1970 chevy vega

It was good-looking, conventional in most of the ways that matter and priced keenly against the competition. Compared to Ford's also then-new, awkwardly proportioned Pinto, it was sleek. And up against the Japanese and German alternatives, it seemed substantial and more comfortable. Its success was both inevitable and a harbinger of all that would come to trouble GM. Of course, no one car and no one moment set GM on its downward path by itself. But the Vega embodied practically everything bad that was about to consume the corporation and, decades later, send it into bankruptcy. Maybe the Vega introduction isn't where GM went bad, but it's hard to come up with a more likely event. Now the Vega is 40 years old. And it's worth remembering for all the wrong reasons. Back in , Time magazine named Harlow H. Back then GM personified American capitalism in a way no other company ever hasâ€"bold, confident and even arrogant. Curtice had stared down the antitrust division of the U. Department of Justice, almost daring it to try and break up GM as it sold more than half the new cars and trucks in the country. General Motors was the biggest, most successful company in the world. Naturally, Curtice didn't run GM alone. The company was just too big for that, and its employment roster alone was bigger than the populations of most small countries. So, the division managers running Chevrolet, Pontiac, Oldsmobile, Buick and Cadillac had near autonomy over their fiefdoms. And these managers were all ambitious, talented men with an eye on the CEO job for themselves. Ford and Chrysler may have seemed like GM's rivals to the world outside GM, but to GM's division managers, the real competition was the other division managers. Each division had its own engineering, marketing and production assets and managed its own dealership network. In specification and output there may not have been much difference between an Oldsmobile and a Buick V8, but no Olds division manager in the s and s would ever consider putting a Buick engine into one of his 88s or Starfires. Of course this structure was hugely inefficient and wouldn't last. Today car companies use the same platform and engines for many different brands to minimize overhead. But as GM attempted to modify its structureâ€"starting with the Vegaâ€"it went about it in the wrong way. After a dazzling four-year stint running Pontiac, year-old John Z. DeLorean became Chevrolet's division manager in early More flamboyant and boisterous than the typical buttoned-down GM executive, DeLorean was nevertheless a brilliant manager. And like other Chevrolet managers before him, he seemed destined to run all of GM. But what DeLorean found waiting for him at Chevrolet was the Vega. It was a small car developed not by the Chevrolet Division, but by a corporate team assembled by GM's president Ed Cole during Rushed through development in only two years, the Vega was delivered to DeLorean and Chevrolet as a fait accompli; a nearly complete vehicle over which Chevrolet itself would have only minimal engineering and design input. It was Chevrolet's and DeLorean's job to sell it. According to DeLorean's book On a Clear Day You Can See General Motors a whole chapter of which is titled

"The Vega" , "[The Vega] produced a hostile relationship between the corporate staffs, which essentially designed and engineered the car, and Chevrolet Division, which was to sell it. From the first day I stepped into Chevrolet, the Vega was in trouble. General Motors was basing its image and reputation on the car, and there was practically no interest in it in the division. We were to start building the car in about a year, and nobody wanted anything to do with it. Chevy's engineering staff was only going through the motions of preparing the car for production, but nothing more. Engineers are a very proud group. They take interest and pride in their designs, but this was not their car and they did not want to work on it. DeLorean and his dispirited staff were particularly unimpressed by the Vega's new 2. While the block's aluminum construction was innovative, the rest of the engine was almost old-fashioned. And with an output of only 80 hp in standard form, it meant that the Vega was hardly thrilling to drive. The Vega was the first Chevrolet that was a Chevrolet in name only; the first product of a GM that would build increasingly indistinct and uninspired products. Within five years, some Cadillacs would have Oldsmobile engines and many Oldsmobiles would get Chevy V8s. And by the s, GM's once-mighty motor divisions were little more than marketing arms for nearly identical, often generic, products. In the context of its time, the Vega wasn't an awful driving car. Built on a inch wheelbase and offered in three basic body styles—a two-door notchback coupe, three-door fastback and "Kammback" wagon—the unibody Vega was in most ways a scaled-down conventional, American, rear-drive car. The suspension was unequal length A-arms in front and a solid axle in back, just like most GM cars. And the Vega sold in huge numbers. During its first model year, , Chevrolet pushed , of them through its dealerships. During out went another , units, then , in and , for John DeLorean and the engineers at Chevrolet may have disliked the Vega, but the public was gobbling them up. However, the lack of engineering focus and the drive to keep the price low resulted in a car with notoriously thin sheetmetal only haphazardly covered in anti-rust primer. Soon the Vega was earning a reputation as a rust-prone bucket. It wasn't uncommon for rusted Vega front fenders to need replacing after only one or two seasons driving in the salted slop of northeastern winters. Even in states like California or Arizona where rust was almost unknown, Vega owners would see corrosion eating away at their cars. The engine also had a barely adequate cooling system that combined with the delicate engine block for horrible results. When the engine got hot, which wasn't uncommon, the cylinders distorted and the piston rings wore off the exposed silica that was meant to provide a tough wall surface. Then, at best, the cars burned more oil. At worst, the distortion compromised the head gasket, caused the coolant to leak and eventually killed the engine. Beyond that, labor relations at the Lordstown, Ohio, assembly plant that built the Vega were notoriously awful. Originally a Chevrolet plant, Lordstown was turned over to the General Motors Assembly Division during , and the number of employees was cut even as line speed was maintained. Morale among Lordstown UAW workers sank, and some resorted to sabotaging cars on the line or simply doing lousy work. Ultimately there was a wildcat strike during that shut down Lordstown for nearly a month. Since the Vega sold so strongly almost 2 million were built before it left production after , the result was that literally hundreds of thousands of buyers were having awful experiences with the car. Some were merely disappointed. Many were incensed. And a lot of them felt betrayed by General Motors, Chevrolet and the American auto industry as a whole. Surely, those customers were then far more willing to consider the Japanese alternatives that were starting to arrive. While GM could have learned a valuable lesson about quality with the Vega and recommitted itself to building better cars, that isn't what seemed to happen. Instead, GM didn't respond quick enough, and looking back, one wonders if a healthy dose of corporate arrogance was to blame. With a few exceptions, the following decades brought a series of mediocre and poorly engineered cars. It half-engineered a series of hideous diesel engines. In the early s, the corporation came up with unloved automobiles like the front-drive X-Cars and put the Cadillac name on a Chevy Cavalier to produce the Cimarron. The list goes on and on. By the end of the s, the once-ubiquitous Vega was already disappearing from America's roads. With such a crummy reputation for reliability, the Vega's resale values soon dropped down near zero. Legend has it some salvage yard even put up "No Vegas" signs to announce that they weren't even bothering pulling usable parts off the cars before crushing them. Today a running Vega is a far less likely sight on America's roads than, say, a '55 Bel Air or '69 Camaro or even the scandal-plagued Corvair. Save for a bare few running with V8s on drag strips and a handful of limited-edition, twin-cam Cosworth models, the Vegas are practically all gone. While they don't deserve to be missed, the lessons of the Vega should be remembered. And judging by today's GM, certainly at least some of the Vega's story has not been forgotten. GM's quality has steadily improved, especially its powertrains. Those divisional fiefdoms are gone, and the company now looks to its global divisions for platforms that can be shared across markets. Surely, these changes took too long to occur, but it's safe to say that those who worked on the

Vega would hardly recognize the company today. Type keyword s to search. Today's Top Stories. How to Stay Warm Without Power. This content is created and maintained by a third party, and imported onto this page to help users provide their email addresses. You may be able to find more information about this and similar content at piano. Advertisement - Continue Reading Below. More From Cars. Introduced September 10, as the Vega , its name came from a bright star in the northern skies and the engine's approximate displacement in cubic centimeters. Designed from scratch by a team of fifty GM corporate engineers assigned exclusively to the program, the Vega was available in four models: a notchback sedan, a hatchback coupe, a station wagon, and a panel delivery thru All have two doors and hold four passengers, with the exception of the panel delivery which is designed for one passenger. Motor Trend awarded the Vega "Car of the Year" after a 4-day ride and drive that saw 10 of Detroit's finest put through a mile wringer. The one-millionth Vega was produced May 17, The Vega was among the top 10 best-selling American cars in with a model-year sales peak of , Vega sales in fell to half the previous year resulting from the end of the gas crisis and additional new small cars introduced by GM. The car's reputation had been tarnished from early model issues mainly involving the CID engine while the Vega-derived Monza and smaller Chevette provided alternatives. Despite the continuous development program and efforts to improve the car's image, Chevrolet cancelled the Vega and its aluminum engine at the end of the model year. Chevrolet and Pontiac divisions were working separately on small cars in the early and mid s. Ed Cole, GM's executive vice-president of operating staffs was working on his own small-car project using the corporate engineering and design staffs. He presented the program to GM's president in When the corporation started seriously talking about a U. Not only did corporate management make the decision to enter the mini-car market, it also decided to develop the car itself. It was a corporate car, not a divisional one. Ed Cole was the chief engineer and Bill Mitchell, the vice-president of the design staff, was the chief stylist. Cole wanted a world-beater, and he wanted it in showrooms in twenty-four months. This was a brutally short time to design and engineer a new car, especially one that borrowed almost nothing from any other. Musser, Jr. Musser said, "This was the first vehicle where one person was in charge and, under him â€" that is me â€" a group of guys did the entire vehicle. Chevrolet "teaser" ads began in May , not announcing its name, stating - You'll see. The Chevy Vega was conceived in as a simple, low-cost transportation vehicle to utilize the newly-developed all-aluminum die-cast engine block technology. The first sand cast aluminum blocks were actually produced a full two years prior to the corporate decision to build the Vega. A relatively large displacement engine with good low speed torque was chosen. Economy would be achieved through the use of low numerical gear ratios, which would keep engine rpm low. The Vega engine itself went through 6,, driving miles of testing. The earliest version of the engine was tested in a Fiat sedan. This car was used for development of the aluminum block, while several Opel sedans were used for drive train development. General Motors instituted a totally new management program to design the Vega: the car line management technique. In placing a single individual, the chief vehicle engineer in charge of the entire program and having the entire car â€" including engine, suspension, and brakes â€" designed by engineers specifically assigned to the Vega. A total of fifty engineers were assigned to the Vega engineering team broken down into body, power train, and chassis design groups, the product assurance group, and the pleasability group. Fisher Body engineers and draftsmen were also moved in with the Vega personnel. It is generally acknowledged that this organizational arrangement made it possible to put out a totally new car in such a short time. The pleasability group would check continuously on the vehicles on the assembly line. As part of another program, computers would keep tabs on quality control of every vehicle built. At the very beginning of the experimental engine program at GM engineering staff, Ed Cole stated in a meeting that there would probably be no need for a traditional radiator, due to the excellent heat rejection to the air from the aluminum block. He felt that coolant could simply be passed through the heater core, with outside air ducted through the core and exhausted under the car to provide auxiliary cooling. Several pre-prototype cars were built this way at his insistence, and all of them were dismal failures from a cooling perspective. After having one seize up while he was driving it at the Milford proving grounds one Saturday, he backed away from his theory and allowed the design to continue with a conventional cooling system. Production began on June 26, The car still had no glove box. Motor Trend '71 Buyers Guide said, " Engineering and styling the Vega from scratch in four different body styles was a total effort far more demanding in manpower than the Pinto or Gremlin programs. The Hatchback Coupe, first and foremost, is a styled subcompact. With its lower roof line and useful fold-down rear seat, it accounted for nearly half of all Vegas sold. Vega coupe has roof, window, and deck forms extremely-and not accidentally-similar to those of the Italian luxury car. The Sedan, later named Notchback is the only Vega model with an enclosed trunk, has more rear

seat headroom than the hatchback, and offered the lowest base price. The Kammback Wagon has The Panel Express, a one-passenger panel delivery based on the wagon has steel panels in place of the wagon's fixed rear side glass, a low-back driver's seat, and a deleted rear seat with an additional enclosed storage area under the load floor. An auxiliary front passenger seat was optional. Classified as a truck, the panel has 68 cubic feet of cargo space and a payload capacity of lbs. By us, it's a 2-place square-back Vega coupe, with room for just about everything and anything that two people would want to go anywhere with. In mid an optional GT package for Hatchback and Kammback models was introduced which included the L two-barrel engine, F handling suspension, special instrumentation and sport steering wheel options, GT wheels, black grill with chrome outline moldings, GT emblems and more. Sport stripes in black or white were available. Gurney said: "The engineering seems to shine through. I like it; I like it very much. GM even rolled out a brand new shipping method, Vert-A-Pac â€" hanging Vegas vertically in specially designed railroad freight cars. One of GM's proudest boasts about the Vega was that it was the most "automated" vehicle ever to be built. It's entire design hinged upon its ability to be built rapidly with as much machine labor instead of human as possible. This was the only way GM could sell the car at a price competitive with imported cars made with cheaper labor rates. Assembly quality has a lot to do with the VW's success too, and this more than anything else is the bane of today's American car. All Vega models have a The â€" models have a In a size comparison with a Nova, the Vega has a inch shorter wheelbase, 7 inches narrower width, 2 inches lower height, and â€" models have 20 inches less overall length. As introduced, the Vega was one of the first Chevrolet vehicles to have as standard equipment front disc brakes, an electric fuel pump, side guard door beams, a double paneled roof, and foam-filled, hi-back bucket seats with floor mounted controls. Safety regulations and crash tests resulted in the Vega being nearly lb heavier than the original goal. However, a part of the penalty was caused by the decision to use 35 lb of underbody compound on the top side of the floor stamping. The standard acoustical package added another 35 lbs. The Vega's front-engine, rear-wheel drive layout is the traditional one where the engine is located at the front of the vehicle and driven wheels are located at the rear. The engine and its die-cast block technology was developed at GM engineering staff long before the program was handed-off to Chevrolet to finalize and bring to production. Ed Cole, who had been very personally involved with the design of the Chevrolet V8 as chief engineer at Chevrolet, was equally involved with the Vega engine as GM president, and was a frequent visitor on Saturdays to the engineering staff engine drafting room, reviewing the design and giving direction for changes. Chevrolet engineers and manufacturing personnel weren't pleased, especially since they knew Ed Cole wanted the job done quickly. As the engine development progressed at Chevrolet, it became known in closed offices as "The world's tallest, smallest engine" due to the tall cylinder head. Plagued by vibrations, noisy operation and prone to overheating, the engine did not live up to the Vega's potential. By , the overheating and vibrations were a thing of the past and the noise had been reduced to an acceptable level. GM's German subsidiary Opel was commissioned to tool up a new three-speed derivative of their production four-speed manual transmission. The GM finance department insisted that the base transmission be a low-cost three-speed, with the traditional profit-generating four-speed as an extra-cost option. Opel did just that, and tooled up a new 3-speed from scratch just for the Vega application, unusual only because it had shift linkages on both sides. Its final cost was higher than the optional four-speed due to the tooling investment and production volume. Both transmissions were shipped from Germany, transmissions to a crate, and arrived in shipments of thousands of transmissions at a time. Initially Powerglide automatic and Torque-Drive semi-automatic transmissions were optional. The two-speed Torque-Drive required a manual upshift but had no clutch pedal. In the U. Axle ratios ran from a low 2. Positraction was also available. Its suspension and live rear axle design, near ideal weight distribution, low center of gravity and neutral steering give the Vega world-class handling characteristics that were praised by the automotive press. Lateral acceleration capacity is. Weight distribution is quoted at The front suspension is classic General Motors short and long-arm. The lower control arm bushings were actually larger than those of the Camaro. The four-link rear suspension copied that of the Chevelle, and coil springs are used throughout. This was a significant departure from the leaf spring suspension used in the Camaro and Chevy II Nova. The engineers in charge of chassis development were seeking a package that would provide full-size domestic car ride qualities with handling equal to that of European cars. In , a torque-arm rear suspension was adopted, replacing the four-link design, thus eliminating the panic-braking induced rear wheel-hop. The steering box and linkage are located ahead of the front wheel centerline. The shaft is a cushioned two-piece unit. The overall ratio is The Vega's front disc and rear drum brake system copied an excellent Opel design including inch diameter single-piston solid rotors designed especially for the Vega and 9-inch

diameter drum rear brakes, utilizing the leading-trailing design. All four Vega models share the same hood, fenders, floor pan, door lower panels, rocker panels, engine compartment, and front end. The roof panel is a double layer, with a drilled inner panel to cut noise. The hood is hinged at the front and features an inside locking mechanism. Due to its "Modular Construction Design", a Vega sedan with body parts has fewer parts than its full-size Chevrolet counterpart. Modular Construction Design reduced the number of joints and sealing operations resulting in stronger, tighter bodies, effectively contributed to vehicle quality and made possible a very high rate of production. The Vega's body surface was the first accomplished completely through use of computers. Body surface information recorded on tape derived from the clay styling model, allowed computers to improve the body surface mathematically. Tapes developed through the computer were also used to control drafting machines in producing master surface plates which were extremely accurate. The computer was also utilized in making the hundreds of necessary engineering calculations including vision angle, field of view, rear compartment lid and door counterbalance geometries, structural stresses, deflection calculations and tolerance studies. The Vega's styling was judged conservative, clean-lined and timeless. The coupe has hints of everything from Camaro to Ferrari in its styling. With direction from Bill Mitchell, Haga's group took a clay model and redid the engineering version of the Vega, grafting a miniaturized Camaro front end and egg-crate grille and capped the rear of the sedan and hatchback models with recognizable Chevrolet tail lamps. The original approved clay model had small rectangular front parking lights below the bumper. Frank Chevrolet in Chicago into the styling studio to show him the clay and get his thoughts on the design. The modelers were put to work on large, round lamps and DeLorean and Zollie came back later that day and approved the change. The front end was redesigned three years later to cosmetically accommodate the larger aluminum 5-mph bumpers required for the revised pendulum bumper impact standard. The new front end featured a sloped, louvered grill, front valence with air intake below the bumper and recessed headlamp bezels. The seats are foam-padded and covered in vinyl with built-in head restraints except delivery. Interior door panels are single-piece molded units. Flooring is rubber on sedan and panel delivery with carpeting and additional sound insulation added on the other two models. An optional Decor package for the sedan included the carpeting, the additional insulation, and a sliding adjustment for the passenger seat. A custom interior option for all models except delivery added upgraded upholstery, cargo area load floor carpeting in the hatchback and wagon, a two-postion reclining driver's seat, passenger grab handle and woodgrain accents. Many service operations were intentionally designed so that they were able to be performed by Vega owners. To further that end, a "Do-It-Yourself" service manual was included with each new Vega. This page manual gives detailed information and guidance on eight different service and maintenance areas including lubrication, tune-up, brakes, and minor trouble shooting. Chevrolet ads also emphasized this continuity, but most of them mentioned five years. It was obvious right from the beginning that a new marketing concept was behind the Vega—a car not subject to annual model change for change's sake. Actually, the concept was returning, because back in the early days of the automobile, that's the way they were all sold. Imported automobiles were also not changed every year, and since the Vega was designed to battle the imports, it could be free from the curse of the annual model change. It also meant the styling had to be right the first time. A three-speed Turbo-hydramatic automatic transmission option was added, joining the two-speed Powerglide. The Torque-Drive transmission was discontinued. Only 7, Vegas had been ordered with the semi-automatic and it was dropped at the end of the model year. Vibration and noise levels were reduced by a revised exhaust system and better driveline damping and the rear shock absorbers were revised. A custom cloth interior option was new and a glove box was added. The front and rear script nameplates â€" " Chevrolet Vega " were changed to block letters â€" "VEGA by Chevrolet" To meet the 5-mph front bumper standard required on models, the chrome bumper was extended 3-inches on stronger brackets. A steel body-color filler panel was fitted behind the bumper. The chrome rear bumper met the 2. The L engine featured a new Holley staged two-barrel carburetor. Both engines had revised emission controls with different carburetion and ignition settings. Cylinder head inlet and exhaust ports were configured for an increase and better balance of air flow. US-built Saginaw manual transmissions and a new shift linkage replaced the Opel-built units. A new higher-capacity transmission mount with increased rubber volume for improved isolation supported the new, heavier manual transmissions. A new left hand mounted hood hold-open prop and cowl-mounted hood pop-up spring improved engine compartment servicability. A new 2-postion door check added an intermediate door hold-open postion. For the inside, a new mini-console for cars equipped with automatic transmission and a new European-style simulated leather boot came with the optional 4-speed transmission. New options included BR white stripe steel belted radial tires, full wheel covers and body side molding with black rubber

insert. Two new models were introduced mid-year â€" the Estate Kammback Wagon included wood grain vinyl side and rear trim with outline moldings. The LX Notchback included a full vinyl roof. Both models included the custom interior and 4-spoke sport steering wheel with bowtie center insert. On May 17, the one millionth Vega was produced at the Lordstown assembly plant â€" a bright orange GT Hatchback with white sport stripes, power steering, a neutral custom vinyl interior with exclusive vinyl door panels, accent-color orange carpeting and millionth Vega door handle accents. A special edition "Millionth Vega" was introduced replicating the milestone car. The redesigned front end featured a slanted header panel and recessed headlamp bezels with a louvered steel grille replacing the egg-crate plastic grille. Front and rear aluminum bumpers with inner steel springs replaced the chrome bumpers, and the front and rear license plate mountings were relocated. Overall length was increased six inches compared to models. A revised rear panel on Notchback and Hatchback models had larger single unit taillights and ventilation grills were eliminated from the trunk and hatch lids. The engines had a touch more power than '73. Torque was up noticeably but valve timing, camshaft lift and compression ratio were unchanged. Emission control was now by exhaust gas recirculation. The 2-speed Powerglide was discontinued, leaving the 3-speed Turbo-hydramatic as the sole automatic transmission offering. The A bias tire was dropped, and the A bias-belted was made the new base tire. A 16 gallon fuel tank replaced the 11 gallon tank. The custom interior's wood-trimmed molded door panels were replaced with vinyl door panels matching the seat trim. In January plastic front fender liners were added after thousands of sets of fenders were replaced under warranty on models. In February the "Spirit of America" limited edition hatchback was introduced featuring a white exterior, white vinyl roof, blue and red striping on body-sides, hood and rear-end panel, decal emblems on front fenders and rear panel, white "GT" wheels, A raised white-letter tires, a white custom vinyl interior and red accent color carpeting. Sales peaked for the model year with , produced. High-energy electronic ignition and catalytic converter. New options included power brakes, tilt steering wheel, BRB GM-spec steel belted radial tires and a special custom cloth interior option for the Hatchback and Kammback. The Cosworth Vega was introduced in March after a year and a half delay featuring an all-aluminum twin-cam inline-4 engine and the first use of electronic fuel injection on a Chevrolet passenger car. All 2, Cosworth Vegas for the model year had black exteriors with black or white custom vinyl or black custom cloth interiors All featured gold accent striping, gold-colored aluminum wheels, gold "engine turned" dash bezel and gold-plated plaque with Cosworth ID and build number. The Panel Express was discontinued at the end of the model year. Never a big seller, Panel Express sales peaked the Vega's first year at 7, units. After leveling off to an average of 4, per year, only 1, were sold for the model year. Total sales fell to , A facelift included a revised header panel with Chevy bowtie emblem, a wider grill, revised headlamp housings and bezels â€" all made of corrosion resistant material, and new tri-color taillights for the Notchback and Hatchback. The 2. The chassis received the Monza's upgraded components including the box-section front cross-member, larger rear brakes, and torque-arm rear suspension which replaced the four-link design. Bodies received extensive anti-rust improvements including galvanized fenders and rocker panels. New models introduced were the GT Estate Wagon, the Cabriolet Notchback with a half vinyl roof and opera windows similar to the Monza Towne Coupe, and a limited edition Nomad Wagon featuring restyled side windows. In January, a "Sky-Roof" with tinted reflectorized sliding glass and 8-track tape player options were added. The Cosworth was offered in eight additional exterior and two additional interior colors mid-year, but was canceled in July after only 1, were built for the model year. The Notchback was renamed Coupe. The Dura-built engine received a pulse-air manifold injection system to meet the more strict Federal emission standards. A similar system secured the Cosworth engine EPA certificate in The one-barrel version of the engine was dropped, as was the three-speed manual transmission. Interiors received a color-keyed steering column, steering wheel, instrument cluster face, and parking brake cover. A color-keyed full console was a new option. GTs were now offered in two appearance variations - the new one featured a blacked-out theme to exterior moldings lower moldings deleted , black sport mirrors and wheels, bold Vega GT lettered side striping and rear Vega GT transfer id. Roche, General Motors Chairman of the Board. In his statement Mr. Roche said, The power plant for the new General Motors passenger car will be a new and different engine, made possible only through important advances in technology. Considering the field of competition for this size vehicle, design objectives for the Vega engine were: 1. Low exhaust and evaporative emission characteristics. Fuel economy competitive with the foreign mini cars. Regular grade and nonleaded fuel usage. Exceptional durability. Simplicity for easy maintenance. Displacement to be as large as practical permitting low engine rpm at cruise speeds for economy, noise control, and improved durability of moving parts. A performance level equal to the domestic compacts. Low weight to provide good vehicle

weight distribution. Strong consideration to minimum number of pieces for high reliability and low cost. Length, height, and width to be compatible with the small car concept so as to permit proper people packaging. Other objectives involving engine installation were that the engine with all accessories mounted must be of such dimensions as to permit assembly from beneath the body, and that the engine, as installed in the vehicle, must withstand miles of rail travel in the vertical position without special handling. Collectible Automobile, April said, "The Vega engine was, without a doubt, the most extraordinary part of the car. The Vega engine is a CID The cylinder block is an open deck design with siamesed free-standing linerless cylinder bores. Outer case walls form the water jacket and are sealed off by the head and the head gasket. The block has cast iron main caps and a cast iron crankshaft. The cast iron cylinder head was chosen for low cost and structural integrity. The overhead valvetrain is a direct acting design of extreme simplicity. Only three components activate the valve rather than the usual seven of a typical push rod system. The camshaft is supported by five conventional pressed-in bearings and is driven from the crankshaft by an externally mounted continuous cogged belt and sprocket system. Six v-grooves on the outside of the belt drive the water pump and fan. The large bore and long stroke design provide good torque and lower rpm operation for reduced wear. Compression ratio for the standard and optional engine is 8. A single-barrel carburetor version produces 90 hp. The two-barrel version RPO L11 produces hp. The relatively large for an inline-4 engine is naturally prone to vibration and is subdued by large rubber engine mounts. The Rochester DualJet two-barrel carburetor required an air pump for emission certification and was replaced in with a Holley-built C staged two-barrel carb. Emission control revisions made in reduced power output on the optional engine by 5 bhp, although the engine's cruising noise levels were reduced. Non-air conditioned cars have a small inch by inch radiator core. The reason for the relatively small radiator was the aluminum engine block and its superior heat conductivity as compared to iron. The engine was named Dura-Built in Outside the southern edge of Las Vegas, Nevada. Three medium orange Vegas start their engines. They won't be turning them off much during the next 58 days except for rest and food stops, refueling and maintenance. They have a job to do. Three new Vega hatchback coupes equipped with manual transmissions and air conditioning were driven non-stop for 60, miles in 60 days through the deserts of California and Nevada Death Valley using three pre-production models of the subcompact and nine non-professional drivers. All three Vegas completed a total of , miles with only one "reliability" incident â€" a broken timing belt â€" was recorded. This fact prompted Vega project engineer Bernie Ernest to say, "The Vega has reliability in excess of 60, miles, and therefore the corporation feels very comfortable with the warranty. During the day test which was certified and supervised by the United States Auto Club, the three cars were subjected to ambient temperatures never lower than 99 degrees and often reaching as high as degrees. The nine drivers were instructed to treat the cars as they would their own and use the air conditioning as desired. Yet, in more than , miles of total driving, the cars used only 24 ounces of coolant, an amount attributed to normal evaporation under severe desert conditions. Furthermore, fuel economy for the three test Vegas averaged Translated into actual driving expenses, the three Vegas averaged a per-mile cost of 2. One of the cars went on display in the 60, miles in 60 days exhibit at the New York International Auto Show. The Dura-built engine added a pulse-air system to meet the more-strict U. The engine paint color went from orange used in '76 to blue as were all Chevy engines. The camshafts are held in a removable cam-carrier which also serves as a guide for the valve lifters. Each camshaft is supported by five bearings and is turned by individual cam gears on the front end. The two overhead camshafts are driven, along with the water pump and fan, by a fiberglass cord reinforced neoprene rubber belt, much like the Vega cubic inch engine. Below the cam carrier is a valve cylinder head constructed of an aluminum alloy using sintered iron valve seats. Sturdy forged aluminum pistons and heat-treated forged steel crankshaft and connecting rods reveal racing ancestry; assure high performance durability. The engine features a stainless steel exhaust header and electronic fuel injection EFI â€" a Bendix system with pulse-time manifold injection, four injector valves, an electronic control unit ECU , five independent sensors and two fuel pumps. Each engine was hand-built and includes a cam cover sticker with the engine builder's signature. Final rating is bhp. Car and Driver, October said, "The Cosworth Vega valve four cylinder is the most sophisticated engine Detroit ever made. Aluminum block has 17 percent silicon content, free standing siamese cylinder walls. GM Research Labs had been working on a sleeveless aluminum block since the late '50s. The incentive was cost. Reynolds Metal Co. The A alloy was suitable for faster production diecasting which made the Vega block less expensive to manufacture than other aluminum engines. Sealed Power Corp. Subsequently, Chevrolet was given job of putting the ohc sleeveless, aluminum block into production. The Vega engine block was cast in Massena, New York - at the same factory that had produced the Corvair engine.

Molten aluminum was transported from Reynolds and Alcoa reduction plants to the foundry, inside thermos tank trucks. The block was cast using the Accurad process. The casting process provided a uniform distribution of fine primary silicon particles approximately 0. Pure silicon provides a hard scuff and wear resistant surface, having a rating of 7 on the mohs scale of hardness, as compared to diamond which is Before being shipped to Tonawanda, the blocks were inpregnated with sodium silicate, where they were machined through the outer skin. From Massena, the cast engine blocks were shipped as raw castings to Chevy's engine plant in Tonawanda, New York. The cylinder bores were rough and finish-honed conventionally to a 7-microinch finish then etched by a new then electro-chemical process. The etching removed approximately 0. The technical breakthroughs of the block lay in the die-casting method used to produce it, and in the silicon alloying which provided a compatible bore surface without liners. With a machined weight of 36 pounds, the block weighed 51 pounds less than the cast-iron block in the Chevy II CID inline Plating the piston skirts was necessary to put a hard iron skirt surface opposite the silicon of the block to prevent scuffing. The plating was a four layer electo-plating process. The first plate was a flash of zinc followed by a very thin flash of copper. The third and primary coating was hard iron, 0. The final layer was a flash of tin. The zinc and copper were necessary to adhere the iron while the tin prevented corrosion before assembly of the piston into the engine. Piston plating was done on a 46 operation automatic line. From Tonawanda, the engines went to the Chevrolet assembly plant in Lordstown, Ohio. Eudell Jackobson of GM engineering pointed out one of the early problems with unexplained scuffing and discovered excessive pressure on the bore hones was causing the silicon to crack. He said: "We were trying to put a product into production and learning the technology simultaneously. And the pressure becomes very, very great when that happens. The hone-pressure problem was solved before engines actually went out the door, affecting only pre-production engines. XP concept prototype Vega L engine with "crossflow" aluminum head. Although the optional L engine became a mainstream part of the Vega development program in December , the Chevrolet engine group had an intense dislike for the tall iron cylinder head with its unusual tappet arrangement and side-flow "Heron" combustion chamber design that had been thrust on them from GM engineering staff, and set out to design their own. The design evolved rapidly as a "crossflow" aluminum cylinder head with a single centrally-mounted overhead camshaft OHC and roller rocker arms operating intake valves on one side and exhaust valves on the other, remarkably similar to the Ferrari V12 cylinder head design of that period; it was almost 4" lower than the Vega production head, was a lot lighter, had true "hemi" chambers with big valves, and made excellent power. Numerous prototypes were built, and manufacturing tooling was started in anticipation of approval for production. Had it gone to production, it would not have had the differential expansion head gasket problems that plagued the iron-head engine, and would have provided significantly higher performance than the optional L engine. Popular Science magazine in a May article stated, according to GM, the Wankel had so far proven more reliable than four, six, and eight-cylinder engines â€" GM-rotary engines were run up to , miles showing only minimal wear, and the engine's fewer moving parts assured its reliability. The final design General Motors Rotary Combustion Engine GMRCE was fixed when responsibility for the power plant's manufacture was turned over to General Motors Hydra Matic Division in August â€" two rotors displacing cubic inches, twin distributors and coils, and a switch to aluminum housing construction. Iron couldn't match the heat-dissipating qualities of aluminum. In addition, there was also a rotor tip-seal problem in the cast-iron configuration, especially after 15, miles. Compared to the normal piston engine Vega's 20 to 26 mpg, the whole rotary deal begins to look just a little less attractive, with what the price of gasoline skyrocketing, but that's another matter. Other refinements improved mileage to 20 mpg, but with the fuel breakthrough came related side-effect problems â€"apex seal failures, as well as a rotor tip-seal problem. Motor Trend in April predicted the final outcome â€" on September 24, , Ed Cole postponed the Wankel engine ostensibly due to emissions difficulties. He retired the same month. GM admitted fuel economy for the rotary was sub-standard and postponed production in favor of further development. Estes had previously decided to let the Corvair, another Cole project, expire well before the celebrated attacks of Ralph Nader. Total Vega production was 2, including 3, Cosworth Vegas. Vega production at Lordstown was projected at cars an hour from the beginning: one vehicle every 36 seconds. This was nearly twice the normal volume and by far the fastest rate in the world. At its peak, production was 2, units per day. The car came out for the model year. In late , the first big international fuel crunch hit, with small, thrifty, American-made cars suddenly in great demand. The '74 Oil embargo, perhaps more than any other factor, boosted the Vega's fortunes. Due mostly to inflation, but also because of emissions and safety mandates, prices of all automobiles rose 50 percent during the Vega's seven-year lifespan. And since all other cars suffered the same inflationary rise, less expensive

cars were in greater demand than those with higher prices which helped Vegas sell. One Vega for the price of two" as it was advertised, was priced out of the market, and fell well short of its projected sales goal. DeLorean said, "Our design concept was we wanted to build a car that does everything well, and if you drive the car you really will be very impressed. It has far and away the best handling of anything in its class. In fact it handles better than many sports cars. The performance is excellent. It out-performs any car in its price class in accelerating. There is nothing that comes within a mile of the Vega for performance and handling. This car will out-handle almost any sports car built in Europe. Not just little cars, but sports cars too. This is quite an automobile. For example in our body construction, on a typical car, built either here or Europe or Japan, about 18 percent of the body welds are automated. On this car over 80 percent are automated so you eliminate the worker carrying a heavy welding gun around. It reduces the work effort involved and provides uniform quality. We have automatic inspection of virtually every single engine part and so we know it's going to be right. I think the ride and handling of some of the imports is quite mediocre. As I said earlier, the Vega has good craftsmanship, without the faults of the imports. Like any car, the Vega has its good points and bad. After 2 days of hard driving over the mountains, across the high desert at 5, feet through Navajo and Hopi country and down into the degree heat of Phoenix and the GM desert proving grounds, we had had about enough In our 2-day stint the Vegas performed aptly, with only minor problems that could be ironed out before full production began. High-back bucket seats are standard, there's nary a bench seat seat in sight The deluxe seats in the GT car are extraordinarily comfortable. Comfort and ride are all tied up together, consequently much of the comfort is a reflection of superb ride qualities. The net result is a car in the 2,pound range that rides like a car weighing twice as much. As a total concept, the car looks like it will be a winner because of several factors. Price should be one The GT coupe is sporty, something most American compacts that have ever existed weren't. It requires nothing more to be an enjoyable, functional piece of transportation It's readily apparent from the overall impression of the car that some very basic concepts of driver and passenger comfort have been built in from the ground up, with efficient flow-through ventilation being the most noticeable on the desert. Styling is well-balanced with some very distinct traces of the Camaro, including the grill. The Vega seating placement and design permits a feeling of sitting down inside the vehicle, surrounded by warm, reassuring Detroit steel. But forget it if that's all you want. It is so pleasant you begin to feel the togetherness with the car Some cars get a little scary the faster you push them; this one is just the opposite, the handling improves. Everything is always pressed down flat in the corners; there's no roll steer of any kind, tied in with car's refreshing neutral steering give the GT some exciting handling characteristics;" "Normal braking is smooth, straight and usually fade resistant. Because it's basically a low-priced compact, the results are all the more surprising and rewarding. The front bucket seats accommodate two adults very graciously with little difficulty getting in or out Back seat room in the wagon is restricted but livable. The wagon's moderate understeer is easily compensated by quick steering and once a line is established through a turn, the car follows quite politely. As in the base sedan, the roll rate is constant and does not generate any last minute surprises in the turn. Handling on the track is quite another story though. Understeer is much more pronounced negotiating 90 degree turns under maximum conditions. Not as violent as the coupe, but disconcerting. See all Chevrolet Vega Reviews. The Vega was popular with the automotive press, winning awards and praise for its innovative engineering, timeless styling, and sports car-like handling. Chevrolet's advertising for the Vega included ads promoting awards won by the car. And let's face it, the car looked hot. So can you blame us for falling hook, line, and sinker for the Vega and naming it 's Car of the Year? Road and Track editor John R. It has many other good qualities, but the roadholding impressed and surprised me most of all. Motor Trend awarded the Vega Car of the Year. MT: "The base Vega is a magnificent automobile without any options at all. It is appropriate that the final choice was a car that reflects Detroit's timely response to the people's needs instead of a copy writer's idea of what they should need. So, the Chevrolet Vega is Motor Trend's Car of the Year by way of engineering excellence, packaging, styling and timeliness. As such, we are saying that for the money, no other American car can deliver more. American Iron and Steel Institute awarded the Vega in forâ€"Excellence in design in transportation equipment. Service Station Management and Motor Service magazines in a survey; the Vega was voted â€""Easiest to service, least mechanical problems and best overall in its class" by independent servicemen. Motor Trend's 21 Car of the Year selectionsâ€" were nominated. MT: "The best version of the Vega came out on top matched against the best versions of its competition. Economy really means economy with an illusion of luxury. This time Chevrolet won the guessing game. Car and Driver selected the '76 Cosworth Vega one of the "10 Best Collectable Cars" in its fourth annual "Ten Best" issue in , saying: "We're talking about historical significance here. Chevrolet paid a

price in its rush to introduce the Vega with the other models. Chevrolet's "bright star" received an enduring black eye despite a continuing development program which eventually alleviated most of its initial shortcomings. Further development and upgrades continued throughout the car's seven year production run, addressing its engine and cost-related issues. Early Vegas had a few designed-in flaws, most minor, but an ill-fitting gas cap, ineffective windshield wipers, and a faulty choke drew fire from perennial GM foe Ralph Nader. The linerless aluminum block has been blamed for a large share of the Vega's poor reputation. An iron engine could survive moderate overheating, but the Vega could not. A simple fix eliminated the problem but not before the car's reputation was destroyed. Motor Trend September , editor John Lamm said, "Incidently, because present problems with overheating and warpage of the Vega engines have been caused by owners driving around with too little coolant, all Vegas will have an instrument panel light warning when coolant is down one quart. But most owners tended not to check the coolant level often enough, and in combination with leaking valve-stem seals the engine would often be low on oil and coolant simultaneously. This caused overheating which distorted the open deck block allowing antifreeze to seep past the head gasket, causing piston scuffing inside the cylinders. In response, Chevrolet added a coolant overflow bottle and an electronic low-coolant indicator in that could be retrofitted to earlier models at no cost. In May under a revised 50, mi engine warranty for â€" Vegas, Chevrolet informed the 1. An owner with a damaged engine had a choice to have the short block replaced with a brand new GM unit or a remanufactured, aftermarket steel-sleeved unit. This proved costly for Chevrolet. Eudell Jackobson from GM engineering confirmed the problem involving the engine's valve-stem seals: "After the engine had been in production for a while, customers would go back to the dealer complaining about oil consumption We eventually found out that the problem had never been the scuffing of the cylinder bore. The real problem was the valve stem seals. They'd harden, split, fall off, and oil would leak down past the valves and into the combustion chamber. So we did some experiments. When we got an oil burner, we simply replaced the valve-stem seals, and that cured it. GM engineer Fred Kneisler maintaines that too much emphasis had been put on overheating problems versus the real culprits: brittle valve stem seals and too-thin piston plating. Regardless of the cause, damaged cylinder walls were common. The granny test would have taken time, which the Vega's development engineers didn't really have. But apparently no one thought to run granny tests anyway. Kneisler confessed, "It astonishes me that not one of us thought about seeing what would happen if we ran out of water. And the test system back then didn't let things fail. If a test driver at the proving grounds didn't ever check one of those engines and let it run out of coolant The drivers were checking coolant every day, checking the oil, checking everything every shift. Mercedes-Benz and Porsche both use sleeveless aluminum engines today, the basic principles of which were developed for the Vega engine, Brockstein said. "Chevrolet was trying to build this car as cheaply as possible and wanted us to take a lot of money out of it. At first the metal was so thin on the Kammback wagon that in the test facility it kept buckling under its own weight. Fisher Body had to come back and put stiffing ribs in the roof. Note, though, that Fisher often under-engineered prototype bodies because it was easier and more economical to reinforce a weak body than to shave one that had more strength than needed. Chevrolet, in a January Vega engineering report stated early difficulties were experienced at the front and rear suspension attaching points. Using scaled suspension members to impose static loads, stress evaluations were conducted. It was determined that addition of reinforcements, metal gauge increases, and some redesign of the pieces would give desired structure. Fisher Body Division was very proud of its Elpo primering process, which should have prevented rust, but didn't. The metal body received a positive electrical charge, the primer particles carried a negative charge, and by leaving the body in the vat for two minutes even the most remote recesses get coated, theoretically. In practice however, the Elpo dip did not flow to every recess or reach every surface. Vega expert Gary Darian said, "The design of the front end caused air to be trapped at the tops of the fenders, so they never got coated. Early cars had no inner fender liners, so the tops of the front fenders got blasted by sand and salt thrown up by the tires, and they quickly rusted. The original design provided for the full inner fender liners from the beginning. Five years later, after GM had spent millions to replace thousands of sets of rusted-out Vega fenders in the field, the plastic fender liners were reinstated as a mid-model change during the model year. But rust damage also affected the rocker panels, the door bottoms, the area beneath the windshield, and the primary body structure above the rockers. Darian added, To remove the cam bolts required lots of careful work with a cutting torch and all new parts. A turbocharger kit was available separately for the Vega's cu in engine. Even the SCCA says so. The all-new Vega was powered by a four-cylinder engine, but what could Yenko undertake and keep his performance legacy alive while retaining the Vega's four-cylinder engine to appease the insurance companies. His Vega

Stinger II was the answer. High compression pistons would be factory installed if he could talk Chevy into it , while the turbocharger would be installed at his dealership. The certification process requires a 50,mile test. Yenko had his staff rent a racetrack but at the last minute, he decided not to go through with the testing. He did however sell Yenko Vegas, albeit, the turbocharger would not be part of the package, but available separately as an aftermarket item. There are very few documented examples surviving today, Vega body styles were used to produce several rebadged variants. Chevy also offered the Monza 'S' for as a Monza price leader, using the Vega hatchback body. The Pontiac Astre was introduced in the U. Pontiac's trademark split grill and front emblem, Astre nameplates, an upgraded interior trim and a Pontiac steering wheel with emblem helped to differentiate itself from the Vega. The SJ Hatchback and SJ Safari Wagon models feature soft nylon upholstery, cut pile carpeting, padded and cloth covered door panels, and a fabric headliner, plus rally instruments, the higher-output two barrel engine, four-speed over a three-speed manual gearbox or automatic and radial tires. A GT package option for the hatchback and Safari wagon combined the lower-line interior with the SJ's performance and handling features. The package includes a front air dam, rear spoiler, appliance wire mag rims, window louvers, a chrome exhaust tip, and bright stripe decals for the hood, body sides, rear spoiler, door handles, and wheel centers. The Pontiac CID 2. Transmissions are the three- and four-speed manual, five-speed manual with overdrive â€" option and the three-speed automatic. The Chevrolet Monza 'S' produced for the model year used the Vega hatchback body style. With the Vega nameplate canceled, the Monza 'S' was marketed as a price leader for the Chevy Monza line. The rebadged hatchback had the new Monza front end header panel and grill with Chevy bowtie emblem, steel front and rear bumpers replaced the Vega's aluminum bumpers. Monza front fender nameplates, and a two-spoke color keyed steering wheel with Monza emblem. White-wall tires and full wheel covers were standard as were bumper rub strips. In addition, there was an expanded engine availability. The four-speed manual was standard with all engines. The five-speed manual with overdrive and three-speed automatic transmissions were optional. The Chevrolet Monza Wagon produced for the â€" model years used the Vega wagon body style. The rebadged wagon had the new Monza front end and grill and front and rear steel bumpers, front fender namplates and the Monza steering wheel with emblem. White-wall tires, full wheel covers and bumper rub strips were standard equipment. The Monza Estate, like the Vega Estate wagon it replaced, features wood grain sides and rear trim with outline moldings and the custom interior. The five-speed manual with overdrive, and three-speed automatic transmissions optional. The Pontiac Sunbird Safari Wagon produced for the â€" model years used the Vega wagon body style. It replaced the discontinued Pontiac Astre Safari wagon which was essentially carried over with Sunbird badging. Standard powertrain was Pontiac's cubic inch inline-four with a four-speed manual transmission. Previously unavailable for Astre were Sunbird's optional cubic inch and cubic inch V6 engines. Five-speed manual and three-speed automatic were transmission options. The Chevrolet XP concept car is a front engine, rear wheel drive design based on the Chevrolet Vega using many of its components including the aluminum-block cubic inch inline-four engine but with a "stillborn" Chevrolet prototype crossflow aluminum cylinder head with single centrally-mounted overhead camshaft OHC and roller rocker arms operating intake valves on one side and exhaust valves on the other, remarkably similar to the Ferrari V12 cylinder head design of that period; The vehicle has a 90 inch wheelbase with an overall length of inches. This two-seater sports coupe offered a unique look at alternative engineering approaches to future techniques in design and manufacturing. The vehicle was built with a frameless fiberglass foam sandwich body and chassis. The entire body consists of four lightweight fiberglass outer body panels, the floor pan, firewall, upper front, and upper rear with a rigid urethane foam filling the designed clearance between the panels. The structure and appearance of the car were designed so that the body could be assembled using four lightweight molded outer skin sections. With the outer skin panels placed in a foaming mold, liquid urethane was injected between the panels where it expanded and bonded the body into a single, rigid sandwich structure. The result was a vehicle body virtually free of squeaks, rattles, and vibrations. Once the urethane hardened which took about fifteen minutes , the suspension, drive train, hood and doors were bolted to reinforcing plates, which were bonded to the fiberglass panels. A key consideration in the engineering design of the XP was the advantage of improved crash worthiness of the sandwich construction technique. The energy absorption characteristics of the vehicle enabled engineers to simulate crash conditions for the vehicle at speeds up to 50 mph without catastrophic failure to the structure. This wiki. This wiki All wikis. Sign in Don't have an account? Start a Wiki. Powerglide 2 spd. Turbo-Hydramatic 3 spd. Wheelbase Universal Conquest Wiki. FandomShop Newsletter GalaxyQuest. The Chevrolet Vega is a subcompact automobile that was manufactured and marketed by GM 's Chevrolet

subdivision from to Available in two-door hatchback , notchback , wagon , and sedan delivery body styles, all models were powered by an inline four-cylinder engine with a lightweight, aluminum alloy cylinder block. The Vega first went on sale in Chevrolet dealerships on September 10, Despite a series of recalls and design upgrades, the Vega's problems tarnished both its own as well as General Motors' reputation. Production ended with the model year. The car was named for Vega , the brightest star in the constellation Lyra. Chevrolet and Pontiac divisions worked separately on small cars in the early and mid s. Ed Cole , GM's executive vice-president of operating staffs, working on his own small-car project with corporate engineering and design staffs, presented the program to GM's president in GM chose Cole's version over proposals from Chevrolet and Pontiac, and gave the car to Chevrolet to sell. Corporate management made the decisions to enter the small car market and to develop the car itself. Ed Cole was chief engineer and Bill Mitchell , vice-president of design staff, was chief stylist. Cole wanted a world-beater in showrooms in 24 months. Blueprints apparently did exist, however, they were an amalgam of competitive subcompact vehicles from overseas, including some that GM overseas operations produced. Musser Jr. Musser said, "This was the first vehicle where one person was in charge", and that his team "did the entire vehicle". As GM president, Cole oversaw the car's genesis and met the projected schedule. The Vega was conceived in to utilize newly developed all-aluminum die-cast engine block technology â€" the first sand-cast aluminum blocks had preceded the decision to build the car by two years. A relatively large displacement engine with good low- speed torque was decided on, with gear ratios for low engine rpm to achieve fuel economy. Engine testing totalled 6,, miles. Chevrolet instituted a new management program, the car line management technique, to produce the all-new car in two years. The chief vehicle engineer had overall charge of the program. Fifty engineers, dedicated to the design of the entire car, were divided into groups: body, power train, chassis design, product assurance, and pleasability. The latter would check continuously on the vehicles on the assembly line, with computers in another program monitoring quality control of every vehicle built. In October , there was one body style the "11" style notchback sedan , one engine, one transmission MB1 Torque-Drive manually shifted two-speed automatic , one base trim level, a bench seat , molded rubber floor covering, no glove box or headliner and no air-conditioning ventilation was through the upper dash from the wiper plenum. As the market changed, so did the car in development. Hatchback and wagon received carpeting and headliners. In February , Opel three- and four-speed transmissions three-speed standard, others optional ; Powerglide were added now four transmissions ; mechanical fuel pump replaced by in-tank electric pump making this the first GM product with an in tank fuel pump prior to the adoption of fuel injection ; power steering option; base "11" style notchback trim upgraded to match hatchback and wagon carpet and headliner. This is essentially how the car launched as a model. Production began on June 26, After the national GM strike September to November , bright roof drip moldings were added to the base "11" notchback, with moldings sent to dealers to update units already in the field. Cars magazine said in that in the rush to introduce the car with other models, "[t]ests which should have been at the proving grounds were performed by customers, necessitating numerous piecemeal "fixes" by dealers. Chevrolet's "bright star" received an enduring black eye despite a continuing development program which eventually alleviated most of these initial shortcomings. The wheelbase on all models is Width is The and models are The hatchback, with its lower roofline and a fold-down rear seat, accounted for nearly half of all Vegas sold. The sedan, later named " Notchback ", is the only model with an enclosed trunk, and had the lowest base price. The panel express has steel panels in place of the wagon's rear side glass, an enclosed storage area under the load floor, and a low-back driver's seat. An auxiliary passenger seat was optional. The engine and its die-cast block technology were developed by GM engineering staff, then passed to Chevrolet for finalization and production. Ed Cole, involved with the small-block V8 as chief engineer at Chevrolet and now equally involved with the Vega engine as GM president, often visited the engineering staff engine drafting room on Saturdays, reviewing the design and directing changes, to the consternation of Chevrolet engineers and manufacturing personnel, who knew he wanted a rush job. The Vega's suspension, live rear axle , Lateral acceleration capacities are 0. Steering box and linkage are ahead of the front wheel centerline, with a cushioned two-piece shaft. Front suspension is by short and long arms, with lower control arm bushings larger than on the Camaro. There are coil springs all around. The chassis development engineers aimed for full-size American car ride qualities with European handling. Later torque-arm rear suspension eliminated rear wheel hop under panic braking. All models share the same hood, fenders, floor pan, lower door panels, rocker panels, engine compartment and front end. In mid, Chevrolet introduced an optional GT package for hatchback and Kammback models, which included the RPO L11 two-barrel engine, F41 handling option, special tires, and trim. For , models had a

revised exhaust system and driveline to reduce vibration and noise; also revised shock absorbers. Turbo Hydra-Matic three-speed automatic transmission and custom cloth interior were optional and a glove box was added. For , changes included new exterior and interior colors and new standard interior trim. Front and rear nameplate scripts "Chevrolet Vega " were changed to "Vega by Chevrolet". US-built Saginaw manual transmissions and a new shift linkage replaced the Opel units. New options included BR white-stripe steel-belted radial tires , full wheel covers, and body side molding with black rubber insert. Two new models were introduced mid-year: the estate wagon with DI-NOC wood grain sides and rear trim, and the LX notchback with vinyl roof finish. On May 17, , the millionth Vega left the Lordstown Assembly plant â€" an orange GT hatchback with white sport stripes, power steering and neutral custom vinyl interior including exclusive vinyl door panels. A limited-edition "Millionth Vega" was introduced replicating the milestone car, with orange carpeting and Millionth Vega door handle accents. Sixty-five hundred were built from May 1 to July 1. For the first time, cloth upholstery was offered, with the Custom interior in black or blue. Louvered steel replaced the egg-crate plastic grille. Front and rear aluminum bumpers with inner steel spring replaced the chrome items, with license plate mountings relocated. A revised rear panel on notchback and hatchback models had larger single-unit taillights, with ventilation grills eliminated from trunk and hatch lids. Side striping replaced the hood and deck stripes for the GT sport stripes option. The custom interior's wood-trimmed molded door panels were replaced by vinyl door panels matching the seat trim. January saw plastic front fender liners added after thousands of fenders were replaced under warranty on â€" models. In February, the "Spirit of America" limited-edition hatchback was introduced, with white exterior, white vinyl roof, blue and red striping on body sides, hood and rear-end panel, emblems on front fenders and rear panel, white "GT" wheels, A raised white-letter tires, white custom vinyl interior and red accent color carpeting. Sales peaked at , for the model year. The changes for included H. New options included power brakes, tilt steering wheel, BRB steel belted radial tires, and special custom cloth interior for the hatchback and Kammback. In March the Cosworth Vega was introduced with an all-aluminum engine and electronic fuel injection , the first on a Chevrolet passenger car. Its sales peaked at 7, in its first year, then averaged 4, per year. Over 1, models were sold. For , models had changes. A facelift included revised header panel with Chevy bowtie emblem, wider grill, revised headlamp bezels â€" all in corrosion-resistant material â€" and new tri-color taillights for the notchback and hatchback although the amber turn signals were nonfunctional. Cooling and durability of the Dura-Built 2. The chassis received the Monza's upgraded components including box-section front cross-member, larger front and rear brakes with the fronts gaining vented rotors , and torque-arm rear suspension. Extensive anti-rust improvements to the body included galvanized fenders and rocker panels. New models were introduced: GT estate wagon, Cabriolet notchback with a half-vinyl roof and opera windows similar to the Monza Towne coupe and limited-edition Nomad wagon with restyled side windows. A "Sky-Roof" with tinted reflecting sliding glass and an eight-track tape player were options from January. The Cosworth was canceled in July after 1, models were built. For , models had few revisions. The notchback was renamed "coupe". On the Dura-built engine, a pulse-air system met stricter Federal emission standards. The single-barrel engine and three-speed manual transmission were dropped. Interiors received a color-keyed steering column, steering wheel, instrument-cluster face and parking-brake cover, with a color-keyed full console a new option. The outer case walls form the water jacket, sealed off by the head and head gasket, and the block has cast-iron main bearing caps and crankshaft. The cast-iron cylinder head was chosen for low cost. A simple overhead valvetrain has three components activating each valve instead of a typical pushrod system's seven. An external belt from the crankshaft drives the five-bearing camshaft plus the water pump and fan. Compression ratio for the standard and optional engine is 8. From , ratings were listed as SAE net. The engine is prone to vibration, which is damped by large rubber engine mounts. The Rochester DualJet two-barrel carburetor required an air pump for emission certification and was replaced in with a Holley-built C progressive two-barrel carburetor. Serious problems with the engine led to a redesign for â€" In August , Chevrolet conducted an endurance test of three Vegas powered by Dura-Built engines, advertised as a "60, miles in 60 days Durability Run". Motor Trend said "Chevrolet chose the mile Southwestern desert route in order to show the severely criticized engine and cooling system had been improved in the model. They averaged Driving expenses averaged 2. The Vega was marketed as a durable and reliable car. The optional L engine was part of the Vega development program from December , initially with a tall iron cylinder head that had an unusual tappet arrangement and side-flow combustion chambers. Although numerous prototypes were built and manufacturing tooling started, the engine did not receive production approval. It would have given higher performance than the iron-head engine, without its differential expansion head gasket problems. Compared

to the normal piston [engine] Vega's 20 to 26 mpg, the whole rotary deal begins to look just a little less attractive, what with the price of gasoline skyrocketing GM thought it could meet emissions standards with the engine tuned for better fuel economy. In April Motor Trend predicted the final outcome: [45] on September 24, , Cole postponed the engine, ostensibly due to emissions difficulties. He retired the same month. His successor Pete Estes showed little interest in the engine and GM, citing poor fuel economy, postponed production pending further development. One complete GM Wankel engine exists. In July , Hot Rod tested a prototype Vega fitted with an all-aluminum V8, the last of several cu in. With stock Turbo Hydramatic, stock Vega rear end and street tires, the car ran a subsecond quarter mile. It was the world's most automated auto plant, [12] where approximately 95 percent of each Vega body's 3, welds were carried out automatically by Unimate industrial robots. Engine and rear axle assemblies positioned by hydraulic lifts with bodies overhead moved along the line at 30 feet 9. Sub-assembly areas, conveyor belts and quality control were all computer directed. Production at Lordstown was projected at Vegas an hour—one every 36 seconds—from the outset. Twice the normal volume, this was the fastest rate in the world. Within months Lordstown produced Lordstown workers had 36 seconds to perform their tasks instead of the customary minute. With 25 percent more line workers than needed, they formed groups in which three worked while a fourth rested. Although there were mechanical flaws, the quality of early Vega assembly, e. The car earned Motor Trend's Car of the Year award. GMAD imposed more rigorous discipline and cut costs by dropping the fourth "extra" worker. Management accused workers of slowing the line and sabotaging cars by omitting parts and doing shoddy work. Workers said GMAD sped up the line and cut staffing. Quality suffered. As production approached vehicles per hour problems arose in the paint shop. At 85 units per hour, nearly all required repair. Conventional spray pressures and atomizing tips could not apply the paint fast enough, but increasing pressures and tip apertures produced runs and sags. The new formulation raised paint shop throughput to units per hour. Although Lordstown Assembly had a purpose-built exit off of the Ohio Turnpike built to make shipment easier, the Vega was designed for vertical shipment, nose down. General Motors and Southern Pacific designed "Vert-A-Pac" rail cars to hold 30 Vegas each, compared with conventional tri-level autoracks which held The Vega was fitted with four removable cast-steel sockets on the underside and had plastic spacers—removed at unloading—to protect engine and transmission mounts. Vibration and low-speed crash tests ensured the cars would not shift or suffer damage in transit. Total Vega production, mainly from Lordstown, was 2,, including 3, Cosworth models. Due mostly to inflation [citation needed], but also because of emissions and safety mandates, prices of all automobiles rose 50 percent during the Vega's seven-year lifespan. And since all other cars suffered the same inflationary rise, less expensive cars were in greater demand than those with higher prices which helped Vegas sell. One Vega for the price of two", as it was advertised, was priced out of the market, and fell well short of its projected sales goal. DeLorean , appointed Chevrolet's general manager a year before the Vega's introduction, was tasked with overseeing the Vega launch and directing operations at the Lordstown Assembly plant. As problems with the vehicle became apparent, he put additional inspectors and workers on the line and introduced a computerized quality control program in which each car was inspected as it came off the line and, if necessary, repaired. He authorized the Cosworth Vega prototype, and requested initiation of production. Patrick Wright, DeLorean spoke of hostility between Chevrolet Division and GM's design and engineering staff; of trying to motivate Chevrolet engineers to resolve the car's problems before introduction; and of initiating quality control. Although the Vega sold well from the beginning, the buying public soon questioned the car's quality. The issues with the vehicle practically went back to the beginning of its development. For example, the front end of the vehicle separated in only eight miles on the General Motors Test track. The engineers had to add twenty pounds of structural reinforcements to pass durability. The Vega's aluminum engine was notorious for buckling and leaking. The first Vega recall, Chevrolet campaign number C, addressed engine backfires on , cars fitted with the L option two-barrel carburetor. An engine that backfired with specific frequency and magnitude weakened and ruptured the muffler. Hot exhaust gases then, in turn, spilled out and heated the adjacent fuel tank which expanded, ruptured and spilled fuel that ignited and caused a fire. It concerned a perceived risk that a component in the emission-control system idle stop solenoid bracket might fall into the throttle linkage, jamming it open. In July , the company announced the third recall, "in as many months," [62] campaign number C, which affected , vehicles, the result of which was a rear axle which could separate from the vehicle. As it was recorded by NHTSA , the "axle shaft and wheel could then move outboard of the quarter panel and allow vehicle to drop down onto rear suspension. Other quality issues plagued the engine. Faulty valve-stem seals caused excessive oil consumption, [12] but this was not addressed until the release of the updated Dura-built

engine in Then, at best, the cars burned more oil. At worst, the distortion compromised the head gasket. With its small 6 US quarts 5. Consequent overheating distorted the open-deck block, allowing antifreeze to seep past the head gasket, which caused piston scuffing inside the cylinders. Chevrolet added a coolant-overflow bottle and an electronic low-coolant indicator in that could be retrofitted to earlier models at no cost. GM engineer Fred Kneisler maintains that too much emphasis had been put on overheating problems, the real culprits being brittle valve stem seals and too-thin piston plating. Regardless of the cause, damaged cylinder walls were common. On the early Vegas, Fisher's rustproofing process did not treat the entire chassis. Under normal driving conditions, this allowed moist debris and salt to build up and rust the untreated steel on early Vegas because they had no protective liners. After GM spent millions replacing thousands of corroded fenders under warranty, Chevrolet installed stopgap plastic deflectors in late and full plastic liners in Rust also damaged the rocker panels and door bottoms, the area beneath the windshield, and the body above the rockers. It sometimes seized the front suspension cam bolts, preventing alignment work, necessitating removal with a cutting torch and replacement by all-new parts. From , anti-rust improvements included galvanized steel fenders and rocker panels; "four layer" fender protection with zinc coated and primed inner fenders; wheel-well protective mastic; zinc-rich pre-prime coating on inner doors; expandable sealer between rear quarter panel and wheel housing panel; and corrosion-resistant grill and headlamp housings. Initially the Vega received awards and praise, but subsequently there were lasting criticisms. The Vega received awards including " car of the year" [67] and " car of the year in the economy class"; [68] from Motor Trend ; "best economy sedan" in , and from Car and Driver ; [69] and the award for "excellence in design in transportation equipment" from American Iron and Steel Institute. Favorable reviews at launch included Motor Trend which in described the Vega as enjoyable, functional, comfortable, with good handling, and ride; [21] Road and Track who praised its visibility, freeway cruising and economy. The Vega came out well, scoring praise for its combination of performance and economy"; [78] [79] as well as its speed, comfort, quietness and better ride. Bond said in September , "I think the Vega is, beyond a doubt, the best handling passenger car ever built in the U. It has many other good qualities, but the road holding impressed and surprised me most of all. The Center for Auto Safety criticized the car. A letter from its founder Ralph Nader to GM chairman Richard Gerstenberg contained a list of safety allegations, and said the car was a "sloppily crafted, unreliable and unsafe automobile" that "hardly set a good example in small car production for American industry". In , Popular Science said free repairs in the s cost tens of millions, continuing up to two years after the warranty ran out. Joe Sherman's book In the Rings of Saturn said that "by its third recall, ninety-five percent of all Vegas manufactured before May had critical safety flaws", and that the model's "checkered history only reinforced the belief that GM made inferior small cars. This legacy would prove far more important than any direct impact the Vega would have on GM's profits. Once the word got out, the damage was done, even though the engine had been revamped. Websites have included the Vega in lists of worst cars , for example Popular Mechanics , [92] Car and Driver , [93] and Edmunds. Well-maintained examples are great looking, nice-driving, economical classicsâ€"like Baltic Ave. Vega body styles were used for several badge engineered variants. The to Pontiac Astre had Vega bodies and Vega engines through The Monza S used the Vega hatchback body. In , Chevrolet presented the XP concept car using many Vega components, including the engine, and using a construction method intended to explore vehicle crashworthiness at high speed: a fiberglass foam sandwich body and chassis in four sections with rigid urethane foam infill. And something has to be done with the crankcase vents. If you don't it'll pump all that oil into the intake. Bedard said, "Five laps from the end I discovered that once the tank drops below a quarter full, the fuel wouldn't pick up in the right turns. Twice per lap the carburetor would momentarily run dry. And if that wasn't bad enough, the temperature gauge read exactly degrees and a white Opel was on my tail as unshakably as a heat-seeking missile. But it was also clear that no matter how good a driver Don Knowles was and no matter how quick his Opel, he wasn't going to get by if the Vega simply stayed alive. Which it did. You have to admire a car like that. If it wins, it must be the best, never mind all of the horror stories you hear, some of them from me. From Wikipedia, the free encyclopedia. For other uses, see Vega disambiguation. This article needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. Subcompact automobile. Motor vehicle. Main article: GM engine. Cincinnati Enquirer. August 6, Cosworth the Search for Power. Veloce Publishing. Retrieved March 7, Motor Trend. Retrieved March 6, Industry Have It? October 29, Retrieved January 13, Popular Mechanics. Retrieved December 17, November 29, In the Rings of Saturn. Oxford University Press. The Herald-Palladium. Joseph, Michigan. July 23, â€" via Newspapers. Eugene Register-Guard. Life Advertisement. Chevrolet's upcoming little car was

Florida title. This Plymouth Prowler is a one-owner, 33k-mileexample finished in Prowler orange pearl coat and accompanied by a matching trailer. Power is provided by a 3. Interior features include Agateleather and Kenwood speakers,and new staggered-width Continental tires are found at all four corners. OEM covers for the car and trailer, an OBD meter, miscellaneous parts, a battery tender, and more are included. One of approximately 3, produced in , this roadster is offered with 20 years of service records and a clear Florida title in the seller's name. This Chevrolet Corvette convertible 50th Anniversary Edition has just under 29k actual miles and is powered by an LS1 5. Finished in Anniversary EditionRed with a tan cloth soft top over a shale leathe

jeep dvd
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 r interior, the car was originally sold in New Jersey and later resided in both Maryland and Pennsylvania before being relocated to Florida beginning in Equipment includes an electronic driver information center, head-up display, and independent suspension with active handling. This Dodge Stealth hatchback is one of produced in Kutani Red for the model year, and it is a one-owner original car showing only 38k miles. It is finished in Kutani Red over a charcoal leather interior and is powered by a 3. Sign up for our daily newsletter. Get Newsletter. Get our app. Help Center. About ClassicCars. Contact Us. Our Sponsors. Business Advertisers. Career Opportunities. Read The Journal. Privacy Policy. All other trademarks are the property of their respective owners. Our Awards x. This prestigious accolade represents the continued growth of the company, and ClassicCars. The Stevie Awards, the world's premier business awards recognized ClassicCars. In The Journal, brought to you by ClassicCars.