1991 SATURN

If all cars are built with the same basic parts, then what makes one car better than another?

It's a question that just about every engineer in the auto-making business asks at one time or another.

And it just happened to be the question raised in a lot of people's minds one early January morning in 1985.

It was a big day in automotive history. A new car company had just been founded. The press was rushing about taking notes. And there were

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the usual speeches, questions, congratulations, predictions . . . all of which sounds very dramatic.

And it was. But not for reasons most apparent on that day. It wasn't dramatic because of the funds being invested, but because of the spirit that prompted such an investment.

You see, Saturn isn't a company founded in the traditional way—with committees, six-month feasibility studies, and the like. It's a company founded through the sheer will and determination of a few people who believed—despite what anybody else thought—that they could build a small car good enough to compete with the best on the road.

These people realized, of course, that starting a totally new car company was a bold move—given that competition was edging its way in from all directions, with undoubtedly more just around the corner.

But they also realized that the situation wasn't likely to change—at least not until someone took the initiative to change it. And who was better prepared than they were to effect that change?

They knew the industry inside out. They'd been imagining cars like these for years. And they were more than ready to take on the challenge.

So take it on is exactly what they all did. Those first few people who founded Saturn. And the 3500 others who jumped at the chance to participate once they heard about it—participate being the operative word.

As you'll soon see, it's not just the engineering that makes one car any better than another.

It's the spirit of the people involved.

"If there's anything that drives this company, it's a fascination with how things work—and might work better."

—Jay Wetzel, Chief Engineer

Saturn has taken a "clean slate" approach to developing its company and its cars. No red tape. No time clocks. None of the typical trappings of hierarchy that can come between people and the way they feel about the product they're building.

That fascination was probably nowhere more acute than in the mind of Jay Wetzel. "Saturn was a challenge a lot of us just couldn't wait to sink our teeth into," Jay says. "It was a chance to do things differently. To toss aside preconceptions. To push ahead with all the ideas we'd been playing out in our minds for years."

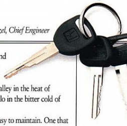
According to Jay, Saturn's goal wasn't to build a car jam-packed with every whiz-bang technological advance one could throw into it, but to build a good, reliable, well-designed, and exceptionally engineered car—a car that could compete with what seemed to be the world's favorite small cars.

It was a competitive edge that Saturn engineers would pursue by purchasing some 200 Hondas, Toyotas, Nissans, and other competitive vehicles—cars the engineers would test themselves by putting them through their paces alongside Saturns on every test trip. And "filleting them," as Peter Dugdale, a British-born engineer, described it—tearing them apart to find out what worked, what didn't, and why.

All in all, Saturn spent almost five years picking apart the competition. And probably even longer picking the brain of the small-car buyer—especially the import buyer.

Jay put it this way: "Most great cars in history reflect the personality of one person. In our case, that person just happens to be the consumer."

Whenever there was a question, it was the consumer who arbitrated. Saturn tested designs in consumer research clinics all across the nation and then set out to build the car people described. A car that's nimble and quick to respond. One that grips the road when it has to. One that almost begs to be driven. A car that's fuel-efficient, roomy, and dependable—performing every bit as well in Death Valley in the heat of August as in Buffalo in the bitter cold of December.



A car that's easy to maintain. One that doesn't make you tear other things apart to get to the part that needs servicing.

A car with a personality all its own—no cookie-cutter stuff. One that borrows from the best of the best worlds: the reliability you've come to expect from the Japanese, and the performance you've come to respect in the Europeans.

All of which, Jay explains, wouldn't have been that big a deal at a sticker price of $30,000. The challenge facing Saturn engineers, however, was to offer a car for less than half that price. And that meant making a few changes. Actually, more than a few. "If we really wanted to pull this car off," Jay says, "we knew we had to find a way to work smarter, faster, and—more important—together."

That's why if you were to visit Saturn's new manufacturing and assembly complex in Spring Hill, Tennessee, you'd see technicians on the line working alongside engineers in charge of design. You'd see people from all areas of the company contributing and collaborating on an equal footing. Committing themselves to something they believe in. Something they can affect. Something they feel belongs to them.

And if you're wondering what all these changes have to do with you and the new Saturns, consider what Kevin Hawkins, a factory technician, has to say: "I know it's going to be tough convincing some people to take another look at an American car. But I also know that I never felt this way about any job, any car, or anything I ever built.

"When you believe in something this much, it makes a big difference."

If you were to drive into a Saturn parking lot, you'd be surprised by all the competitive vehicles parked in the spaces next to you. Saturn engineers figured the only way to beat the competition was to drive the competition. And that's what they've been doing every day for the past five years.

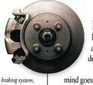
It was a frosty day in Detroit when ninety-nine people packed their bags for destinations around the world. Their goal: to find out how successful companies became so successful. What they learned led to a landmark agreement between management and labor—an agreement so simple it fits in a file folder, not the usual three-inch-thick binder.

LAX
STO
NYC
TYO
MUC

As one of Saturn's engineers describes it: "The environment here is really different. There are no perceived limitations, no hard-and-fast rules to follow. It's sort of like being a kid again—and it tends to bring out the best in people."

The first Saturn models include three sedans—the SL, the SL1, and the SL2—and one coupe—the SC. According to Joe Kennedy, who joined Saturn five years ago in charge of product planning, the idea for these cars was alive in the minds of engineers as far back as 1982. It was a tiny start, just a few people trying out designs on weekends or late at night. But then the ideas kept coming. As Joe says, "For most people, building these cars wasn't just another new job. It was a personal challenge. And if it hadn't been for this mindset, none of the changes—building the new manufacturing and assembly complex in Spring Hill, negotiating the new labor agreement, analyzing the competition—would have made any difference."

SATURN SL1



An anti-lock braking system, an option you expect to find on expensive vehicles. It is also an option on every Saturn.

If you've been looking at compact cars lately, then you've been hearing a lot about "price/value." It's an appealing description—until you think about it.

Then the question that comes to mind goes something like this: Okay, give it to me straight. How much "value" am I sacrificing to get this car at a lower price?

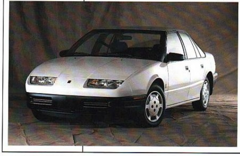
Well, when it comes to the Saturn SL1, the answer is precious little. The SL1 starts with a peppy 1.9-liter single-overhead-cam fuel-injected engine tuned to give you more oomph than you expect for city driving, and all that you need for freeway cruising. It comes with a five-speed manual transmission and some pretty impressive EPA ratings—an estimated twenty-seven miles per gallon in the city and thirty-seven on the freeway. The SL1 also has front-wheel drive, four-wheel independent suspension, and a long list of "standard" features that are typically listed as "optional" on competitive models.

Things like variable-effort power steering. An adjustable steering column. Full analog instrumentation, including a tachometer, trip odometer, and engine temperature gauge. Fourteen-inch tires. Tinted glass. Halogen headlights. Reclining front bucket seats. Remote trunklid and fuel-filler door releases. A carpeted cargo area. And a rear-window defroster.

All of which makes it clear that Saturn's notion of price/value isn't what the term can sometimes turn out to be—a car stripped down to the bone, equipped with only the bare essentials.

Saturn engineers wanted a sedan that would enter the market a little differently.

And with a lot more to offer.



The Saturn SL is priced even more economically than the SL1. The SL features slightly different upholstery and wheel covers than the SL1. And it's only available with a manual transmission and manual steering.

Every Saturn model comes equipped with a four-speaker AM/FM stereo system that includes seven station presets, seek/scan tuning, separate adjustments for bass and treble, and a digital quartz clock.

Saturn's automatic transmission offers two driving modes: performance and normal. You've probably noticed a similar feature on competitive vehicles. Well, looks can be deceiving. The Saturn option is quite different. To find out why, turn to page eight.

ENGINE

"It's not like we're breaking any laws of physics with these new engines. We just spent a lot of time fine-tuning them."

—Peter Dugdale, Engine Engineer

When a rubber timing belt breaks, it can mean bent valves and expensive engine work. Saturn is one of the few cars in its class to be equipped with a steel timing chain—as opposed to the typical rubber type.

Given that Peter has been fussing over engines since he was twelve, fine-tuning is something he ought to know a lot about. Peter grew up in the English countryside, spending every spare minute of his youth hot-rodding cars with his brother.

As Peter tells it, his brother did most of the racing and he did everything else. Including constructing a homemade dynamometer in the family garage. Building engines to compete in the English racing circuit. And finally, moving to California to work with performance engine builders, who convinced him, once and for all, that the most respected engines are those least encumbered by complexities.

"The real challenge is not to get carried away by technology," wrong gear, and not quite in the power band.

"Given that most Saturn drivers will have far fewer occasions to be cruising on the autobahn than sitting in stop-and-go traffic," Peter says, "we opted for a broad, flat torque curve. Which means these engines will always be there for you when you need them, responding instantly when you press the throttle."

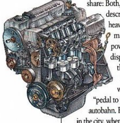
The performance of the Saturn engines also has to do with how well each is linked to the Saturn automatic transmission—by virtue of a device called the powertrain control module. It's a box containing two microprocessors—one controlling the engine, the other controlling the transmission, and each constantly in communication with

The lost foam casting process used to build Saturn engines involves polystyrene, the same sort of material used to make foam cups. Saturn is currently the only automaker using this advanced technology on such a mass scale.

SATURN EFI/DHC

There's one more bit of news you may be hearing about Saturn engines—and that's how they're manufactured. Saturn uses an advanced process called "lost foam casting."

Saturn's dual-overhead-cam engine is tuned to give you the best of both worlds when it comes to power—full thrust in the higher cruising gears and a surprising degree of torque in the lower driving gears.

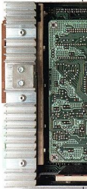


Peter says, "but to perfect simplicity, pulling the most you can from the least number of components."

That's the thinking that Peter brought to Saturn in 1985. And that's the philosophy held by all the members of Saturn's powertrain team, all the people who developed Saturn's two new fuel-injected 1.9-liter cast aluminum engines.

The single-overhead-cam engine is tuned to provide maximum fuel efficiency, while the dual-overhead-cam engine is tuned for performance, with competitive fuel economy.*

Obviously, the two Saturn engines are designed for slightly different drivers. But there's one tuning characteristic they share: Both, according to Peter's description, are "very torque-heavy engines." Other engines may be world-class in power output per cubic inch displacement, but what they give up to get there is low-end torque. In other words, they're great for "pedal to the floor" on the German autobahn. But they're very frustrating in the city, when traffic runs stop-and-go. There they feel sluggish, as if you're in the the other.



"Engines and automatic transmissions have been linked before," Peter explains, "but never like this." The theory is that the better these two components can respond to each other's needs, the better each Saturn will be able to respond to yours—an early priority for the powertrain team.

"I'm really big on benchmarking and setting priorities, and then just going for it," Peter adds. "One thing I learned in racing is that building an engine isn't always the big science people make it out to be. Not that it's easy. It's just that you can do pretty much anything you want if you make the effort. That's what it takes—just effort. Keep on polishing the corners, keep on perfecting it. Just do it."

The computer that links the engine to the automatic transmission is called the powertrain control module. It's not the first time automakers have used computer technology to link an engine to a transmission, but it's the first time the two have communicated on such an intimate level.

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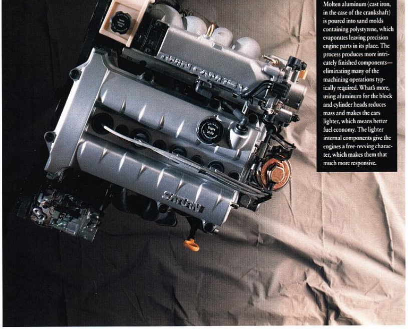
*See Saturn's EPA ratings on page twenty-four.



Molten aluminum (cast iron, in the case of the crankshaft) is poured into sand molds containing polystyrene, which evaporates leaving precision engine parts in its place. The process produces more intricately finished components—eliminating many of the machining operations typically required. What's more, using aluminum for the block and cylinder heads reduces mass and makes the cars lighter, which means better fuel economy. The lighter internal components give the engines a free-revving character, which makes them that much more responsive.

TRANSMISSION

"It listens, learns, and responds to every slight press on the pedal, every subtle change in climate."

—*Bob Downs, Transmission Engineer*

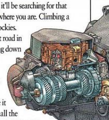
When it comes to fuel efficiency, manual transmissions are usually more efficient than automatics. Thanks to Saturn's powertrain control module, the Saturn automatic is almost as fuel efficient as the manual. Just turn to the EPA ratings on page twenty-four.

Saturn's new automatic transmission is controlled by a microprocessor programmed to pursue one simple obsession—finding the perfect shift.

According to Bob, it'll be searching for that perfect shift no matter where you are. Climbing a mountain pass in the Rockies. Maneuvering over a dirt road in the Midwest. Or cruising down a sun-baked freeway in Southern California.

Bob wasn't always so sure Saturn's new automatic would make it out of the lab, through all the testing, and onto the road. "Ideas this radical usually get shot down," he says. "But then, Saturn is a company that thrives on challenge and a 'you never know until you try' attitude."

And Bob was determined to try. As were others he talked into joining him: a few bright, ambitious young engineers he hired fresh out of college, as well as colleagues such as Larry Nitz—people who were willing to leave good jobs and commit their careers, and themselves, to making this "wild idea" a hard-edged reality.



Not surprisingly, it's a reality that has managed to rack up eleven patents—which begins to explain why the new design is creating such a stir in engineering circles.

It's what Larry Nitz describes as a "smart" transmission. One that not only controls shift "points" but actually controls shift "feel." You'll understand better what Larry means by "feel" when you try out Saturn's two shift modes: performance and normal.

Other cars offer similar transmission options. But as Larry explains, "similar" is all they are. Nobody else is using the same means of controlling shift feel.

Saturn controls feel with the help of computer algorithms, silicon sensors, and tiny solenoid valves. The algorithms define "the perfect shift." The sensors detect influencing variables—temperature, altitude, turbine speed, engine torque, oil temperature, and so forth. And the solenoid valves interpret these computer-based messages into mechanical action.

The result: a transmission that works hard to always feel and shift the same, regardless of road or weather conditions. In fact, it even compensates for wear over time. And, surprisingly, the automatic can be manufactured on the same assembly line as the manual—another first in the U.S. auto industry.

Which brings to mind another transmission you may be interested in—Saturn's five-speed manual. This assignment went to Warren Leet's engineering team, whose goal was to design the manual to be tight, yet smooth. To have a very light clutch feel and a very easy-to-maneuver gearshift. Warren's team made many cross-country road trips testing the new transmission on various grades—all to ensure that gear ratios were matched to engine output for optimum performance.

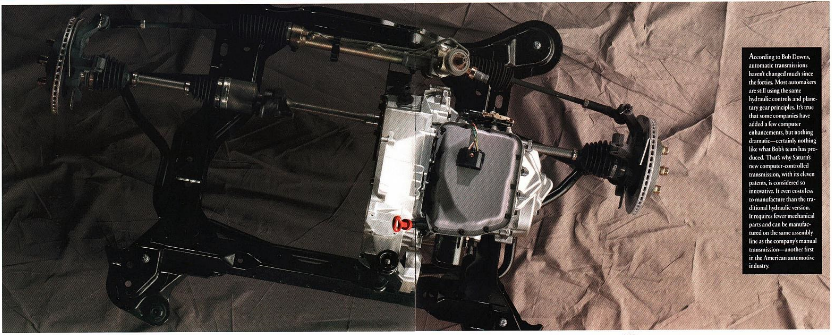
Early reviews indicate that Warren's team hit their performance targets. After a test drive, *Popular Science* described the Saturn gearbox as being "a short-throw bit of automotive pleasure that could be shifted with the thumb and index finger, coordinated with a clutch action as instinctive as tapping your foot at a square dance."

As Warren explains, "We tackled the job the only way we knew how. We got our hands on the best transmissions out there. Then we dissected them, extracted bits and parts of each, built on that, and produced what we think is an even better product.

"But then, that's something people have to experience for themselves, just as we did. You can't feel it until you drive it."

What's perfect to one person isn't always perfect to another. That's why Saturn has two different driving modes—normal and performance. And that's why when you're driving a Saturn, you'd better keep both sets of driving gloves handy.

Imagine a shift so smooth that it's like slicing through hot butter. With the help of the microprocessor tucked away in Saturn's powertrain control module, the Saturn automatic has its own definition of the "perfect shift" and is constantly seeking it.



According to Bob Downs, automatic transmissions haven't changed much since the forties. Most automakers are still using the same hydraulic controls and planetary gear principles. It's true that some companies have added a few computer enhancements, but nothing dramatic—certainly nothing like what Bob's team has produced. That's why Saturn's new computer-controlled transmission, with its eleven patents, is considered so innovative. It even costs less to manufacture than the traditional hydraulic version. It requires fewer mechanical parts and can be manufactured on the same assembly line as the company's manual transmission—another first in the American automotive industry.

SATURN SL2

Just because you appreciate good fuel economy, doesn't mean you don't appreciate a more sport-tuned engine. Not to mention a few extras when it comes to styling.

In fact, there are some people who value that sporty nature and that extra hint of sophistication so much, that they're even willing to pay a little more to get it.

These are the people who'll probably be most interested in Saturn's upper-level sedan, the SL2. It's a car most accurately described as a sport sedan—a comfortable balance between a small Japanese car and a European touring sedan, with a good blend of what you might expect from each—reliability and performance, respectively.

Saturn's instrument panel is a clean, clear analog display with gauges that provide real information.

The SL2 comes with Saturn's performance engine, a 1.9-liter duel-overhead-cam multiport fuel-injected engine that delivers 124 horsepower at 6000 rpm. Working with a five-speed close-ratio manual transmission (automatic is optional), this engine's tuned to give you an extra surge of power, an extra bit of thrust when you accelerate. And to give you an estimated EPA rating of thirty-four miles per gallon on the freeway, twenty-four in the city.

The SL2 is front-wheel drive with a sport-tuned suspension that includes stabilizer bars in both the front and rear. The front bar is larger than the one in the rear to provide the stability you need for quick cornering.

The tires are speed-rated 195/60R15 steel-belted performance radials designed especially for Saturn by Firestone.

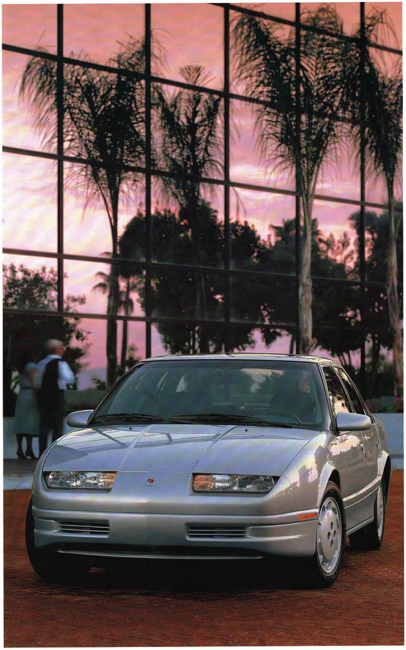
The SL2 comes with a long list of standard features—including alloy wheels, full analog instrumentation, and variable-effort power steering, to name a few.

It also comes with a sticker price that may surprise you. Pleasantly.

CRUISE
OFF ON
SET
COAST
RESUME
ACCEL

Cruise control is optional on every Saturn. Other cars offer it, too—but not quite the way Saturn does. With a control switch that's conveniently positioned on the steering wheel, within finger's reach. And a microprocessor that's programmed to keep the speed consistent.

A compact disc player and upgraded speaker system are optional with every Saturn model. The system includes all the essentials: AM/FM stereo, graphic equalizer, eleven presets per band, audio search, fast forward/reverse, pause, seek/scan tuning, and a digital quartz clock.



SAFETY

"As tempting as it may be, you can't just build a car to perform. You've got to build it to survive."

—Ken Wasmer, Structural Engineer

Every Saturn vehicle has strategically placed "crush zones." These zones are specifically designed to help absorb the energy of a crash before it reaches vehicle occupants.

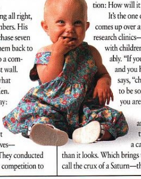
When Michele Smith joined Saturn and began working on rear seat restraint systems, her friends with children made one earnest plea: "If you really want to help us, try putting a baby seat in the back seat of your car. See how hard it is, and make it easier for us." Michele responded by purchasing an array of child safety seats, trying them out, and making a few design decisions parents will appreciate.

A day filled with "structural analysis" may not sound all that riveting to Ken's friends—but that's because they envision him hunched over a calculator crunching numbers.

Well, he's crunching all right, but not necessarily numbers. His idea of crunching is to purchase seven brand-new import vehicles, drive them back to the Saturn test facility, wire them to a computer, and run them into the nearest wall.

"It's the only way to find out what your competition's made of," says Ken. "You can't just call people up and say: 'Hey, could we borrow your crash data?' "

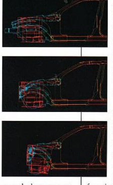
So Ken's team did the next best thing. They crashed the cars themselves—thereby collecting their own data. They conducted identical tests with Saturns and the competition to see, firsthand, who fares best when it comes to what people care most about: How well will the car perform in low-speed impacts? How much will it cost to repair? And the big question: How will it fare in a crash?



It's the one question that Ken says comes up over and over in consumer research clinics—especially for people with children. And understandably. "If you're driving a small car and you hit something," he says, "chances are it's going to be something bigger than you are."

The challenge from an engineering perspective, therefore, is to build a car that performs bigger than it looks. Which brings to mind what many call the crux of a Saturn—the spaceframe. The concept isn't new. But when it comes to building a frame that's "crashworthy"—well, that's where Saturn starts stepping ahead.

Using a Cray supercomputer and a sophisticated software program called PAMCRASH, Ken's team was able to quickly and accurately pinpoint, analyze, and devise ways to control the destructive "energy" of a crash. In other words, they could look at PAMCRASH simulations and then make design improvements that would either help to deter the impact with steel, or dissipate it before it reached vehicle occupants through what engineers call "crush zones."



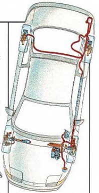
Ken's team also took it upon themselves to push Saturn testing beyond federal safety requirements. For example, the government requires automakers to pass thirty-mile-per-hour front and rear crash tests. Saturn, however, conducts additional crash tests at higher speeds and various angles.

"If we're going to be the company we say we are," says Ken, "then we'd better be going beyond what's expected or required of us."

One engineer who took that philosophy to heart was Michele Smith. Her team's assignment was to design the rear seat restraint system, and their goal was to design it to be versatile enough to protect children as well as it protects adults. Easier said than done. As Michele explains, the standard testing dummy is sized to represent fifty percent of the male population. Michele's team, however, designed their system to accommodate people considerably above and below standard size. She figured that way she'd cover a wider range of Saturn's customers.

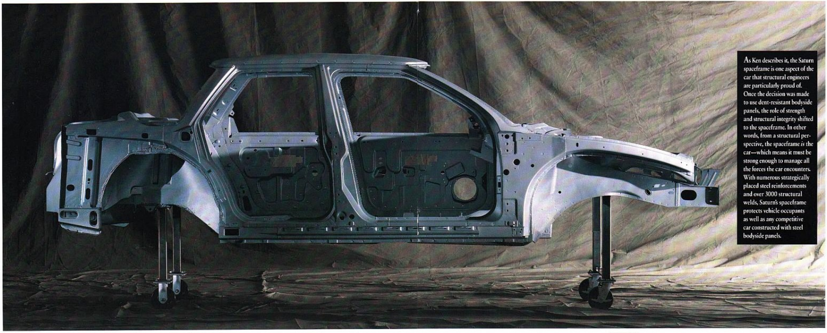
Which she did—by developing a ramp that fits beneath the rear seat to help prevent people, especially children and petite women, from sliding under the safety belts—"submarining," as it's called in the industry. She also developed and patented a new safety belt latchplate that not only adjusts more easily to children but makes it far easier for parents to secure child safety seats.

"Safety is a very peculiar business to be in," says Ken. "You want people to appreciate the fact that you did a good job for them. You just hope they never have to find out how good."



Saturn's anti-lock braking system (optional on every Saturn model) helps you to stop more quickly and maintain control when you need it the most—in the worst of driving conditions: rain, snow, or sleet.

Saturn engineers conducted some 200 crash test simulations on a Cray supercomputer. Using the Cray, they were able to glean more sophisticated data and make design changes much more quickly—and for a fraction of the cost of an actual test crash.



As Ken describes it, the Saturn spaceframe is one aspect of the car that structural engineers are particularly proud of. Once the decision was made to use dent-resistant bodyside panels, the role of strength and structural integrity shifted to the spaceframe. In other words, from a structural perspective, the spaceframe *is* the car—which means it must be strong enough to manage all the forces the car encounters. With numerous strategically placed steel reinforcements and over 3000 structural welds, Saturn's spaceframe protects vehicle occupants as well as any competitive car constructed with steel bodyside panels.

PAINT AND BODY

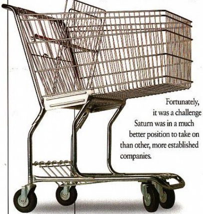
"Five cruel winters, umpteen parking lots, and a couple of foul balls later, chances are this car won't look much different."

—Dave Whittaker, Body Panel Engineer

Saturn bodyside panels. They won't rust. They won't oxidize. They won't nick or dent nearly as easily as steel panels.

As Dave explains, it all has to do with the decision to construct the panels out of polymer materials instead of steel, and then coat them with a specially formulated paint.

"Steel would have been the easy way to go," says Dave. "It's the technology we all know. Engineered polymers are relatively new—at least in high-volume applications such as Saturn's—and there's always a challenge associated with new technology."



Fortunately, it was a challenge Saturn was in a much better position to take on than other, more established companies.

Saturn cars can hold their own against even the most threatening four-wheeled vehicles. In fact, if a shopping cart filled with forty pounds of groceries rolls directly into the center of your door, chances are you'll drive away with hardly a scratch. You might not be so lucky if you were driving a car constructed with steel bodyside panels.

"We had a clean-slate approach to design and manufacturing," Dave explains. "We didn't have any traditions to break, people to retrain, or old equipment to get rid of. Nobody was telling us what we could or could not be. The only mandate was to be worldwide-competitive—which made the decision to go with polymers a lot easier."

According to Dave, the engineers had done enough testing to know that polymer materials, combined with the right paint process, would beat steel hands-down when it came to dents, dings, chipping, rust, and corrosion.

The paint system the engineers chose represents the latest technology available—a state-of-the-art process including a polyurethane primer, a waterborne acrylic color base, and a polyurethane clearcoat.

The primer is specially formulated to adhere to the panel and to be flexible—in other words, to *give* with the panel upon impact. Typically, paints applied to steel surfaces are much more brittle, which accounts for easier chipping and cracking. The waterborne acrylic gives the color finish a "wet look," meaning it's more brilliant and lustrous, almost as if it had depth. And finally, the clearcoat helps shield the acrylic against things which can eventually ruin a finish—dust, dirt, tree sap, acid rain, and ultraviolet light.

When it comes to dents and dings, Saturn's polymer bodyside panels are two to four times more resilient than steel. Polymers are flexible, which means the panels just bend and then bounce back.

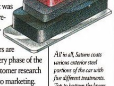
All these benefits work together to give Saturn a competitive advantage, not just aesthetically but functionally. For example, polymer bodyside panels are two to four times more resistant to dents and dings than steel. And because paint adheres to polymer ten times better than it does to steel, Saturn's finish is ten times more resistant to chips.

Steel portions of the car—the spaceframe and the horizontal panels—are coated with what's called an "epoxy electrocoat," an electrostatically-charged primer which helps protect every nook and cranny against corrosion.

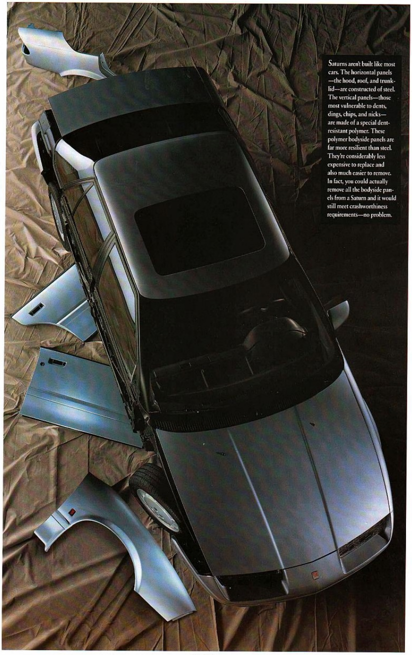
"These cars are really going to surprise some people," Dave says, "and that's understandable. In another place and time, I'm not so sure all the engineers would have opted to go with a technology this advanced. I'm not sure we would have had the perspective.

"The way we designed in the past, we were each assigned a particular part of the car—and that part was usually where our individual responsibility started and ended.

"That's not how it is here at Saturn. Here, engineers are involved, from day one, in every phase of the car's development—from customer research to overall conceptualization to marketing. It makes a big difference. When you can see the total picture, you're more creative. And any decision you make is that much closer to the mark."



All in all, Saturn coats various exterior steel portions of the car with five different treatments. Top to bottom the layers include: a polyurethane clearcoat, a colorcoat, a primer, an epoxy electrocoat, and a coat of zinc phosphate.

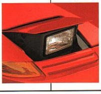


Saturns aren't built like most cars. The horizontal panels—the hood, roof, and trunklid—are constructed of steel. The vertical panels—those most vulnerable to dents, dings, chips, and nicks—are made of a special dent-resistant polymer. These polymer bodyside panels are far more resilient than steel. They're considerably less expensive to replace and also much easier to remove. In fact, you could actually remove all the bodyside panels from a Saturn and it would still meet crashworthiness requirements—no problem.

SATURN SC

The console in the rear seat is a feature distinctive to the SC. It's not something you see in many cars, but it probably ought to be.

Retractable halogen headlights are just one more styling feature you'll find on the Saturn SC.



Let's face it: Four doors aren't the answer for everyone. Not everyone has soccer practice, ballet lessons, and carpool arrangements best suited to a sedan.

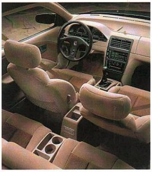
Some people have more pressing needs. For example, one of those life-long and burning desires to own a sport coupe. A vehicle that's known for its sleek lines, aerodynamic qualities, and ability to accentuate the pure pleasure of driving.

Well, these are the people that Saturn engineers had in mind when they designed the Saturn coupe.

The SC comes standard with Saturn's 1.9-liter dual-overhead-cam multiport fuel-injected engine, a five-speed manual transmission, an estimated EPA rating of thirty-four miles per gallon on the freeway and twenty-four in the city, a sport-tuned independent suspension, speed-rated steel-belted tires, alloy wheels, a leather-wrapped steering wheel, and a few other pleasing surprises.

In fact, despite its sporty demeanor, the Saturn SC will probably handle the ballet troupe almost as well as it handles the road.

But then, that's something you'll have to see and experience for yourself. As C.L. Sullivan, a Saturn powertrain technician, put it when asked his advice about how to sell an SC: "Don't try to talk to people about this car. Just give 'em a smile and hand 'em the keys."



The interior of the SC—just like the interior of all Saturn models—is simple, subtle, and very sensibly designed. All the gauges are comfortably placed within the driver's line of vision and all the controls are very easy to reach. In fact, most of the switches can be executed in a single action, not a series of steps. All important considerations when you're driving a sport coupe and would really prefer to focus only on what means the most at the time—that next bit of road stretched in front of you.

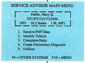
You won't have any trouble finding a comfortable driving position in the SC. The driver's seat is adjustable for both lumbar support and seat height.

SERVICE

"Like I told the whole team, when we open our showroom doors, we won't have one unhappy customer. I'd like to keep it that way."

—David Fischer, Saturn Retailer

Service technicians and consultants use a handheld computer to download information from each car's power-train control module. This information is then transferred to a personal computer for diagnostic analysis.

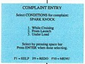


SERVICE ADVISOR MAIN MENU

Public, Mary Q.
1G1JF31121712345б
1991 SL2 Sedan 1.9L MFI

1. Receive PDT Data
2. Identify Vehicle
3. Complaint Entry
4. Create Preliminary Diagnosis
5. Utilities

F4 = OTHER SYSTEMS F10 = MENU



COMPLAINT ENTRY

Select CONDITIONS for complaint:
SPARK KNOCK

1. While Cruising
2. From Launch
3. Under Load

Select by pressing space bar
Press ENTER when done selecting.

F1 = HELP F9 = REDO F10 = MENU

David Fischer isn't alone in his feelings. Nor is he dispassionate about them. He's well aware of the image "car dealer" conjures up in the minds of most people. And he, along with other Saturn retailers, would like to change that.

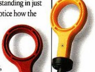
Which is why Saturn called him five years ago to join other retailers in discussing new ways of doing business. David says he was eager to participate—even if he was a bit skeptical.

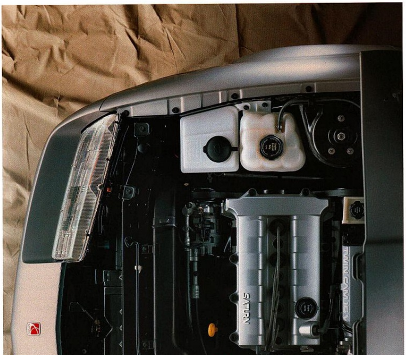
"I just wasn't sure what these people were all about," he explains. "But then, Saturn wasn't at all what I expected—or what any of us expected. The Saturn people were talking about things retailers had been talking about among themselves for years. More important, they were asking us questions. About how we run our business. That's what customers are looking for. Not just that the car is reliable, but that they can trust us to be reliable as well."

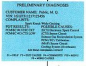
David's point is well taken. And it's partly why Saturn brought in a service team to work with development engineers—even in the early design phases. One member of that team is Lew Frostick. You'll appreciate Lew's handiwork the minute you start poking around under the hood.

That's when you'll notice that you can check all the fluid levels—oil, transmission, power steering, brake, engine coolant, even windshield washer—when standing in just one spot. You might also notice how the oil drain plug and the filter are very sensibly located—right next to each other, instead of at opposite ends of the engine compartment,

Here's one more common-sense innovation: a spin-off fluid filter on the automatic transmission. It not only makes the filter easier to change, but keeps you from having to remove the bottom pan—a procedure that can cause leaks.






PRELIMINARY DIAGNOSIS
CUSTOMER NAME: Public, M. Q.
VIN: 1G1JF311217123456
COMPLAINTS:
Spark Knock While Cruising
PDT RESULTS: POSSIBLE CAUSES:
PCMEC #43 ESC CKT (ECS) Electronic Spark Control
PCMEC #15 CTS LOW (CTS) Sensor Circuit
Exhaust Gas Recirculation System
PCM / EC / Calibration
(MAP) Sensor Circuit
Cooling System (Overheads)
Are these complaints correct?
F1 = HELP F3 = EXIT CAUSES F4 = COMMENTS F10 = MENU
F8 = MORE CAUSES

How a manufacturer can make things easier. What customers really want. What we, as retailers, need. All kinds of things."

As David describes it, this first meeting was the beginning of a very candid relationship—one that put a lot of things in perspective and a lot of new practices into motion. "It's not every day you get a chance to start fresh," he says, "so let's do it right."

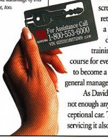
And "right" to him—and to all the others who ultimately joined Saturn as retailers—meant setting a few standards. Developing a stringent screening process for every retailer who wants to own a Saturn facility. And designing a mandatory training program, an intensive course for everybody who wants to become a part of Saturn—from general manager to receptionist.

As David astutely points out: "It's not enough anymore to be selling an exceptional car. The people selling it and servicing it also have to be exceptional, as is typically the case.

"It may not sound like much," Lew says, "but it's indicative of the thinking that went into this car. Our engineers do their best to design reliable components. But let's face it. This isn't a perfect world. Things happen. So the least we can do is keep the design simple, make everything easy to get to, and cut down on what usually accounts for a good bit of the repair bill—service time."

One feature that cuts down on service time is the diagnostic capabilities built into the Saturn powertrain control module. By accessing the data stored in this computer's memory—which takes less than a minute—technicians can get a virtual "transcript" of engine and automatic transmission malfunctions, which helps to diagnose any possible problems that much more quickly.

"About four years ago," Lew says, "we made a list of every conceivable way we could make servicing easier. Surprisingly enough, we managed to do virtually everything on that list."



Owning a Saturn automatically enrolls you in a 24-hour roadside assistance program for the duration of your car's warranty. The program covers the Saturn car, not just its owner—which means that a family member or friend can take advantage of this service, too.

Color-coded dipsticks tell you, at a glance, where to check the oil and transmission fluids—not to mention which ones are which.

Beyond all the service features designed into each Saturn vehicle, customers will also benefit from an extensive computer system designed to keep everyone—the customer, the retail outlet, and the engineers—informed about the car's performance and service needs. The system stores and retrieves all the information that technicians or service advisors might need—customer data, the availability of parts, as well as up-to-the-minute service and vehicle diagnostic information culled from engineers, the Spring Hill complex, and retail facilities across the nation. It also keeps a detailed record of every service transaction performed at any Saturn retail outlet and makes this record accessible to service personnel through satellite communications.

PERFORMANCE

> "We did some mean and nasty things to those cars on the proving grounds. But if we didn't push them to the edge, somebody else would."
>
> *—Stan Fowler, Development Engineer*

"When you've got your foot pressed to the floor, with the track moving outside at a blur, nothing is subtle," Stan says. "That's when you really begin to appreciate all those engineering terms that otherwise sound so nebulous—things like balance, integration, finesse, and so on."

Of all the people in this business, Stan should know. Like a lot of Saturn's powertrain people, he's into motor sports and has spent a fair amount of time on the track doing what he enjoys most—pushing cars as close to the edge as he can get without falling off.

Given Stan's infatuation with cars, he seemed the perfect choice to head Saturn's vehicle development team—which is, without a doubt, one of the truest examples of "simultaneous engineering" you're likely to find anywhere.

Here's how Stan describes the scene: "A group of engineers from various teams would hit the track driving prototype Saturns and a group of competitive vehicles—the goal being to see which car came out on top in head-to-head competition."

The team was judging performance, which to Stan's way of thinking means everything from the way a switch feels to the way the car takes off from a stoplight. The engineers built these cars to be more than just a means of transportation. But then, as Stan says, that's something you can't fully appreciate until you get behind the wheel. It's only then that you'll feel things like the wide stance and the longer wheelbase—characteristics that increase stability and smooth out the ride over rough road surfaces. Characteristics that emphasize the sheer pleasure of driving.

Stan will unabashedly tell you that there's no magic in the design of Saturns. Even the suspension is one of the simplest around—a true MacPherson strut design.

"What makes these cars work," Stan says, "is attention to detail. Nothing more, nothing less. Meticulous finessing and lots of refining. Constant competitive comparisons. And endless testing—from both a performance and a durability standpoint."

First, the Saturn cars were taken to the desert proving grounds in Mesa, Arizona, a track with enough variation to mimic virtually every road surface imaginable, from chatter bumps to torsional dips. Then it was off to Kapuskasing in Canada, where the average temperature four months out of the year is a nippy twenty below—a great place to test performance on ice, not to mention cold starting, plus all the heating and ventilation systems.

Finally, the engineers shipped the cars to England, to the Millbrook Proving Grounds operated by Lotus, for a 200,000-mile independent evaluation. The team wanted to see just how well their cars measured up to European driving conditions—lots of hills, switchbacks, narrow roadways, and extended high-speed cruising.

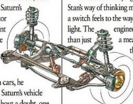
"Some people think we went overboard in our testing," says Dana Andreas, a powertrain engineer who ran Saturn engines through 50,000 hours of dynamometer testing. "Maybe we were a little nervous. But it's not every day you start a car company from scratch and have all these people waiting to see what you're going to turn out. I think our obsessiveness, if you want to call it that, worked to our advantage.

"We probably thought up more ways of potentially breaking whatever we were trying to design—just to make sure it would perform once customers got their hands on it.

"The world has its eye on us. And there's not a person in this company who doesn't feel it."

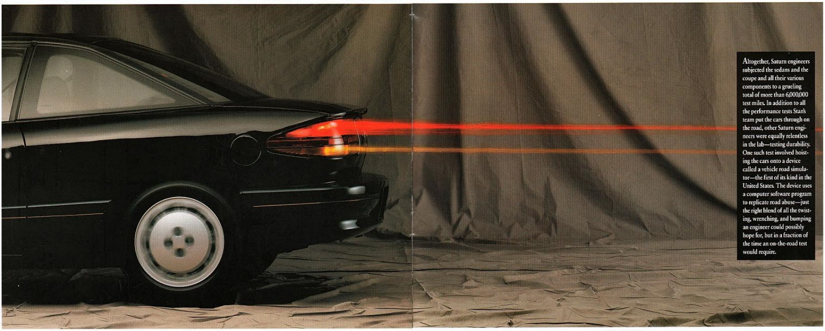
The Saturn sedans have a longer wheelbase than most competitive models—which helps to increase stability and make the ride that much smoother.

All Saturns feature four-wheel independent suspensions, with a MacPherson strut design on the front and a tri-link on the rear.



Saturn's variable-effort power steering automatically responds to the speed you're driving. You'll find it easier to turn the wheel in the city—when you're parallel parking. But then you'll be able to feel the road when you're on the freeway—when you're cruising at higher speeds and need that extra sense of control.

The SL2 and the SC are both outfitted with 195/60HR15 speed-rated tires, designed especially for Saturn by Firestone. They're called Firestone Firehawk GTA Performance Series Radials—just in case you were wondering. Good tires, in other words.



Altogether, Saturn engineers subjected the sedans and the coupe and all their various components to a grueling total of more than 6,000,000 test miles. In addition to all the performance tests Stan's team put the cars through on the road, other Saturn engineers were equally relentless in the lab—testing durability. One such test involved hoisting the cars onto a device called a vehicle road simulator—the first of its kind in the United States. The device uses a computer software program to replicate road abuse—just the right blend of all the twisting, wrenching, and bumping an engineer could possibly hope for, but in a fraction of the time an on-the-road test would require.

INTERIOR

Power windows are optional on all Saturns (except the SL). The auto express feature on the driver's side means you don't have to hold the button down—you just touch it, and it does the rest on its own.

AUTO
OFF ON
REAR WINDOW PWR
RT MIRROR

Just about the time Jim Ulrich's interiors team was putting their design thoughts on paper, comments started coming in from Saturn's first consumer research clinics.

"We don't want glitz. We just want something simple and tasteful, something done with a lot of thought and common sense."

"It was pretty clear the people we wanted to impress had had their fill of flashy digital displays and other assorted gadgetry," Jim says. "That's probably why one of the first things you'll notice about the Saturn interior is its simplicity. We wanted the design to be intuitive, so natural that people could execute functions without taking their eyes off the road for very long—if at all."

The team started with the instrument panel. It's a clear, easy-to-read analog display. It even includes a tachometer and a temperature gauge designed to keep you informed precisely as to what's going on with your engine.

Saturn's optional power window controls are what Jim laughingly describes as "logic switches"—meaning up is up and down is down. "This may not sound like breakthrough design," he says, "until you compare Saturn controls with those on competitive vehicles. Sometimes the others are so confusing that you find yourself just punching everything until something happens."

Jim's team also made sure to design in as much storage space as possible—including map pockets in the doors, a large deep glove compartment, a rear seat console in the SC, and mesh pockets attached to the backs of the front seats in the SL1, the SL2 and the SC.

"We were also very careful to steer clear of the cramped cockpit type of design, the kind so typical of small, sporty cars," Jim says. "We wanted the cars to be expressive and sporty, sure—but not to the extent that styling cut into things like comfort, visibility, headroom, and rear legroom. We pushed pretty hard to maintain an airy, open feeling.

"But then, pushing for perfection seems to be how this company works. We push ourselves, we push each other, and everybody just expects it. It's not like any place I've ever worked."

One more standard feature that'll come in handy—storage pockets on both front doors in all Saturn models.

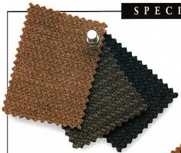
The Saturn sunroof is designed to slide outside over the top of the roof, which does a lot to preserve headroom in the rear seating area. The raised glass also acts as a wind deflector, reducing wind noise.

104.5
SATURN
AUTO REVERSE
EJECT
RPT
SEEK
REV
FWD

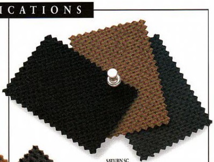
You'll notice that in Saturn cars, the stereo is located above the heater controls instead of below them. As engineer Jim Ulrich explains: "We put it where it's easier to reach. Given that people fiddle with their radios a lot more than they fiddle with temperature controls, we thought it was a nice touch."

All Saturn rear seats are split into a sixty/forty ratio, as opposed to the typical fifty/fifty. You'll be amazed how convenient this will be.

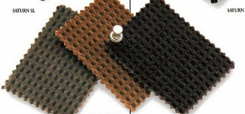
SPECIFICATIONS



SATURN SL



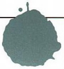
SATURN SC



SATURN SL1/SL2

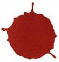
BLUE

WHITE

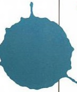


LIGHT BLUE

BLUE GREEN

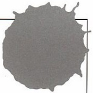


MEDIUM RED

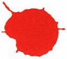


BRIGHT BLUE

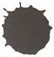
BLUE BLACK



SILVER



RED



GREY

BLACK

BEIGE

COLOR COMBINATIONS

EXTERIOR	INTERIOR			EXTERIOR
	SEDANS		COUPE	ACCENT STRIPE (SC ONLY)
	SL/SL1	SL2	SC	
White	Blue Tan	Blue Tan	Black Tan	Bright Red Gold
Silver	Blue	Blue	Black	Bright Red
Silver/Grey	—	Grey	Black	Bright Red
Grey	Grey	—	—	—

INTERIOR FEATURES (continued)

	SEDANS			COUPE
	SL	SL1	SL2	SC
Glove compartment	■	■	■	■
Front door storage pockets	■	■	■	■
Front seatback storage pockets	□	■	■	■
Coat hooks and passenger assist grips	■	■	■	■
Cargo area light and 3-way dome light (SL2, SC include delayed shut-off dome light)	■	■	■	■

ENGINE AND ELECTRICAL		
Availability	SL, SL1	SL2, SC
Engine Type	1.9-liter, SOHC, 8-valve 4-cyl.	1.9-liter, DOHC, 16-valve 4-cyl.
Horsepower (SAE Net)	85 hp @ 5000 rpm	124 hp @ 6000 rpm
Displacement	116 cu. in. (1907 cc)	116 cu. in. (1907 cc)
Torque (SAE Net)	107 ft. lbs. @ 2400 rpm	122 ft. lbs. @ 4800 rpm
Redline	5600 rpm	6500 rpm
Bore & Stroke	3.23 in. x 3.54 in. (82 mm x 90 mm)	3.23 in. x 3.54 in. (82 mm x 90 mm)
Compression Ratio	9.3:1	9.5:1
Fuel System	Fuel injection	Multi-port fuel injection
Valve Train	2 valves per cylinder, chain-driven	4 valves per cylinder, chain-driven
Engine Block	Aluminum alloy with cast-iron cylinder liners	Aluminum alloy with cast-iron cylinder liners
Cylinder Head	Aluminum alloy	Aluminum alloy
Emission System	3-way catalyst	3-way catalyst
Ignition System Alternator Battery	Distributorless electronic 12-volt, 85-amp 12-volt, 525 cold cranking amps	Distributorless electronic 12-volt, 85-amp 12-volt, 525 cold cranking amps
Recommended Fuel	87 octane unleaded regular	87 octane unleaded regular

BODY / SUSPENSION / CHASSIS	
Body Type	Steel spaceframe
Exterior Panels	Polymer bodyside panels and bumper fascias; galvanized steel hood and trunklid; steel roof
Bumpers	5-mph front and rear
Front Suspension	Independent MacPherson strut lateral link with coil springs and tubular front stabilizer bar
Rear Suspension	Independent tri-link with coil springs
Steering Type	Manual rack-and-pinion (SL); variable-effort power rack-and-pinion (SL1, SL2 & SC)
Steering Ratio	24.4:1 (SL); 18.3:1 (SL1, SL2); 16.3:1 (SC)
Steering Wheel Turns, lock-to-lock	4.0 (SL), 3.0 (SL1 & SL2); 2.7 (SC)
Turning Circles, curb-to-curb	39 ft. (SL, SL1 & SL2); 37 ft. (SC)
Braking System Front Disc Rear Drum	Dual-diagonal, power-assisted front disc / rear drum Ventilated, 9.86 in. (250.5 mm) diameter 7.87 in. (200 mm) diameter
Wheels	14" steel with full covers (SL, SL1); 15" aluminum alloy (SL2, SC)
Tires	175 / 70R14 all-season steel-belted radial (SL, SL1) 195 / 60HR15 performance steel-belted radial (SL2, SC) T115 / 70R14 steel-belted radial compact spare
Exhaust System	Stainless steel

DRIVETRAIN				
Type	Transverse front-engine / front-wheel drive, with equal length halfshafts			
Transmissions:	MANUAL		OPTIONAL AUTOMATIC	
	SL / SL1	SL2 / SC	SL / SL1	SL2 / SC
Ratios (:1) 1st	3.077	3.25	2.238	2.526
2nd	1.809	2.055	1.266	1.556
3rd	1.207	1.423	0.811	1.030
4th	0.861	1.032	0.595	0.700
5th	0.643	0.730	—	—
Final Drive	4.060	4.060	4.133	4.133

CAPACITIES		
Engine Coolant	7.0 quarts (6.6 liters)	
Engine Oil	4.0 quarts (3.8 liters)	
Fuel Tank	13.2 gallons (50.0 liters)	
EPA Estimated MPG (City / Highway) Manual Automatic	27 / 37 (SL / SL1) 26 / 35 (SL / SL1)	24 / 34 (SL2 / SC) 23 / 32 (SL2 / SC)
EPA Passenger Volume	89 cu. ft. (SL, SL1 & SL2)	76 cu. ft. (SC)
EPA Cargo Volume	12 cu. ft. (SL, SL1 & SL2)	11 cu. ft. (SC)

EXTERIOR DIMENSIONS	SEDANS	COUPE
Wheelbase	102.4 in. (2601 mm)	99.2 in. (2520 mm)
Overall Length	176.3 in. (4478 mm)	175.8 in. (4465 mm)
Overall Width	67.6 in. (1718 mm)	67.6 in. (1718 mm)
Overall Height	52.5 in. (1334 mm)	50.6 in. (1286 mm)
Track, front	56.8 in. (1443 mm)	56.8 in. (1443 mm)
Track, rear	56.0 in. (1422 mm)	56.0 in. (1422 mm)
Minimum Ground Clearance	5.00 in. (127 mm)	5.00 in. (127 mm)
Weight Distribution	61% front / 39% rear	62% front / 38% rear
Curb Weight: Manual transmission and optional air conditioning Optional automatic transmission and optional air conditioning	SL / SL1 2,322.7 lbs. (1,053.6 kg) SL2 2,413.6 lbs. (1,094.8 kg) SC 2,388.2 lbs. (1,083.3 kg) SL / SL1 2,356.5 lbs. (1,068.9 kg) SL2 2,443.6 lbs. (1,108.4 kg) SC 2,418.2 lbs. (1,096.9 kg)	

INTERIOR DIMENSIONS	SEDANS	COUPE
FRONT		
Head Room	38.5 in. (979 mm)	37.5 in. (952 mm)
Leg Room	42.5 in. (1080 mm)	42.6 in. (1081 mm)
Shoulder Room	54.3 in. (1379 mm)	53.0 in. (1346 mm)
Hip Room	51.6 in. (1311 mm)	51.3 in. (1304 mm)
REAR		
Head Room	36.3 in. (923 mm)	35.0 in. (888 mm)
Leg Room	32.6 in. (826 mm)	26.4 in. (672 mm)
Shoulder Room	54.3 in. (1380 mm)	52.8 in. (1304 mm)
Hip Room	50.7 in. (1289 mm)	49.2 in. (1251 mm)

UPDATED SERVICE INFORMATION

Saturn regularly sends its retailers useful service bulletins about Saturn products. Saturn monitors product performance in the field. We then prepare bulletins for servicing our products better. Now you can get these bulletins, too. Ask your retailer. To get ordering information, call toll-free 1-800-553-6000.

ABOUT THIS CATALOG

We have tried to make this catalog as comprehensive and factual as possible. We reserve the right, however, to make changes at any time, without notice, in prices, colors, materials, equipment, specifications, models and availability. Since some information may have been updated since the time of printing, please check with your Saturn retailer for complete details.

Beige	Tan	Tan	Tan	Bright Red
Light Blue	Blue	—	—	—
Blue	—	Blue	—	—
Bright Blue	—	—	Blue	Silver
Blue Green	—	Tan	Tan	Gold
Blue Black	—	Blue	—	—
Black	—	—	Black	Gold
Red	—	—	Black	Silver
Red / Silver	—	—	Black	Bright Red
Medium Red	Tan	Tan	—	—
Medium Red / Silver	—	Grey	—	—

ENGINEERING FEATURES	SEDANS			COUPE
	SL	SL1	SL2	SC
1.9-liter SOHC 8-valve 4-cylinder engine	■	■	☐	☐
1.9-liter DOHC 16-valve 4-cylinder engine	☐	☐	■	■
5-speed manual transmission	■	■	■	■
Electronically-controlled 4-speed automatic transmission with lockup torque converter and driver-selectable performance / normal switch	☐	🟥	🟥	🟥
Manual rack-and-pinion steering	■	☐	☐	☐
Variable-effort power rack-and-pinion steering	☐	■	■	■
Power-assisted ventilated front disc / rear drum brakes	■	■	■	■
Anti-lock Braking System (ABS) w / rear-wheel disc brakes	🟥	🟥	🟥	🟥
Sport-tuned suspension system with front and rear stabilizer bars	☐	☐	■	■
EXTERIOR FEATURES				
Dent / corrosion-resistant polymer bodyside panels	■	■	■	■
Black front & rear bumper fascias	■	■	☐	☐
Color-keyed front & rear bumper fascias	☐	☐	■	■
Tinted glass	■	■	■	■
Halogen headlights (retractable SC only)	■	■	■	■
Driver side black mirror (manual)	■	■	☐	☐
Passenger side black mirror (manual)	🟧	🟧 🟩	☐	☐
Dual color-keyed mirrors (manual)	☐	☐	■	■
Passenger side mirror (power)	☐	🟩	🟩	🟩
Full wheel covers (specific to each model)	■	■	☐	☐
15" Alloy wheels	☐	☐	■	■
Center trunklid reflector panel	☐	☐	■	☐
INTERIOR FEATURES				
Reclining front bucket seats with adjustable headrests	■	■	■	■
Driver seat with adjustable lumbar support and cushion height	☐	☐	■	■
60 / 40 split fold-down rear seatbacks	■	■	■	■
Adjustable steering column	■	■	■	■
Leather-wrapped steering wheel	☐	☐	☐	■
Full-length front console with storage and ashtrays	■	■	■	■
Rear seat center console with cupholders and storage	☐	☐	☐	■
Full cut-pile interior carpet	■	■	■	■
Full cargo area carpet	■	■	■	■
Remote hood, trunklid and fuel-filler door release	■	■	■	■
Driver side visor vanity mirror	🟧	🟧	🟧	🟧
Passenger side visor vanity mirror	■	■	■	■
Rear window defroster	■	■	■	■
Heat / ventilation system with 4-speed fan and rear seat heat ducts	■	■	■	■
Tachometer and trip odometer	■	■	■	■
Engine coolant temperature gauge	■	■	■	■
Oil-pressure gauge	☐	☐	■	■
Warning chimes for headlights-on and key-in-ignition	■	■	■	■
Two-speed wipers with three variable intermittent settings	■	■	■	■
AM / FM stereo radio with clock and four speakers	■	■	■	■
AM / FM stereo with cassette, clock and four speakers	🟥 🟧	🟥 🟧	🟥 🟧	🟥 🟧
AM / FM stereo with cassette, graphic equalizer, clock and four speakers (coaxial on factory installations)	🟥 🟧	🟥 🟧	🟥 🟧	🟥 🟧
AM / FM stereo with compact disc player, graphic equalizer, clock and four speakers (coaxial on factory installations)	🟥 🟧	🟥 🟧	🟥 🟧	🟥 🟧
Power sunroof with tilt-up feature, inner sliding shade and dual map lights	☐	🟥	🟥	🟥
Air conditioning (Prep kit required for retailer installation)	🟥 🟧	🟥 🟧	🟥 🟩	🟥 🟩
Cruise control (SL requires air conditioning prep kit and / or anti-lock brakes for retailer installation)	🟧	🟥 🟧 🟩	🟥 🟧 🟩	🟥 🟧 🟩
Power windows and door locks	☐	🟩	🟩	🟩
PACKAGES				
SL1 Package A—includes power door locks and passenger side manual mirror.	☐	🟥	☐	☐
SL1 Package B—includes power door locks, power passenger side mirror, power windows and cruise control.	☐	🟥	☐	☐
SL2 Package B—includes air conditioning, power door locks, power passenger side mirror, power windows and cruise control.	☐	☐	🟥	☐
SC Package B—includes air conditioning, power door locks, power passenger side mirror, power windows and cruise control.	☐	☐	☐	🟥

KEY ■ Standard Equipment ☐ Not Available 🟥 Factory Installed Option 🟧 Retailer Installed Accessory 🟩 Package Only

SATURN SAFETY FEATURES

OCCUPANT PROTECTION: Automatic safety belt system for driver and right front passenger including visual and audible warning system • Manual lap / shoulder safety belts, outboard rear seat positions • Manual lap safety belts, front / rear seat positions, where applicable • Energy absorbing steering column • Energy absorbing instrument panel • Energy absorbing seatback tops, front • Interlocking door latches • Side-guard door beam • Passenger-guard inside door lock handles • Inertia-locking, folding front seatbacks, two door models (manual release) • Safety armrests • Head restraints, driver and right front passenger (adjustable) • Break-away inside rearview mirrors • Security door lock and door retention components ACCIDENT AVOIDANCE: Side marker lamps and reflectors • Parking lamps that illuminate with headlamps • Four-way hazard warning flashers • Backup lamps • Center high-mounted stop lamp • Directional signal control with lane change feature (turn signal lamp) • Windshield defroster, washer and multi-speed wipers • Inside rearview mirror • Outside left rearview mirror (right mirror where applicable) • Brake system with dual master cylinder and warning light • Starter safety switch • Dual action hood latch • Low glare finish on inside windshield moldings, wiper arms and blades, metallic steering wheel surfaces • Illuminated heater and defroster controls • Tires with built-in tread wear indicators

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