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Living with your car: Safety, cost and care

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By KEN W. PURDY

In the eighty-five years the automobile has been with us, about 4,100 makes have been offered for sale. They have ranged from the Abadal, made in Barcelona in 1913, to the Zwickau, which had a run of three years in Germany beginning in 1956. There have been cars powered by compressed air, kerosene, steam, electricity and clockwork springs. They have run on two wheels, three, four, six and eight, and they have carried bodies ranging from a platform of hickory slats to hand-formed aluminum dotted with 18-karat gold stars on the outside, raw silk and ebony within.

As recently as the 1930s the choice of a new car was complicated by the number of makes available, many of them unique, quite distinct from all others. It's easier today, when we find four major manufacturers in the United States and only six in Germany, where the automobile was invented. Nevertheless, the number of models available in domestic and imported cars, and the tremendous range of optional equipment, can sometimes make it seem as if there were still 4,100 to choose from.

Too often today's buyer has a tendency to select a car on little more than whim. He buys a Stugmobile station wagon because the man next door claims to have run one for three years with almost no maintenance expense. Or he gets a Fraittistat hardtop because his wife is mad about it for unexplained reasons, and besides she reminds him that last time he promised that she could choose their next car.

The only logical way to buy a car is in consideration of the specialized use to which it will be put. The man who's going to tour Europe, no expense barred, and wants to take full advantage of the limit-free *autobahn* and *autostrada* is in the market for one of the great 150 mph *gran turismo* cars: Ferrari, Corvette, Maserati, Lamborghini, Aston-Martin, Jensen. At the other end of the stick, the oil company engineer who's just been transferred to Alaska may need a Jeep or

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a Land Rover, complete with a winch with which he can haul it out of anything it gets stuck in. The chairman of the board of a corporation who constantly entertains VIPs may specify a Cadillac Fleetwood or a Mercedes-Benz 600 Pullman and at the same time order a stripped small car for his son's senior year at college.

Most of us fall into the middle of the spectrum: we don't need an \$18,500 Ferrari or a four-wheel-drive Jeep. The common situation is probably that of the professional man in the early stage of his career who needs a good car for his wife, one in which she can reliably chauffeur the children around, run the household errands and take an occasional 100-mile trip, and, for himself, something a little less utilitarian, something with more style, but still reliable and economical.

The automobile industry is in a tremendous state of flux today because of the intrusion, the violent intrusion one might almost say, of three factors that simply did not exist in public consciousness before World War II: safety, size and pollution.

Pollution is in the hands of the federal government and the manufacturers. We know that if the internal combustion engine isn't largely pollutant free within the next decade, it will be replaced by another form of prime mover, but at the moment the i.c. engine is all we have. (However, I suspect that the Lear steam turbine is going to be significant.)

As for size, that's a matter of economics. The big car has a higher initial cost than a small car, a higher maintenance cost, burns premium gasoline and more of it. It offers more protection to occupants in a crash—provided their seat belts are fastened, of course—but a small car, well driven,

is better able to avoid certain types of accidents through sheer performance.

Federal safety standards are gradually relieving the consumer of the necessity of assaying every car separately. Major safety design features—collapsible steering posts, burst proof door latches, head rests and so on—are standard now, but there are still areas that repay individual attention. All rear-engine automobiles, for example, have a tendency to instability in crosswinds and to oversteer, or rear-end skid, in hard corners. (On European highways the warning sign *Sidewinds!* is common.) I usually recommend against rear-engine cars for women drivers for this reason.

Placement of controls is important. One U.S. luxury car has a windshield-wiper switch so small, and so awkwardly placed, that most owners take their eyes off the road to use it. It seems a small matter until you realize

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the car can travel five times its own length in the time it takes to put a squirt of water on the windshield and start the wipers. Moving this switch is worth the ten dollars or so that it costs.

A hard look at the seat rails is wise. Some adjusting latches will allow the seat to run forward on the rails under impact. If the car is to be used almost exclusively by one person, a few dollars worth of welding or bolting to lock the driver's seat permanently may be money well spent.

In the last analysis, though, safety is up to the individual. The individual

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either drives competently and carefully or he doesn't; he either observes safety precautions or he ignores them. Of the 55,000 people who will die in automobile accidents this year, 18,000 would survive if they would fasten their seat belts. The figures are shocking. We know that a driver wearing lap-and-shoulder belts can survive a 60 mph crash, but a recent study in a typical New England state showed that only one per cent bother to fasten the shoulder strap. And the sight of a three-year-old child standing up on the front seat (a hard stop from 25 mph can kill him) is still common.

In any kind of market, it's wise to shop where competition is hardest, where sellers are vying with each

other to offer the most attractive product at the lowest cost. At the moment there is heavy competition in the small car field, the so-called \$2,000 market. Here you have a wide choice among imported and domestic cars pretty well covering the whole spectrum: two- and four-door sedans, coupes, wagons, even sports cars, front- and rear-engined, air- and water-cooled, rear wheel and front wheel drive, ranging around \$2,000-\$2,500 and delivering 20 to 30 miles to the gallon of regular gasoline. The Dodge Colt, Chevrolet Vega, Ford Pinto, Toyota Corona, Datsun 510, Super VW, Plymouth Cricket, Fiat 850 and Austin America offer notable value for money in today's economy. But even though they were all designed to run in the same race, so to speak, there are differences among them that can be resolved only by examination.

Fitting the car to its purpose is the name of the game. Considering initial cost plus maintenance cost, the Volkswagen is still the cheapest new car on the American market, but it's strictly standardized. The Chevrolet Vega, on the other hand, offers a list of options that can take the cost past \$3,000 but will turn it into a luxury automobile with air conditioning and power-everything. The Vega, by the way, was chosen Car of the Year by *Motor Trend* magazine, and named the best of fourteen small cars in an exhaustive test done by *Playboy* magazine.

Vega and some others have made a strong effort to reduce cost in another way: they've tried to make the cars as simple as possible, and they provide extensive, detailed maintenance instruction books. With car repair labor costs commonly running \$8.50 an hour, that's a help.

Preventive maintenance is most important. Even though today's automobiles are not built with longevity as the prime feature, they can be made to last almost indefinitely. Any car will run like a watch for at least ten years if the owner will:

1. Try hard never to start the engine from dead cold. (Install an electric block-heater.)

2. Change the oil and filter every 2,000 miles. (Bulk oil is cheap.)

3. Begin the battle against body rust the day the car is delivered and never stop. (Most important: rustproofing *inside* doors, sills and so on, waxing of all chrome surfaces.)

Clean the car thoroughly and wax it twice a year, spring and autumn, using the best paste wax you can find. Wash it at least once a month, more often if you leave it parked in the open, exposed to sun, bird, insect or tree droppings and so on. Remember to hose off the underside, particularly if you live in snow areas where the roads are heavily sanded and salted. Automatic car-washes are useful. I usually skip the extra spray-wax treatment because it seems to vary in efficiency, good in one place, useless in another, and because I can't seem to bring myself to believe in wax that hasn't been rubbed down. (I may be a hopeless reactionary.)

In warm climates, maintenance is easier than it is in the hard winter areas, and less important. When the temperature is five degrees above zero, you have twenty-two minutes to catch the 8:11, and the car won't start, or there's been a six-inch fall of snow during the night and you can't get out of the driveway—well, times like that can drive a man berserk.

It needn't be so. The automobile is a contrary-minded device, but you can break it to your will even in winter. Just remember that the time to start preparing for winter is in September—not when the first snow is on the road.

The weakest point on an automobile is the electrical system. By far the most no-start and on-the-road breakdowns are electrical in origin. To prevent them, begin with the battery. If it's more than eighteen months old and winter is coming on, you need a new one, and there's no point in anything but a premium heavy-duty battery. At the same time, have the plugs, points, coil, condenser and ignition wiring checked. Then spray everything with an aerosol water-proofer made for the purpose. Driving in rain,

or over slushy roads, you can't keep water out of the engine compartment, and if the ignition wiring is wet, the plugs will often misfire. Condensation has the same effect. Therefore, give a good squirt with a waterproofer, and somewhere in the car keep a few folds of paper toweling plus an aerosol can of drier. This is a cationic fluid, itself a non-conductor of electricity, which gets under the water, lifts it, and disperses it into globules which quickly dry off.

You're now in pretty good shape for getting a spark to the combustion chamber, and if you don't have a fuel problem, you'll start. If you keep your car in a heated garage, you'll have a certain amount of water condensation in the gas tank, and if water freezes in the fuel line you're out of business. To safeguard against this unpleasantness, throw a can of gas drier into the tank every once in a while, say every four or five fill-ups.

Use the grade of gasoline specified in the manufacturer's manual. Unless your car is definitely a high performance model, it doesn't need super-premium fuel and you're wasting money if you buy it. Experiment. Use the lowest grade of gasoline that will deliver satisfactory mileage and knock-free performance.

All right. You now have a spark, and burnable fuel being delivered to the combustion chamber—providing the engine is turning over. Today's starter is amazingly reliable, but it has to turn the engine at a brisk rate to make it go; just barely moving it won't do. The usual reason for a slow-turning cold engine is thick oil, oil that's been congealed by cold to the consistency of heavy molasses or worse. Good multi-grade oils, those marked 10W-30 or 10W-40, reverse oil's normal behavior to a degree: they're thin when cold, for easier starting, and thick when hot, for good lubrication. You'll notice that the starter can spin a hot engine and only turn over a cold one.

An engine heater plugged into the nearest socket can be a big help in starting. Engine heaters come in various forms: some heat the oil, some heat the water. I like water heaters best. They're optional equipment on

most Detroit-made cars, or you can buy them off the shelf at auto supply stores. I think an engine heater is mandatory in severe-winter areas. It lets the car start easier, makes the heater deliver warm air sooner, and, because it insures lubrication of the cylinder walls and bearings almost instantly, increases engine longevity. A tremendous proportion of engine wear occurs in the first two or three minutes after starting. It's best to use oils marked SC/SD (medium/severe service), and for extremely heavy duty service you can use oils that are marked SE. The super-premium or racing-grade oils sound great in the ads, but unless your car is in the deluxe, high-performance category, and ordinarily runs very hard, you don't need them.

With the engine running, there's still the problem of getting out of the driveway, and staying on the road afterward. For winter driving the answer is snow tires—but studded snow tires, fore and aft—on all wheels, provided they are not illegal in your state. Most people run on rear-wheel snow tires only. This solves only about a third of the problem. Snow tires are what they say they are: good for deep snow. But for running on ice, negative. On ice I'd rather have regular-tread radial tires, but they'd be at a disadvantage in snow. The ideal is a tire equipped to handle both conditions, and that is a snow tire with studs. The deep tread will handle snow, the steel studs will handle ice, and on dry roads you won't notice the difference except in a slightly higher noise level and somewhat less adhesion going fast into a hard corner. If you think about it for a moment, you'll realize that it makes no sense to have only half the car under control, and that's the situation with snow tires on the rear wheels only.

In the last analysis, your control over your car lies in the four patches of rubber, each about as big as the palm of your hand, where the tires meet the road. One must think about this for a minute to realize how important tires are—they are very important. There are more than a hundred makes of tires on the market, so variously named, marked and classi-

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ried that learning everything about them is a career. But there are a few useful guidelines.

The tire that comes with your car is usually not a top-quality tire. It's a good serviceable tire, but it's not the best. It's probably what the trade calls a 100-level tire, on a scale on which a low-quality tire would measure 70 and a premium tire 200. It's adequate, but it won't give superior mileage and you might not be wise to drive it 90 mph for eight hours in really hot weather.

When it comes time to replace tires, my own habit is to replace all four, and with top-quality premiums. Premium tires carry more and better fabric, more and better rubber—all new, none of it "workaway" or scrap, which can be plentiful in low-grade tires—and they are made with more care. It's economical to buy from big chain or mail-order houses which sell, under different names, and at lower cost, premium tires made by famous-brand houses. If you do buy from your friendly local tire store, remember that the man is working with a twenty-five to forty-five per cent margin, and bargain with him. If he won't play, try another store.

Most car makers recommend pressures on the low side, to insure a softer ride. Using two to six pounds more may give better mileage and wear. (But in a rear-engine car remember that tire pressures are critical to handling.) Watch carefully for uneven wear patterns that tell of under- or over-inflation. (Wear on the crown, over; wear on the sides, under—or, on front tires, improper wheel alignment.) Check pressures frequently, certainly at least once a week. Keep tires clean, they'll last longer. Check the treads for stones, nails, glass. Regular rotation will pay off in longer wear.

Good tires are long-lived today. Occasionally one sees a set with 40,000 miles on them that still look sound and safe. My own rule is that at 25,000 miles they come off, no matter how good they look. I think this rule has paid off for me in safety and economy and convenience. In twenty-five years I've never had a flat on the road, and I've had exactly one blow-out: on a brand-new car just seventeen miles after I'd taken delivery!

Incidentally, you'll save money and

trouble by getting four extra wheels for the snow tires (try a junk-yard first) and leaving them permanently mounted. You can then change them yourself, instead of getting in line at the local garage after the first snowfall and paying \$10 to \$15 for the job—and again in April.

What else, for secure winter driving? In the trunk, a short shovel, a sack of sand, a pair of old warm gloves, and a tow-rope (nylon, because it has some elasticity) with sensible, easily worked metal fastenings. Inside the car, a strong flashlight with a red blinker attachment, a can of windshield-washer fluid, and an aerosol can of traction aid, a resin-based compound. Sprayed on the treads of the driving wheels, it gives a temporary increase in traction that can seem miraculous on ice or hard snow. On a hill, even with studded snows, you may need a two- or three-foot start to get going. Some makers claim their goo produces the effect of three strong men pushing; I've seen situations in which the stuff worked so well it seemed to be true.

Otherwise, winter driving is just summer driving with the hazards doubled. Remember the little things. For example, the dirty splash from a few miles on a slushy, sanded road can dramatically cut the effectiveness of your headlights. Lift a windshield wiper out of the way and wet a paper towel over the washer outlet. Clean the headlights and then take a swipe at the tail lights and the side reflectors. A couple of handfuls of clean snow work well, too. Drive more slowly in winter than you do in summer.

Winter or summer, I often remind myself of the advice of a long-haul truckdriver who had covered 500,000 miles without an accident: "Think of every other driver you see as an idiot who hates you and is going to kill you if he can." □

Ken W. Purdy is one of America's leading writers on automobiles, whose articles have appeared in magazines ranging from *Boy's Life* to *Playboy*. Among his books are *Kings of the Road*, *Bright Wheels Rolling* (with James Melton), and *All But My Life* (with Stirling Moss). Mr. Purdy wrote this article especially for *H&S Reports*.