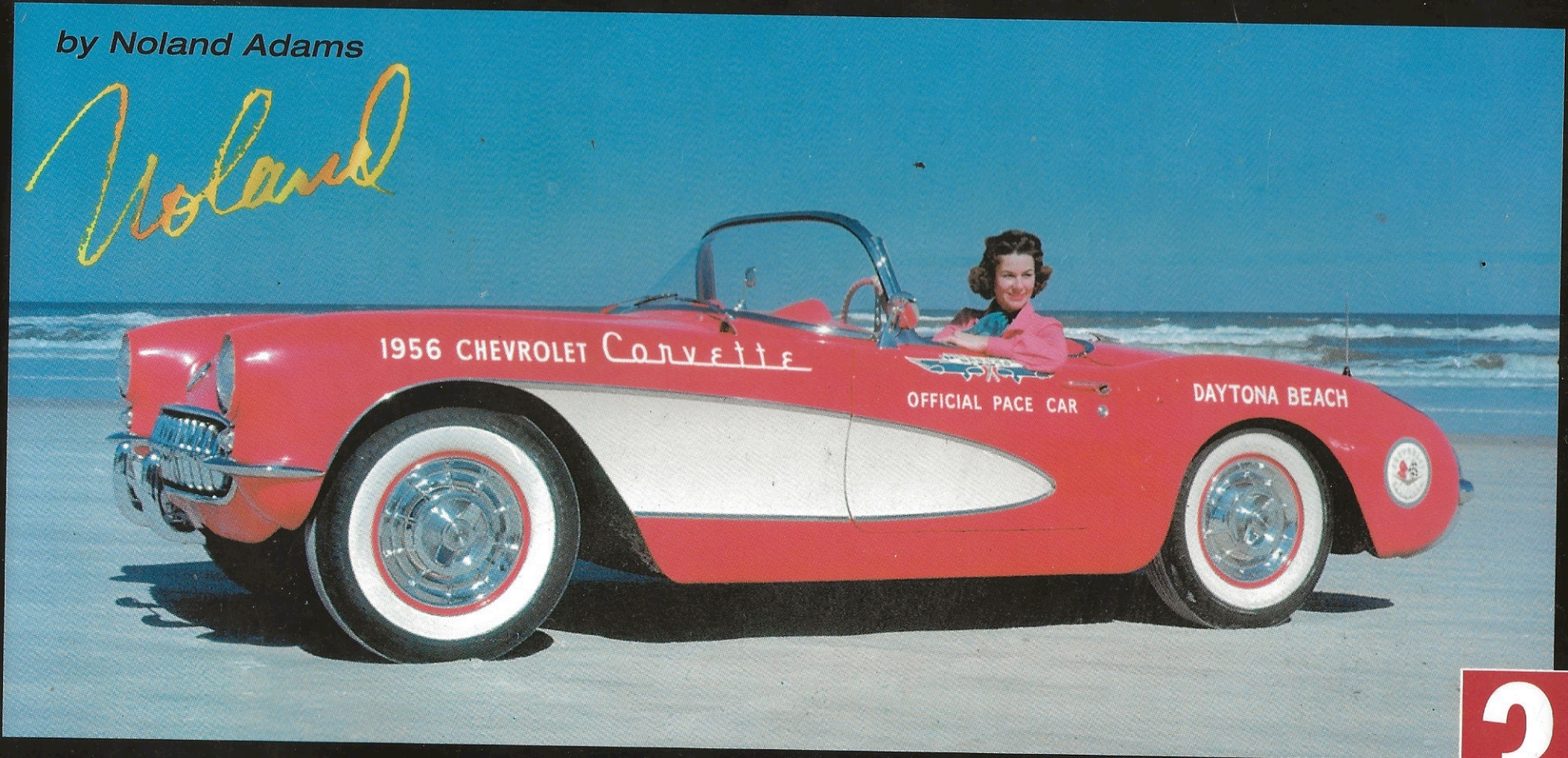


# Corvette

## AMERICAN LEGEND

by Noland Adams

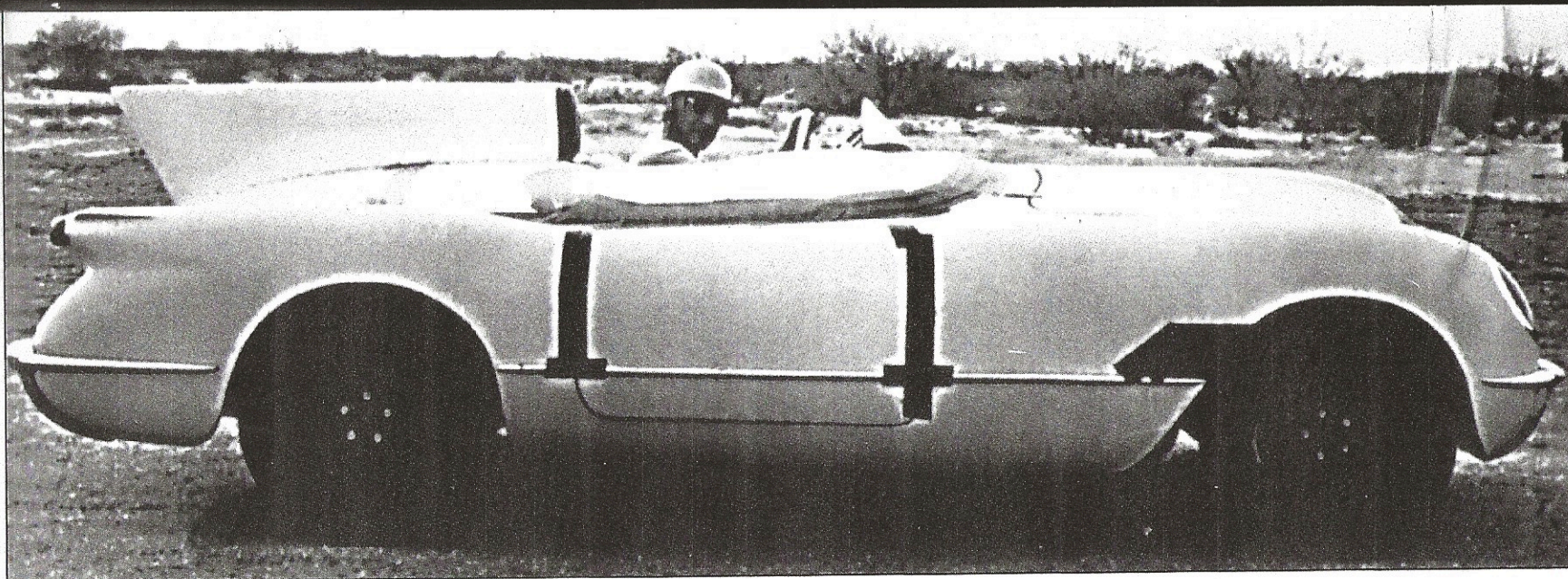
*Noland*



# 1956 Racing Success

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**Duntov's test mule, the EX87/5951 experimental Corvette that ran at nearly 163 mph at the Arizona proving grounds. This was the first use of the now famous "Duntov" camshaft.**

rooms for the first time. Campbell-Ewald made the most out of the occasion with a number of ads and press releases.

Some members of the automotive press didn't like Chevrolet getting all the publicity from the Pike's Peak runs. They pointed out that the body was a fiberglass prototype, not steel like production bodies. Being lighter gave the Chevrolet prototype an unfair advantage, they argued. But the record stood, and the publicity continued.

What the public wasn't told was that the Pike's Peak stock car record was relatively easy to surpass. The old record had been set nearly 20 years earlier by a stock Ford roadster. No one had even entered a car in this class for nearly 20 years. While the '56 sedan's time was certified and verified by NASCAR, it meant very little except for publicity purposes.

Sales of new 1955 Corvettes were painfully slow, only 700 were built during the entire model year. Corvettes had no

"image" — no enthusiasts, no following. It was clear the Corvette needed a publicity boost. Duntov had a plan, and he took it to Chevrolet's Chief Engineer Ed Cole for approval. Cole considered the situation carefully. It was October of 1955, and engineering work on the production 1956 Corvette had been completed. Production of the 1957 Corvette was scheduled to begin in about 10 months. Ten months seemed like a great deal of time, but Duntov was beginning to help John Dolza to perfect a new fuel injection system.

Cole wanted the new fuel injection system to be de-bugged so it could be installed on new Chevrolets and Corvettes at the start of 1957 production. Duntov assured Cole that there was plenty of time to do both projects. Reluctantly, Cole agreed to approve Duntov's plan.

Duntov had been examining all sorts of records, looking for a way to set an important record in a Corvette. He wanted



to attempt a Flying Mile record on the sands of Daytona Beach. Duntov felt he could surpass 150 mph in a carefully prepared Corvette. Plus, these runs would be made in December of 1955, in advance of the competitive Speedweeks to be held in February of 1956.

Duntov examined the records set 10 months before at the 1955 Daytona Speedweek's competition. The fastest car in the Flying Mile was the Chrysler 300 with a two-way average of 127 mph. A 1955 Ford Thunderbird ran the Flying Mile with a two-way average of 124 mph (another source reported 118+). The same 1955 Thunderbird, using snow tires on the sandy beach, turned 84 mph in the standing mile. (The standing start time is the average speed, not the top speed.)

Duntov, being an accomplished engineer, calculated what he needed to run at over 150 mph in the Flying Mile. He noted that the Thunderbird's 124 two-way average got very little attention. He figured 150+ would be the magic attention-getting figure, and Ed Cole agreed.

Chevrolet Engineer Mauri Rose (who won the Indianapolis 500 race three times) had installed a prototype V-8 in a 1954 Corvette in mid-1954. While serving as an experimental car, it was assigned the designation EX87. By late 1955, it had completed its test car duties and EX87 was turned over to Duntov for use in a high speed run on the sands at Daytona Beach.

In November of 1955, EX87 was moved over to Chevrolet Engineering. There it was assigned a new tracking number - 5951. Tracking numbers allow records of materials and manpower costs to be assigned to a project to control expenses. The old EX87 had become the new 5951, which we shall call EX87/5951.

As part of the Daytona Beach project, two new 1955

Corvettes were ordered. They were to be delivered to the Tech Center in Warren and would play important roles in Corvette development. One of these cars was VE55S001399, serial number 399.

Duntov began modifying EX87/5951 by replacing the windshield and its heavy frame with a small plastic wind screen. A fiberglass tonneau cover was fabricated to cover the passenger's compartment. A combination headrest/tail fin was installed on the trunk lid. Duntov calculated the factors influencing the top speed of his EX87/5951 test "mule". One factor was the loss of traction on the sandy beach. He increased the engine size from 265 cid to 307 cid. Still, more power was needed. Duntov designed a new camshaft, intended to increase horsepower. He sent the camshaft's specifications to engineering with a request to have a special camshaft made.

Then Duntov loaded EX87/5951 on a truck, along with spare parts. The destination was GM's Desert Proving Ground near Mesa, Ariz. The Corvette would be prepared for the high-speed runs on the beach at Daytona.

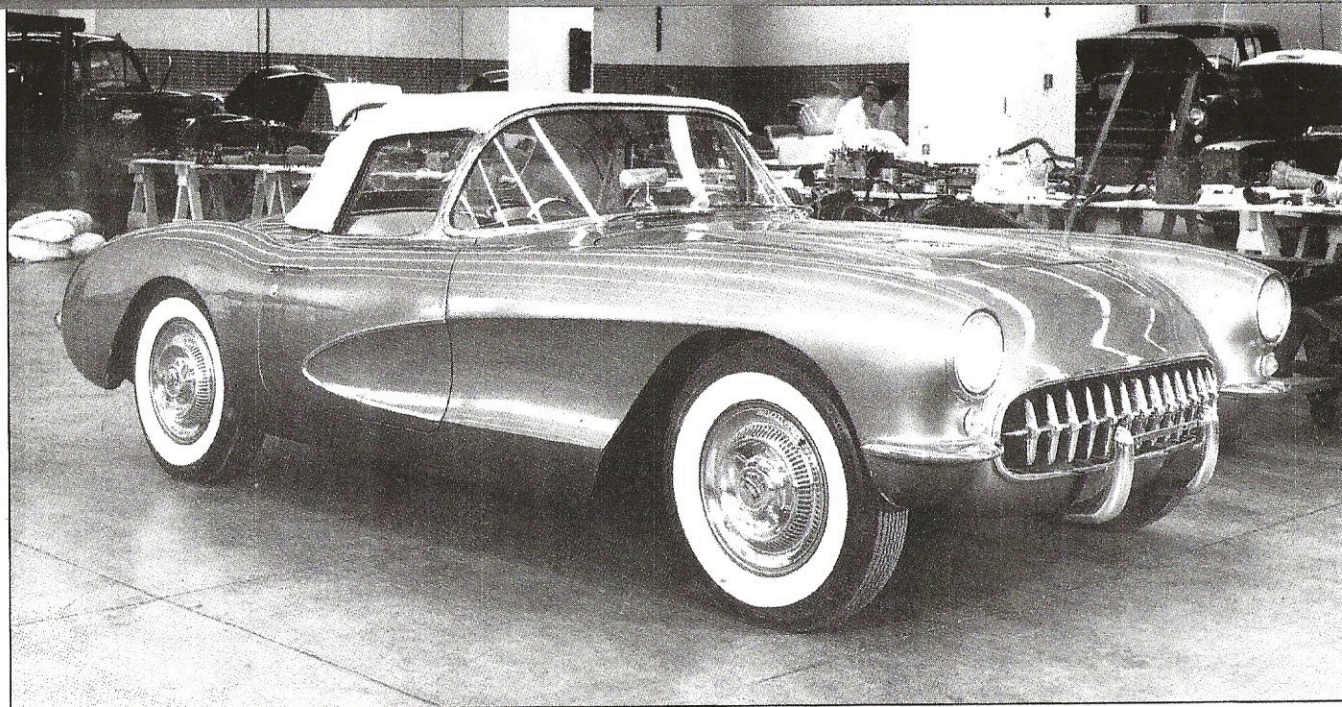
Duntov's specially designed camshaft was called a "hi-lift" cam. The camshaft's real purpose was to hold the valves open longer by opening sooner and closing later. The engineers back in Detroit didn't share Duntov's enthusiasm over the camshaft's potential performance improvement. Duntov was forced to call the engineering department and push to get the camshaft made.

Finally, the special camshaft arrived at the Desert Proving Ground. Duntov was right: the cam delivered as he expected. It produced smooth, strong performance characteristics up to 6,500 rpm. The 307-cid engine was later rated at 275 hp at 6,300 rpm. Thus the famous Duntov Cam was born.

Now the EX87/5951 mule was ready to run on the paved



**the first fiberglass 1956 body; note the absence of cowl scoops, nose or trunk emblems, and side cove trim. This body will become famous later, as it raced at Daytona Beach twice and Sebring once.**



surfaces of the Desert Proving Ground. Duntov drove the car at top speed, which was slightly over 160 mph. But Duntov calculated that there was not enough speed to compensate for traction slippage on the sandy beach.

A full belly pan was fabricated from fiberglass and bolted to the edges of the body. Now Duntov pushed the mule to just under 163 mph. Duntov could do no more — the mule was ready. But EX87 had a '54 body, and well worn, at that. The car that would attempt the Flying Mile had to look like a 1956 model, so the EX87/5951 mule was trucked back to the Tech Center in Warren, Mich.

The 307-cid engine was removed from EX87/5951 and disassembled for an internal inspection. It was in good condition, so it was rebuilt with no major changes, and readied for the high speed runs to come. In December of 1955, a 1956 Corvette was to be built for the actual high-speed runs in

Florida. Since the 1956 Corvette production line began Monday, January 9, 1956, this would have to be a pre-production prototype. The project was given the engineering tracking number 6901. (6-year, 1956; 9-series; 01, first test car in this group.)

The assembly of #6901 began with a 1955 chassis, probably one of those from one of the two '55s ordered a couple of months earlier by engineering. The rebuilt 307-cid engine with the first Duntov cam from EX87/5951 was installed in the 1956 chassis. The suspension was stock, without major changes — that is, no heavy duty brakes or suspension.

In looking for a body for 6901, the engineers turned toward the styling studios. The first fiberglass body was there, sitting on a prototype chassis. It had served its body design purpose, so it was transferred to the 6901 project. The body can be identified by its lack of cowl vents, no side cove trim,



and no hood or trunk emblems.

While Corvette EX87/5951 was being rebuilt, the car was separated into the chassis, labeled EX87, and the body, labeled 5951. The EX87 chassis got a stock 1955 V-8 Corvette engine and three-speed transmission. A new red body, removed from one of the two '55 Corvettes, was installed. This car has become a red '55 with a three-speed transmission, identified by the serial plate as "EX87," and it exists today.

Meanwhile, the 5951 body was getting a new chassis from 1955 serial number 399, and the combination became serial number VE55S001399. The engine was a 1956, with a three-speed manual transmission. The body retained its special features, the small wind screen, the passenger side tonneau cover, and the full belly pan. The mounting provisions for the headrest/fin combination are still there: the car exists today.

Corvette #6901 was lightened by removing the passenger side seat, both door glasses, windshield, radio, heater, windshield wipers, mirrors and folding top and its hydraulic mechanism. A small plastic bubble wind screen and fiberglass tonneau cover were added. It was painted red with a white side cove. #6901 was shipped to the GM Proving Ground in Milford, Mich. for further testing.

Another Corvette, a 1953, had been modified with a V-8 and a three-speed transmission as a 1955 manual transmission test/engineering car. The serial number of this car is unknown, but it may have been E53F001050, number 50.

Both of the older Corvette bodies (the '53 and '55 #399) had been modified for exhaust system studies. The "bullets" at the corners of each rear fender were hollow, and the exhausts exited the body there.

This exhaust outlet location was suggested by air flow tests done by Zora Arkus-Duntov in 1954. This location must have been successful, for the exhausts on 1956 production Corvettes exited in the same place.

In late December of 1955, all three Corvettes were shipped to Florida. They were: 1) the 1953 modified with a '56 power train; 2) '55 serial number VE55S001399, with a 1956 power train and the 1955 body from 5951 painted white, and; 3) the 1956 prototype bodied 6901 with the 307-cid engine and a three-speed transmission. The cars arrived at Daytona Beach late in December of 1955. As with the Pike's Peak run in September, NASCAR was asked to officiate and authenticate the Flying Mile and Standing Mile runs on the sands of Daytona Beach. Besides Chevrolet's Corvettes, several other manufacturers were present to attempt record runs. Everything was ready — except the weather. Plagued by high winds and storms, the beach was rough — not a good time for high speed runs. No choice — everyone waited.

All through the last days in 1955 and into 1956, the crews and cars waited for the weather to clear. All were anxious for their turn on the beach. A few days after New Year's Day in 1956 bad weather was predicted along the coast. The old airport at Sebring, the site of the Sebring Sports Car Races, was just a few hours driving time away, so Duntov took the 6901 car to Sebring just to see what it would do.

As he pushed 6901 around the Sebring course, he was quite satisfied with its performance. It had stock suspension and brakes, so it really wasn't properly prepared. It was equipped with lighter Halibrand wheels, which were later disallowed by NASCAR officials, for they were not officially recognized as an optional wheel. Thus, for the runs at Daytona Beach in January and February of 1956, Corvettes used stock