

SPACE AGE STAR

**OFFICIAL PUBLICATION OF THE SPACE AGE CHEVROLET REGION OF THE
AACCA - AUGUST 2014**



CONGRATULATIONS TO ALL CHARTER MEMBERS AND THANKS FOR YOUR SUPPORT. WE'RE NOW AN OFFICIAL AACCA NON-GEOGRAPHICAL REGION WITH ALL THE ATTACHED RIGHTS AND PRIVILEGES. THIS MONTH'S NEWSLETTER FEATURES TURBOGLIDE TRANSMISSIONS AND DEATH VALLEY VEGAS.

NEW BUSINESS

Now that we're officially a non-geographic region of the AACA, we have some business to discuss. Nothing major, but we have to decide a few things.

First, I think we need a logo. I'd like something keeping with our "Space Age" theme, perhaps the missile/plane from a 1960 Impala's side trim. Another idea is a Saturn V rocket with a Chevy bow-tie on it, or a version of the airplane in the Jet-Smooth ads from 1961 and 1962. If you're artistic, or know someone who is, please try to design a logo. My ideas are suggestions, I'm sure there are other ideas that will work well for us. I'm not artistic, or I'd try to design a logo myself.

Next, we need to publicize our new region to attract new members. Please share this newsletter and the previous one with fellow Chevrolet enthusiasts and tell them about our region. The next issue of the AACA's Speedster should mention us which will be great publicity. I'm going to try to create a Facebook page for the region. I've never tried this before, I'll provide and update in the next newsletter.

We need to decide about charging dues to join the region. Our expenses should be minimal, the newsletter is on-line only, so we'll avoid printing costs. I convinced the editor to forego a salary. Seriously, the only costs I foresee for now are if we decide to print promotional materials to hand out at AACA and other car events. A

region banner might be nice to hang at meets such as Hershey. Please provide input regarding the dues. I think \$5.00 or \$10.00 per year should cover us for now.

Our most important promotional tool is this newsletter. I'm happy to edit and contribute articles, but I need content from the members. Please send pictures and stories about your cars. I included my 1961 Bel Air in our trial run issue in June. We have a lot of great cars in our region, we should feature them in the newsletter. Feel free to write about anything related to the cars. Don't worry about spelling and grammar, I can clean up any submission.

If we keep the newsletter fun and informative, we should attract new members. I hope everyone enjoys this issue. Please send all comments and articles to your editor, Russell Heim, at JetSmooth61@optimum.net.



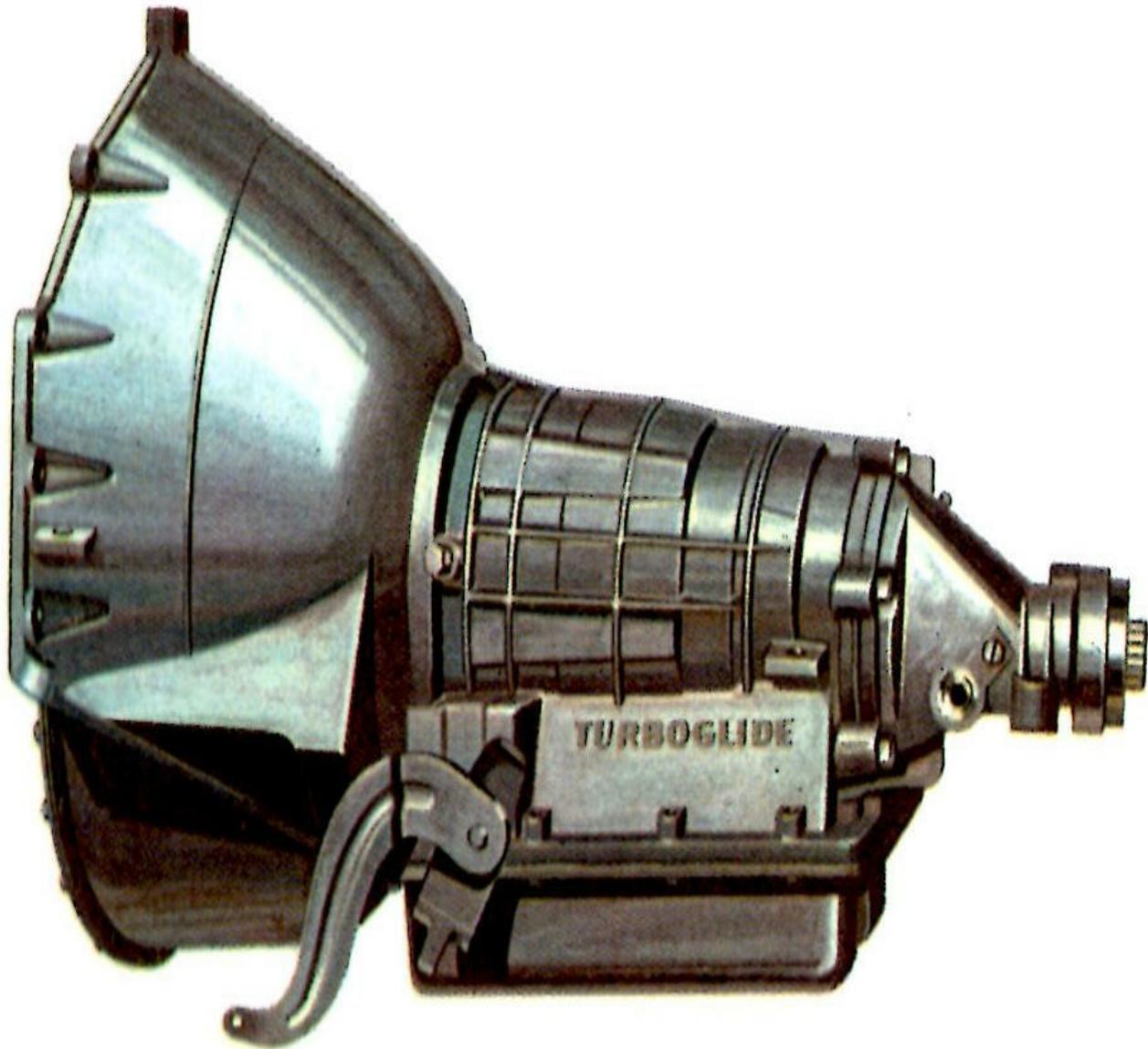
CLASSIFIEDS

LEAD ON A CAR: I was told of an original 1969 Chevelle SS Convertible for sale, I did not see it but was told this is the real deal, original, unrestored, untouched with some disassembly done, 396 car. It is located on one of the estates in upper Brookville (Long Island). I have no price, but can't imagine that it is cheap because if it were, the guy who told me of it would have bought it himself! However, the supply lines on these cars are dwindling! I have a phone number for "Sammy" at 516 790- 8943

Regards to all,
John Mahoney

FOR SALE: 1961 Impala 4-door sedan. Rebuilt 283 runs well. Has Powerglide, power steering and push button radio. Sold new in South Carolina and resided in the Carolinas until I purchased it in 2009. It's been in my garage since then. Ermine White over Seafoam Green. Minimal rust, needs some interior restoration. Please contact Russell Heim at 516-673-6307 or JetSmooth61@optimum.net. Asking \$5700. Also selling 1965 Ermine White 1965 Impala Sport Sedan with 81,000 miles. Six-cylinder with Powerglide and power steering. Valve job done in 2009. Needs body and interior restoration. Asking \$3600.

TURBOGLIDE - BY RUSSELL HEIM



TRIPLE-TURBINE TURBOGLIDE—THE PERFECT PARTNER FOR CHEVROLET V8 POWER—From take-off to top speed, TurboGlide's instant triple-turbine action produces an oil-smooth thrust of power that's automatically matched to all load conditions and driving speeds . . . and with never a hint of a shift. Features accelerator-controlled dual-pitch stator action for extra power surge when accelerating or passing, plus exclusive Grade Retarder—an invaluable safety feature that exerts a powerful retarding effect on steep downgrades.

Chevrolet introduced the Turboglide automatic transmission as an alternative to the two-speed Powerglide for the 1957 model year. They described it as providing driving at its smoothest, with no shifting sensation under normal conditions. Unfortunately, customers complained that the car didn't shift and Turboglide developed a reputation for unreliability. Chevy discontinued Turboglide at the end of the 1961 model year.

While it lasted, Chevy promoted Turboglide as providing the smoothest torque multiplication of any car in Chevrolet's field. With the gear selector in Drive, the triple-turbine torque converter and rugged planetary gears teamed up to produce a continuously variable overall ratio. Changes in ratio occurred gradually for smooth uninterrupted power flow from standstill to cruising speed. An accelerator-controlled dual-pitch stator provided surge for quick acceleration. A broad range of torque multiplication in Drive provided sufficient force at the rear wheels so no separate low gear was needed.

Turboglide was a non-shifting, hydraulically controlled torque-converter-planetary gearset unit and was an option for V-8 equipped cars. The torque-converter consisted of three turbines, a converter pump, and a two-position stator. Each turbine drove a separate shaft, the first turbine was splined into the rear planet sun gear, the second turbine shaft connected to the ring gear of the front planet set, and the third turbine connected directly to the transmission output shaft.

All three turbines drove the transmission output shaft when starting from a standstill. The second and third turbines drove the output shaft during mid-range acceleration. Only the third turbine drove the output shaft once the car reached cruising speed. The first and second turbines freewheeled when they couldn't contribute to torque multiplication.

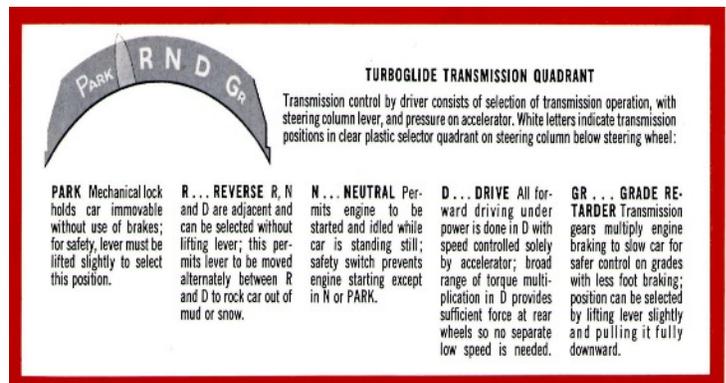
If the driver floored the accelerator, he accessed additional torque multiplication. Flooring it changed the stator blades angle, and redirected

oil flow to the converter pump which engaged the next lowest turbine. This "passing power" was available from stall to 60 miles per hour. As the car's speed increased, the oil flow changed and one-way clutches disengaged the lower turbines.

Turboglide had a "Grade-Retarder" setting in place of low gear. Grade-Retarder, was displayed as "GR" on the column-mounted selector indicator. Grade-Retarder multiplied the engine braking force. When the driver selected GR at speeds below 45 miles per hour (less on slippery pavement), the first turbine and rear gearset drove the engine while the second and third turbines freewheeled. As the name suggests, Chevy recommended using GR when descending long or steep grades.

I've never seen sales figures for the Turboglide, but the survival rate is low. In my many years spent around Space Age era cars, I recall seeing only two cars with a Turboglide shift indicator on their steering column. Both cars were 1959 models. I've heard stories of Powerglide transplants in cars originally equipped with Turboglide.

On a personal note, my father bought a used Turboglide equipped 1957 Bel Air Sport Sedan in 1962. One of my earliest memories is of riding in the back seat as my father cursed at the car while the transmission made a strange noise and started smoking. This happened in the summer of 1964 when 1957 Bel Airs were desirable as used cars. Our local Chevrolet dealer accepted the Bel Air as a trade-in on a new Chevy II, despite the Turboglide problem. I wonder if the dealer installed a Powerglide before he displayed the car on his OK Used Cars lot.

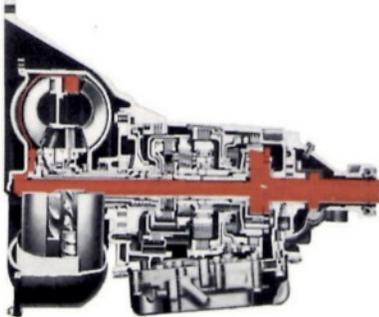


TURBOGLIDE AUTOMATIC TRANSMISSION—Continued

TRIPLE-TURBINE TAKEOFF

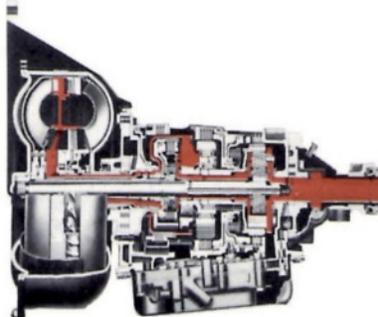
In triple-turbine takeoff, turbines and gearsets operate in progressive and overlapping action to multiply torque in continuous infinitely variable ratio.

FIRST TURBINE IN OPERATION;
STARTING CAR FROM STANDSTILL



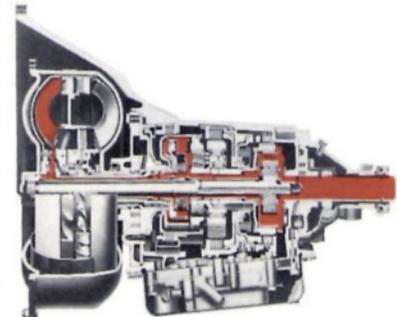
Activated by accelerator, engine-driven pump of torque converter transmits most of torque to first turbine and rear planetary gearset, which is geared for high torque multiplication (2.67:1 ratio). This drives transmission output shaft at slow speed with great force.

SECOND TURBINE PHASE OF
TRANSMISSION OPERATION



As car speed increases, increasingly more of torque is shared by second turbine and front planetary gearset, which has lower ratio (1.63:1) than rear gearset. As result, transmission output shaft revolves increasingly faster and torque output at shaft is correspondingly lessened.

THIRD TURBINE PHASE;
CAR IN DIRECT DRIVE



As car attains normal driving speed, third turbine receives increasingly greater share of torque while shares of first and second turbines diminish to nothing. At this stage, they free-wheel and third turbine drives transmission output shaft in direct drive—without torque multiplication.

Turboglide Design

- Five element hydraulic torque converter including engine-driven pump
- Three turbines and dual-pitch stator
- Engine torque transmitted through oil supply
- Oil cooler integrated in lower radiator tank
- Turbines connect to transmission output shaft through shafts and two planetary gear sets, permitting any of them to drive output shaft alone
- Gearsets have individual ratios that further multiply first and second turbine torque.
- Actuated by transmission selector and/or accelerator, hydraulic control system causes oil under pressure to apply clutches to complete connections and to change pitch of stator vanes.
- Compact design and extensive use of aluminum reduces weight.

Turboglide Control

- Steering column mounted lever
- Selector quadrant on steering column below steering wheel

Turboglide Gears

- Park - Mechanical lock holds car immovable without use of brakes. Lever must be lifted slightly to select this position.
- Reverse - Provides great power for moving to rear.
- Neutral - Permits engine to started and idled while standing still. Safety switch prevents engine starting except in Neutral or Park.
- Drive - All forward driving done with lever in this position. Speed controlled solely by accelerator.
- Grade Retarder - Transmission gears multiply engine braking to slow car for safer control on grades with less foot braking. Lever must be lifted slightly and pulled downward to select this position.

Turboglide Ratios

- Front gearset: 1.63:1
- Rear gearset: 2.67:1

CHEVROLET—CENTRAL OFFICE

DIVISION OF GENERAL MOTORS CORPORATION
DETROIT 2, MICHIGAN



TECHNICAL SERVICE BULLETIN

Technical Service Department



SUBJECT: GASOLINE ODORS IN PASSENGER COMPARTMENT
1960 STATION WAGON AND SEDAN DELIVERY

BULLETIN NO. DR #439

SECTION VIII

TO: ALL CHEVROLET DEALERS

DATE June 10, 1960

Complaints of gasoline odors in the passenger compartment of 1960 Station Wagon and Sedan Delivery Models may be the result of fuel spillage from the cap vent on right turns.

Effective approximately May 2, 1960, a check valve, free venting type cap entered production to minimize this condition.

The new type cap may be installed on early units where this problem exists. It is recommended that the filler neck sealing surface be inspected and any surface irregularities be removed to obtain an effective seal.

PARTS DATA

3709938

Cap Assembly-Gasoline Tank Filler

A handwritten signature in cursive script, appearing to read "J. Russell".

Director, Technical Service Department

COLLECTING CHEVROLET FACTORY LITERATURE - BY RUSSELL HEIM

For me, a fun aspect of the antique car hobby is collecting the factory issued literature issued for my Space-Age era collector cars. We'll often run a feature article on collectible literature items issued for the cars we collect. This time, as an introduction, we'll briefly discuss the various print items that Chevrolet produced.

For Chevrolets the literature consists of Dealer Albums, Color and Fabric Samples, Finger Tip Facts, Engineering Features, Service Bulletins, Custom Features, Technical Service Bulletins, published advertisements, Mailers, Salesman Brochures, Friends and Partsmart magazines, Police and Taxi Equipment Brochures, factory issued publicity photographs, Salesman only films, filmstrips and records and Sales Brochures.

I love the search as much as I do owning the literature. These items reveal how Chevrolet Division presented the cars to the public, how

they referred to them internally, and what colors, fabric, accessories, and standard equipment are correct for the cars. This is extremely handy if you're restoring a car, less so if you modifying it.

Many of the earlier pieces used fabulous commercial art to illustrate the cars and their features. Later items used beautiful photography. Talented ad and publicity writers authored the descriptions and sales pitches.

Regardless of which model or year you like to collect, the corresponding literature has vital information and is a lot of fun to collect. Many of the articles we publish in this newsletter will be based on information from the above-mentioned factory literature.





BEL AIR

4-DOOR SEDAN

Popular family choice for room and comfort that's distinctively fashioned. Fresh styling, a graceful new roof line, slim window pillars. And such elegant touches as the de luxe steering wheel, handsome armrests and door fittings, and deep-twist carpeting make it one of the best all-around buys and a car you can long be proud of.

DEATH VALLEY VEGAS - BY RUSSELL HEIM

In the summer of 1975, in an effort to prove that the 1976 model Vega was much improved over prior model years, Chevrolet subjected three cars to a 60-day 60,000 mile durability test in Death Valley. The Vega's problems during its early model years destroyed the car's public reputation. This durability test was an effort to restore it.

The challenge, recounted in a colorful brochure, was to drive 60,000 miles in 60 days or less around a prescribed course through Death Valley. The course started and ended in Las Vegas and passed through appropriately named places such as Hell's Gate, Stovepipe Wells and Furnace Creek.

The brochure states that the test's purpose was to prove the durability of the Vega's 140 cubic inch Dura-Built engine by subjecting it to the extreme conditions of Death Valley. If the engine could take 1000 miles of non-stop driving a day in Death Valley, it should stand up to anything "back home."

Three orange 1976 Vega Hatchback coupes were selected for the tests. The cars were all equipped with three-speed stick shifts and air-conditioning. Two of the coupes had federal emission controls, the third had the more stringent California emissions package. Chevrolet selected 11 non-professional Las Vegas residents as test drivers. The brochure claims the drivers came from all walks of life.

The United States Automobile Club (USAC) oversaw the test and certified all results. Their officials recorded all maintenance and logged fuel, oil and coolant consumption. They also recorded total miles and parts replacement.

The test began on August 1, 1975 on Las Vegas' southern edge. They left on the first 349 mile lap at 8:00 am. They changed the driver at the end of each lap. The only times the cars weren't running was for food, rest, fuel and maintenance stops.

The course headed west toward Mountain Springs Summit, into the Spectre Range and southwest toward the Death Valley National Monument. Temperatures during the test reached over 100 degrees on all but two of the test days. The highest recorded temperature was 122 degrees. The two cold days saw a high temperature of 99 degrees. Elevation on the course ranged from 160 feet below sea level at the Devil's Golf Course to 5,493 feet above sea level at Mountain Springs Summit.

The test ended on September 28, 1975 after 172 laps. All three cars covered 60,000 miles in 58 days without overheating or engine block failure. The brochure claims that these results exceeded Chevrolet's expectations. Also, according to the brochure, only one of the cars needed coolant and it only took 24 ounces. The only part replaced, other than maintenance items, was a timing belt in one of the cars. The testers performed recommended maintenance for dusty conditions during the test.

Was the Vega's "Dura-Built" engine "built to take it?" Chevrolet offered a five-year 60,000 mile warranty on Vega engines for 1976, so they must have believed it. The warranty covered the block, head, manifolds, internal parts and the water pump. Chevrolet would replace any defective parts for free except for damage caused by accidents, misuse or lack of maintenance. The warranty didn't cover Cosworth Vega engines. The brochure states that the Vega engine conquered Death Valley, so it must be durable.

Other Vega improvements covered in the brochure include cooling system reliability, new hydraulic valve lifters, less oil use, better corrosion protection, and improved brakes and suspension. These improvements seem to address the well-documented problems from the first few years of Vega production.

All these improvements and testing didn't help the Vega's sales figures. Sales declined from 209,764 units in 1975 to 160,523 in 1976. After selling only 78,402 units in 1977, Chevrolet discontinued the Vega.

**60,000 miles
in less than 60 days
in and around
Death Valley.**

**'76 Vega
Dura-Built engine.
Built to take it.**



SPACE AGE SOUNDINGS - RANTS AND RAVES FROM THE EDITOR

How safe are new cars? I question this for two reasons. One, the visibility is terrible. Two, there's too many buttons and switches to divert the driver's attention from the road.

Isn't being able to see where you're going and what's around you the primary safety issue when driving? If so, modern cars fail miserably. The windshield pillars and door-posts are so thick they ruin your field of vision. The backlights are rendered useless because they're set at such odd angles and blocked by rear seat head rests. When you look in the rear-view mirror, or try to back up, you're flying blind.

The switches and dials are so numerous and complicated that it's difficult to adjust them and drive at the same time. The radios, heaters, and

air conditioners have so many functions and settings that you need to read a thick manual to understand them.

These cars also have touch screens that provide all kinds of information. Mostly, the screens keep the driver's eyes off the road.

I have virtually 360 degrees of vision in my 1961 Impala four-door sedan. The pillars and posts on this car are so thin that they barely block my vision. The glass areas, especially the wraparound backlight are so generous that I have no trouble seeing where I'm going and what's behind me. Small, slit-like windows are another area where modern cars fail in the vision area.

AUTOMOTIVE DEFINITIONS

I imagine that most readers know a lot about cars, but I'm sure we have some novices too. Either way, I'll share some terminology as defined by Chevrolet Division in their literature. I hope you enjoy the definitions and hope you learn something. I'm learning new things as I look up these definitions.

Angles of Approach and Departure: Large approach and departure angles allow cars to

ascend and descend short steep grades with out scraping their bumpers. For example, in 1961 approach angle for a Chevrolet was 27 inches and departure angle was 13 inches. A Corvair's approach angle was 22.2 inches and its departure angle was 16 inches. Approach angle for a Corvette was 21.3 inches and departure angle was 21.1 inches.



MAGIC MIRROR ACRYLIC LACQUER

BY RUSSELL HEIM

You'll encounter this phrase even if you read only one piece of Chevrolet sales literature from the 1960's. They used it to create a glowing description of the acrylic lacquer paint jobs on the cars. It sounded great and was a nice sales pitch, but what made this finish so special?

Chevrolet claimed that they were the only brand in the low-price field to use this type of finish. In their 1960 Finger-Tip Facts salesman book, they stated that Magic-Mirror was proved by years of research and use to be superior to other automobile finishes.

In acrylic lacquer, pigment particles and metallic flakes were suspended in an extra-hard surface that protected them from weather and excessive polishing. The suspension of the metal flakes gave the finish greater richness and apparent depth.

Other great acrylic lacquer features:

- Smooth finish, without orange peel roughness found in other finishes.
- Superior weather resistance resulted in long-term retention of gloss of finish.
- Finish could be kept looking new with only occasional washing.
- Required no polishing for periods as long as three years.
- Smooth hard surface resisted chalking and color fading from sunlight and moisture.
- Stain resistant; oil, smoke and tar deposits could be removed without leaving a stain.
- Compatibility with a wide variety of pigments allowed a much wider color choice than for competitive cars with other finish types.
- Elastic surface primer used under finish provided superior chipping and blistering resistance.

- Damaged areas could be repaired without repainting entire body panel.

Finger-Tip Facts also describes the preparation and painting process used to achieve the Magic-Mirror finish:

- Rustproofing - Bare steel was treated with chemicals that cleaned it, made it rust resistant, and etched it for good paint adhesion.
- Base coat - Entire body, inside and out was coated with corrosion-resistant paints. Hood and front fenders were immersed in or flooded with rust-inhibiting paint and oven-baked at 390 degrees Fahrenheit for thirty minutes.
- Surfacing coat - Exterior was sprayed with paint that lessened chipping and blistering possibility and baked at 285 degrees Fahrenheit for a minimum of 45 minutes. Hood and front fenders were coated with a pore-filling sealer.
- All surfaces were sanded by power and hand sanders and then spot-sanded until they passed inspection for having an absolutely smooth base for applying lacquer.
- Many coats of acrylic lacquer were sprayed on surfaces to build up finish to required thickness for each color.
- Car was oven baked for 30 minutes at 200 degrees Fahrenheit to harden finish and give it a high luster.
- Asphalt-asbestos fiber undercoating was sprayed on the underside of the body and inside wheelhouses to deaden road noise.
- Surfaces were machine-buffed with special paste to make them absolutely smooth and mirror bright.
- Imperfections found during final inspection could be repaired without refinishing entire panel.

That sounds like a lot of work, but the results were worth it. The Magic-Mirror finish, along with the great styling made the cars look like real knockouts. The colors also enhanced the styling; I can't help smiling when I think of a beautiful Chevy finished in Suntan Copper, Honduras Maroon, Marine Aqua or Goldwood Yellow. The color choices always included beautiful blues, greens, reds, beiges, aquas,

silvers, grays, and of course the perennial Tuxedo Black and Ermine White. Tasteful two-tone combinations were available as well.

Lacquer based automobile finishes are illegal in most places now. A restorer trying to recreate the "wow" factor of the original Magic-Mirror finish will have to make do with single-stage urethane or base-coat clear-coat finishes.



1964 Corvair Monza Convertible in Lagoon Aqua



1962 Chevy II 300 Four-door Sedan in Tuxedo Black