friday, August 13th, such a lucky day, we left for Boston. When we stopped at Bob Hatch's place in Wayland, of course he wanted to drive the new machine. His comment: "I sure like that!"

On we drove on Saturday, north on I-95, seeing a wonderful rainbow in Maine. Our next overnight was in Calais, New Brunswick, established in 1604. On Sunday we had a reservation on the ferry from St. John to Digby, which loaded about 100 cars and several 18-wheelers. We had made no hotel reservations, so on the ferry we called the Nova Scotia Reservation Hotline. They found us a motel only three miles from the port. We used this system every day; what a service—hotel, motel, bed and breakfast, sightseeing, and more.

A week before we left, my only conception of Nova Scotia was that I could find it on a map, nothing else. What an eye opener to awake on Monday to sunshine, a beautiful bay, fresh air, and a tasty breakfast. Digby island was our first Nova Scotia drive, and at a stop at the lighthouse at Tiverton, Ruth found some delicious wild raspberries.

At Balancing Rock Park we took the 1 1/2-mi trail to the beach then headed back to Digby and Route 1 south toward Comeauville. Driving through a rural area, in a village we suddenly saw a huge cathedral. Eglise Saint Bernard was built in 1910 and finished in 1942. Before Yarmouth we stopped at a tiny chapel right on the road—just five pews and an altar. We sat and let our thoughts drift a bit then continued to Barrington and on Route 103 to Shelburne, a



*Nova Scotian pit crew members service the 6.3 Coupe in Sherwood.*

Loyalist Establishment and shipbuilding site. Admiring many preserved old buildings, we took a stroll along Dock Street. Since we could find nowhere to stay, we drove on to Mahone Bay, where a suite was all that was left. Sunshine awoke us next morning to a breathtaking view of the bay with yachts, hiking trails, tennis courts, and fishing vessels leaving for the ocean.

## Maritime Tales

Tuesday found us in Halifax, the beautiful park city. In the Maritime Museum, where many *Titanic* artifacts are displayed, we saw a movie of the 1917 harbor explosion that leveled most of the town. A French vessel loaded with explosives collided with an incoming freighter and caught fire. The explosion was heard 200 miles away, and to make matters worse, a blizzard hit the next day. We also saw the account of a nine-ft giant who made his living doing extraordinary jobs and making bets. His last bet was that he could lift a heavy ship anchor. He managed to lift the anchor over his head but lost his balance. The anchor shifted backward and fell on him, severing his spine. He won the bet but lost his life.

Enough of the museum with the gruesome stories. Route 7 took us past breathtaking shoreline views to Sherbrooke, an old shipbuilding

town. The aura of bygone times is preserved in a setting of courthouse, tailor's shop, pottery shop, church, and homes. Here three women— young, middle-aged, and mature (like us)—took a real interest in the car. When I opened the hood, one immediately took a clean towel to polish the engine like a good mechanic. To my amazement she wiped the dust off the fender with her dress. I told the ladies that they might appear in *The Star* and that I would send them a copy.

## Cape Breton

That afternoon we drove up the fruitful St. Mary's River Valley on Route 7 to Cape Breton Island and stayed at a bed and breakfast. In Seal Cove, at a pub where we asked directions for a restaurant, all the men had to come out to inspect the car. What they saw under the hood floored them, and one had to get his camera and take photographs.

Wednesday found us at the Louisbourg National Site, where time stood still. Soldiers with muskets greeted each new group of visitors, and a boy wheeled freshly baked bread on a pushcart to the restaurant. As a rooster crows, you stand between the old buildings, close your eyes, dream a bit, and imagine what life must have been like then: very rough! In Englishtown we took the





*A 300SE Coupe is a fair match for a 6.3 engine because it has air suspension; you might say it's the car that DBAG should have built alongside the 300SEL 6.3 sedan.*

ferry; above the landing is the cemetery where the Nova Scotia Giant was put to rest. The coastline drive up to Ingonish and the highlands is unforgettable for its beauty.

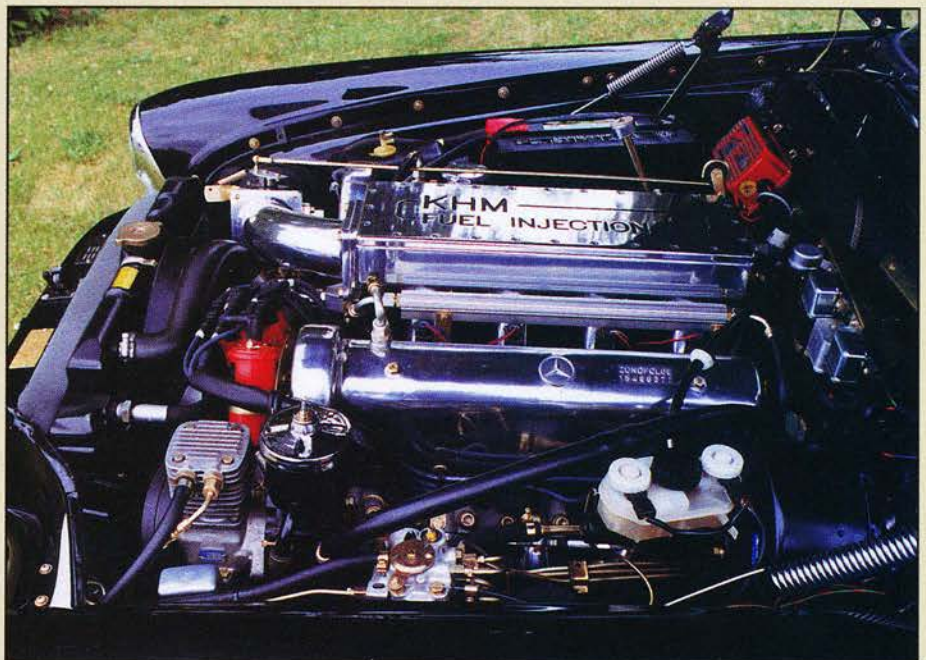
We checked into a motel at Pleasant Bay. A few hours of daylight gave us enough time for a beach stroll. Never had we seen so many round stones and pebbles in such an array of color and sizes. We picked as many as we could for our grandchildren. Local TV entertainment relied on one station, but who needs TV with such scenery? Thursday's drive took us down the Cape toward Port Hastings. A morning mist prevented a full view of God's beautiful creation but provided enough light so we could marvel at all the scenic stops along the road.

## Great Roads

The more we drove, the more we were impressed by Nova Scotia's roads, which gave us an excuse to drive fast. At a modest 80 mph, Ruth often had to remind me that we were on vacation, not a race track.

Next came the Glooscap Trail via Pictou, Pugwash, and Amherst, then down Route 302 to Parrsboro, Cape d'Or, Apple River, and back to Amherst. On this route we thought we were the only ones driving that day.

*Besides the signature fuel-injection system, the engine has 10.5:1 compression, sport cams, and tuned exhaust headers.*





At our hotel in Moncton we noticed an advertisement for Cape Hopewell Park, and during a delicious fish dinner Ruth and I decided to go on this side trip. How rewarding! The Flower Pots of the park are hard to describe. At low tide, which occurred just as we got there, you can walk along the shore and marvel at the unique beauty. Ruth looked tiny between two Pots.

I thought I could drive home now by the shortest route, but Ruth said she had never been to Montreal. What could we do but put the pedal to the metal and boogie up the St. John River? We almost missed the world's longest wooden covered bridge. That day it was stamped by 435 horses caged in a Mercedes-Benz engine, its fits of fiery anger controlled by one crazy driver. Then it was back to normal driving up to the St Lawrence River, except for the fun of passing cars. Getting from 80 to 120 mph took just four seconds.

Up the St. Lawrence River we traveled the local route, avoiding the interstate highways for a rewarding alternative, with old barns, sleepy villages, scenic views, and almost no traffic. Montreal was pretty and interesting, especially the waterfront, but it could not be compared with the earlier scenic beauty that we liked much better.

Our last overnight was in a hotel tastefully converted from an old cotton mill, in Valleyfield, along the St. Lawrence, with a view of a large lake. The last time we had to open the hood of the Coupe was at a commendable fish restaurant. On our way home on Sunday we covered ground quickly until we came to the land of the speed limit and I-81 south. After we stopped in Endicott to visit Neil Dubey at Star Motors, we got home to Woxall in the late afternoon.

Over 2,978 miles we averaged 13.3 mpg, with a high of 15.7 mpg. The engine used just one quart of oil, and we encountered zero problems. Nine days of vacation driving may be a bit much for most folks, but Ruth and I call it "our best movie in years." The Nova Scotia travel guide book is sub-titled "For Dreamers and Doers". So what are you waiting for? Take your spouse, pack the car, and just do it!

## 1966 300SE Coupe, 435-hhp Variety

### Modifications

6.3 front hubs with center-vented brake discs  
 6.3 transmission tunnel  
 6.3 radiator and oil cooler  
 6.3 rear axle, 2.82:1, early-style center-vented disc brakes  
 105-liter gas tank  
 6.9 fuel pump and filter package  
 6.3 engine, compression 10.5:1, sport cams, tuned exhaust headers treated with Jet-Hot coating  
 15x7 Mercedes-Benz alloy wheels (*Fuchsfelge* forged)  
 Michelin 225/60VR15 tires  
 Stainless steel exhaust system, two 2-in pipes  
 6.3 steering box  
 Ellipsoid driving lights, as on BMW 7-series  
 4-spd 6.3 automatic transmission

### Computerized Fuel Management & Injection Systems

Camshaft and crankshaft triggering  
 Five-wire, wide-band O<sub>2</sub> sensing  
 Air motor for idling air control  
 MSD ignition (to be replaced with four double-pack coils)  
 One-bar map sensor  
 Air temperature sensor  
 Coolant temperature sensor  
 Bosch electric fuel injectors

### Performance

Fuel mileage on our 2,978-mi test drive was 13.3 mpg. Low mileage in stop-and-go traffic was 9.6 mpg; high mileage on country cruise was 15.7 mpg. The original ram-type intake manifolds on the 6.3 engine create low-rpm torque but lose high-rpm power. Our new air distribution box design, with improved venturi runners, gives instant power on the bottom end and more power on top with no black clouds on kickdown. It also cleans up an old engine to meet stringent pollution requirements yet provides better driving smoothness and significantly more power.

### Emission Test

Cold idle CO: 0.26 percent	HC: 87 ppm
Just started CO <sub>2</sub> : 13.6 percent	
O <sub>2</sub> : 2.0 percent	
At 120°F, CO: 0.16 percent	HC: 93 ppm
CO <sub>2</sub> : 13.7 percent	
O <sub>2</sub> : 1.9 percent	
Warmed-up, in gear, CO: 1.04 percent	HC: 116 ppm
CO <sub>2</sub> : 13.8 percent	
O <sub>2</sub> : 1.2 percent	
Hot CO: 0.27 percent	HC: 113 ppm
CO <sub>2</sub> : 13.6 percent	
O <sub>2</sub> : 1.4 percent	

Tested with Bridge 5 Gas Analyzer #10448 after 3,100 miles. Such emission values are impossible with the original Bosch fuel injection pump on a 300SEL 6.3 or 600. Acceptable CO is given in the factory manual as 3.5 to 5.0 percent. A fuel injection pump set at CO 0.16-1.04 would not idle. Next on our list is a four-coil set with waste burning, to lower emissions; then the engine could be leaned more.

This project cost \$10-11,000, but in quantity it should cost less. Of course, I hear the purists' objections, but for those who love M100 engines, this modification will be a serious consideration and could lead to a second love affair with the car.