

time. I'm only surprised at how few European manufacturers have adopted this genuinely valuable device . The Japanese have been more appreciative of its worth.

Inasmuch as a car seat can be a pain in your bottom or sinfully comfortable, as well as a direct contribution to your safety at the wheel, be as critical of this aspect of a new car as any other factor. You will probably be sitting there for a good many hours almost every day... so coddle your lumbar area, it needs all the help through life it can get.

### Chapter 3.

#### Where The Power Comes From.

Now we come to engines! What should a Lady know about engines? For that matter, what do men really know about engines? Not nearly as much as many pretend. The operating principle is simple enough but, today, largely because of the difficulties involved in meeting anti-pollution standards, all gasoline engines powering our cars have acquired such a proliferation of electronic devices, gadgets and overriding controls that no owner, regardless of sex or mechanical aptitude, can carry out enough repairs or adjustments to effectively look after the maintenance of an automobile. Nor can your friendly gas station man do much better these days. It is even difficult simply tell a mechanic what seems to have gone wrong. A modern automobile engine, with or without fuel injection, has become so complex that it can only be repaired or tuned by a dealer... and most of them have trouble doing so! More on this when we get to Diesel engines.

We Americans once would only consider huge gas hungry V8 engines, even though few of us ever utilized much of the power they were capable of producing. V8s were also supposed to be the ultimate in mechanical smoothness. However this was largely self-delusion and advertising hype. Well engineered straight sixes were every bit as smooth. Rolls-Royce made their reputation with 6 cylinder engines which I remember being as smooth and even more quiet than their current V8s. The famous

6 cylinder engines of BMW are considered to be as vibrationless and silky as any made today... with the possible exception of Jaguar's entertaining but gas guzzling V12.

The smaller and lighter cars most of us now buy and drive are almost certain to be powered by 4 or 5 cylinder engines that feel virtually as vibrationless and smooth as our remaining V8s or the new V6s and are definitely more accessible and therefore easier and less expensive to repair when necessary. Just getting at various components on the V-type engines takes a lot of time.\*

Rather than the number of cylinders, what really determines the smoothness and "driveability" of a gasoline engine today is the method of getting the fuel to the cylinders. The relatively simple old carburetor (wherein a spray of gasoline is combined with air being sucked into the engine) has been finding it increasingly difficult to meet anti-pollution standards, and the complex electronic and mechanical controls that have been added to help it do so have, unfortunately, all too often resulted in infuriating hesitation when the throttle is opened, surging at steady-speed cruising, stumbling if the throttle opening is varied only slightly, etc, etc.

Most European and Japanese car makers have by now replaced carburetors with the more expensive, more complex fuel injection systems that do, however, produce more power, slightly better fuel economy, far better cold starting and cold running while more effectively meeting American anti-pollution requirements.... and doing so without stumbling, hesitation or stalling constantly when cold. However, virtually all gasoline powered cars require expensive catalytic exhaust

\* Even more simple 3 cylinder engines, gas and Diesel, are under development by several manufacturers and some are already on the market in Japan and Europe.

systems to meet U.S. standards for exhaust emissions and will soon need this expensive exhaust system in Europe when tighter anti-pollution laws come into effect.

Which brings us to Diesel engines and the questions so many women everywhere have now to consider - "Should I buy one?", "How will I benefit from owning one?", "Can I really love a Diesel?" Well, you certainly don't have to buy a Diesel engined car inasmuch as your basic transportation needs can easily be met by any number of gasoline powered makes and models. Your automotive esthetic needs can also be filled just as well by conventional gas burning cars. It is not always easy, as driver or passenger, to tell if a car is gasoline or Diesel powered. Indeed, this is one of the reasons that Diesel cars are now so popular! In most instances a Diesel car costs more than does the same vehicle with a gasoline engine.

So why should a woman consider a Diesel? Why should anyone one buy one? Is it easier or more rewarding to love a Diesel? Are they in any way superior to the long established conventional gasoline engined cars?

They are. Very clearly and definitely in several important aspects.

#### FUEL ECONOMY.

By virtue of its basic design, utilizing very high compression, Rudolf Diesel's unique engine is much more efficient than is a gasoline engine in extracting mechanical energy from a given amount of fuel. \* Therefore, on average, a Diesel car returns 30-35% better overall mileage than will the same car when fitted with a gasoline engine. If you get 30-32 miles per gallon with your gas engined Chevette or VW Rabbit (Golf) you will likely get 40-45 mpg with the Diesel version. If you get 18mpg with your gasoline powered Buick, Cadillac or large Mercedes you can reasonably anticipate 22-24 mpg if you switch to the Diesel option. Or you could drive a Volvo 760 Turbo-charged Diesel for the same fuel cost of running a smaller gas powered Honda Accord or Dodge Omni.

This fuel itself is more energy-effective than gasoline for it contains at least 10% more heat energy as well as requiring less energy to produce it at the refinery.

Because of the almost universal use of Diesel power in the big long-haul trucks, most people think that Diesel cars are only at their best on the open road and that they are relatively uneconomical in city and suburban use. This is 100% wrong! In actual use Diesel cars best demonstrate their superior economy in stop-and-go city traffic where they can average up to 50% better mileage than an otherwise identical car with a gas engine. They do so because at idle or at a crawl a Diesel engine uses only about one fourth as much fuel as does a gasoline engine of similar power.

#### REDUCED FIRE HAZARD.

In direct contrast to highly volatile gasoline, Diesel fuel gives off virtually no vapor at normal temperatures - therefore if it is spewed onto the road or your car in an accident it will not readily ignite from sparks produced by metal scraping along the pavement or by electrical short circuits. Indeed, I have stood in a pool of Diesel fuel and thrown lighted matches into it .... where they went out as though they had fallen into water!

To reduce the liklihood of dying horribly in your car by fire is quite enough to alone swing many people toward selecti ng Diesel rather than gasoline powered cars. And rightly so.

Furthermore, the exhaust of a Diesel engine contains relatively little of the lethal carbon monoxide, so large a component of normal car exhaust and so dangerous. Diesel exhaust has a rather pungent odor, it might even make you queasy if you run your engine in a poorly ventillated garage, but it isn't likely to kill you unexpectedly while your engine idles to keep the heater going if you are stuck in a snow bank all night!

#### FEWER ENGINE TUNE-UPS.

Diesel car manufacturers make much of the fact that their engines have no spark plugs, distributor points or carburetors that need periodic attention or replacement. True enough. But a Diesel engine does have a complex and expensive fuel injection pump, an injector unit at each cylinder, and a glow plug at each cylinder (for use when starting from cold). These components cannot be serviced at any gas station and I used to worry about that, especially when my wife had a Diesel on a long trip. However, these various elements of the Diesel fuel injection system are made to exceptionally

high standards and, if fuel filters are replaced according to factory instructions, will usually run for 50,000 to 80,000 miles (or even more) without needing attention.

We must accept that we can no longer depend upon the cheerful boys at the corner gas station to diagnose and cure the problems we can now have with current gasoline engines equipped with either true fuel injection or electronically monitored carburetors and ignition. They can change a spark plug but that's about it. Furthermore, those less robust but more complex gasoline engine fuel injection components are more likely to give hard-to-solve trouble than is the simple, sturdy, mechanical automotive Diesel injection system, which is basically the same as found in the big truck engines reknowned for their reliability and long life.

Having no spark plugs or high voltage ignition system, a Diesel engine cannot be put out of action by water splashed over it from puddles on the highway hit at high speed or when crawling along flooded roads in two feet of water where dozens of gas engined cars are already stalled.

#### DRIVEABILITY.

This is what some Diesel cars were considered not to have only a few years ago. That is, engines idled roughly, lacked adequate power and response, were objectionably noisy, were slow or hard to start when cold, and often were difficult to shift smoothly. I, myself, passed up buying a Diesel in 1972 for most of these reasons.

But after driving the early Oldsmobile V8 and the VW 4 cylinder Diesel cars in 1977, I realized that Diesels had improved so much that they could easily meet the needs and driving habits of nearly all Americans as well as Europeans. So I ordered one and began the four years of research and test driving of various other Diesels that resulted in my Diesel Car Book of 1982, a comprehensive compendium of advice and guidance for anyone considering the aquisition of a Diesel car.

Long before I went on to rack up my present total of 7 years and over 300,000 miles with 86 test vehicles, I suspected that most modern Diesel cars were not only equalling gas engine driveability but that some were probably exceeding it. So, with this in mind, a number of gasoline engined cars, domestic and foreign, large and small, were recently test-driven

along with examples of current Diesel cars, by myself, Mary Barlow, Monica Mason and other Ladies who test-drive vehicles for the Diesel Car Books. We concluded that many Diesels did, indeed, have superior driveability. Especially in the matter of starting on a chilly morning, idling without stalling and then be driven off without spitting, hesitation bucking. We found that even on warm mornings some gasoline engined cars, despite the automatic chokes and fast idle mechanism of their carburetors, often tended to stall as the shifter was eased into reverse to get out of the car port (and do it more than once) and then gasp for breath whenever the throttle was opened before full operating temperature was approached. Cars with true fuel injection usually started perfectly, idled steadily and pulled strongly from cold.

But all Diesel cars run steadily at their normal idle speed when started and never stall when the shifter is moved into Reverse or Drive immediately. Nor do they gasp helplessly if full power is called for to get out of the way of oncoming traffic before they are fully warmed up.

Once a Diesel is running it runs ! And is ready for work.

We were also surprised and distressed by the highway driveability of some gasoline engined cars with carburetors as they were reluctant to hold a constant, steady speed; would "surge" slightly, but exasperatingly, with no change in throttle position. Some of the smaller gas engined cars with 5-speed manual transmissions could not pull their overdrive 5th as effectively and as strongly as comparable Diesels. Some gas engines would "stumble" at cruising speeds if the throttle was varied even the slightest. A couple, upon rolling toward a stop light, would at the last moment pick up speed in a mildly disconcerting way as the anti-pollution equipment came into action to provide a very fast idle for some seconds in an effort to reduce the exhaust emissions that are always increased as a gasoline engine slows down with the throttle closed to the normal idle speed setting.

In all truth, the conventional gasoline engine, to which the Diesel is always compared and usually to its disadvantage, isn't so perfect after all - especially in its present form with anti-pollution devices. The odd thing is that so few automotive writers ever comment about the exasperating quirks of those engines but are so devastated to discover that Diesel engines require a few seconds use of their glow plugs in the morning and don't

do 0 to 60 mph in 8.5 seconds.

Diesel engines need and have virtually no anti-pollution devices and always respond to movements of the "gas" pedal exactly as the driver intends and expects - never hesitating, gasping or surging, regardless of engine temperature.

Neither do Diesel engines stall if braked hard at traffic lights on a hot day, as will gas engines at times. Nor is there any difficulty restarting a hot Diesel a few minutes after it has been shut off. This is all too often a distressing problem with conventional cars stalled or shut off when hot; for then the highly volatile gasoline in the carburetors almost boils (may actually do so), expands and gives off excessive vapor to "flood" the engine and make restarting impossible unless the throttle is held wide open as the starter cranks the engine around long enough to expell this overly rich mixture with a roar and a sudden cloud of black smoke that would euset the EPA for the rest of the day if they knew about it.

As I said, hot Diesels invariably restart instantly and run steadily at idle speed with no need to touch the throttle pedal.

To sum up some of the Diesel car's many real virtues -

1. They not only give 30 to 50% better mileage than do comparable gasoline engined models but do it on their more energy-effective fuel that is usually available at a lower cost than is the unleaded gas that is required by all new conventional automobile engines in the United States.
2. Diesel fuel is much safer than gasoline, being far, far less of a fire hazard and producing little of the deadly carbon monoxide fumes that kill so many people each year.
3. Surprisingly, Diesel engines are now less complex than are many current gasoline engines and do, indeed, have less need for constant tuning and adjusting. They are also impervious to water being splashed into the engine compartment.
4. Most Diesel cars are now as pleasing to drive in city traffic or on the open highway as are gasoline powered ones. Sometimes more so. Almost always have better driveability right after starting from cold.

Does it not sound as though a Diesel car is, indeed, the Ideal Companion For The Highways Of Life? The Car Of Your Dreams?

## Chapter 4.

DIESEL DRAWBACKS - ARE THEY REAL OR IMAGINARY?

Has a Diesel car no character defects? Is it as perfect as it seems to be so far? Let us examine those qualities that are often pointed out as being less than desirable and see if they are real or figments of ignorance.

1. Diesel fuel is hard to find.

This is now a purely imaginary difficulty, although it was unquestionably something to be concerned about a few years ago when this fuel was used only by trucks and virtually no ordinary gas station had a Diesel pump. Today it seems that at least half the Gulf stations have a sign out saying "AUTO DIESEL". Texaco and ARCO, too, are likely to carry Diesel. Almost every small town has one Diesel pump. Interstate highways have Diesel at every Service Area. Other main highways usually have large "Truck Stop" stations every 30 to 50 miles. Remember, as your Diesel car will travel a third farther on a tankful than it would if running on gasoline, you don't have to refuel quite as often.

But don't blythly run out of Diesel fuel as the resulting air in the injection pump and lines can make restarting rather difficult with some cars. But more and more Diesels are being made so they will purge the air from their lines just by cranking the engine around on the starter. Most of the others have a little plunger on the fuel filter that can be easily utilized to clear the air from the lines if necessary. I doubt that any Diesel now in production needs to have the injection lines loosened to purge the air and then retightened.

Only once in nearly a third of a million miles of test-driving Diesels have any of us come close to running out of fuel. During the last oil crisis a 5 gallon can of Diesel #2 was carried in the Cutlass station wagon but no one ever had recourse to it. While there were hundred-car lines at most gas stations in the East we always rolled up to truck stations and, without a wait, took on all the Diesel needed to fill up.

Yes, I know you havent seen a gas line in years , but you almost surely will when there is a new war in the Middle East or OPEC flexes its muscles again. Then if you own one you will be thanking your lucky stars for your foresight in going Diesel.



## 2. Diesel cars stink of Diesel fuel.

Not so. Diesel fuel itself does have a strong and somewhat pungent odor but we have never had the smell of it in any of the many test cars unless some was spilled upon our clothes - which is also a way to bring the not very agreeable scent of gasoline into your car.

Smelly fuel, gas or Diesel, is obviously not a problem if the station attendant fills your tank; though if you prefer to save at the "Self Serve" pumps you certainly should wash your hands before driving off. But one usually does that after filling up with gasoline as one's hands tend to get somewhat grimy just from handling the hose and undoing the filler cap, even if fuel is not spilled on them. Besides, doesn't everyone in the car pay a visit to the restrooms at a refueling stop and, I trust, wash their hands?

It has been suggested that we keep a pair of rubber or plastic gloves in the car trunk for use when taking on Diesel. While they may keep fuel off your hands, gloves will then introduce its odor into the trunk and eventually into the entire car. A dumb idea. Best wash your hands or have "Full Service" fill your tank.

But even the occasional scent of Diesel fuel on your hands is a small price to pay for that 30-50% better mileage... think of it as the sweet smell of unspent money! And never forget that that less odoriferous other fuel is much more likely to burn you to a crisp if your car is hit hard in the rear and fuel is spilled all over it and the road.

## 3. Diesel cars are noisy .

Not really true. Diesel engines are basically noisier than are gasoline engines but that characteristic "Diesel knock" is mainly heard outside the car. Most of the cars powered by Doktor Diesel's fuel saving engine are no less quiet than those with gas engines at all normal urban and highway speeds. It is only at idle or very slow speed that the engine can be heard even faintly inside most Diesel cars. At highway cruising speed wind and "road noise" is almost always louder than the engines of either gas or Diesel cars. Remember, that characteristic Diesel clatter is always much louder for the first minute or two when starting up from cold, diminishing steadily as the engine nears operating temperature - which

Diesels do more quickly than do gasoline engines.

This is not to suggest that all Diesel cars are equally quiet. No more than all gasoline powered cars are equally quiet and refined, for they are not. A normal gas engined VW Rabbit (Golf) is not as quiet as a BMW. Nor is a Diesel VW as quiet as a Diesel Mercedes or Peugeot. A Diesel Chevette is not as quiet as a big <sup>Diesel</sup> Oldsmobile or Cadillac. But within its class and price range, almost any Diesel car will satisfy potential owners. Few car buyers will be put off by the engine noise of a Diesel car if they make their evaluation from behind the wheel with the engine warmed up and the car on the road.

4. Diesel cars are sluggish, dull and simply no fun at all to drive.

This was unquestionably true when Mercedes-Benz first introduced their 260D at the Berlin Auto Show in 1936. This first Diesel passenger car to go into production needed - get this - 51.7 seconds to reach 50 miles per hour! "Sluggish" was, indeed, a fair description of its performance. But that was almost 50 years ago. Today the big turbocharged Mercedes Diesel sedans and station wagons do 0 to 60 mph in 12.5 to 13 seconds... with an automatic transmission. The stick shift Volvo 760 turbo-Diesel manages 0-60 in 11.8 seconds. A Diesel VW does 0-60 in 17 seconds; in 13.3 to 14 seconds turbocharged.

Every Diesel car on the U.S. market today, including the non-turbocharged models, has a higher top speed and a quicker 0-60 time than did that greatest fun car of all time, the car that converted America to an appreciation of sports cars..... the TC MG!

Granted that there is as yet no Diesel Ferrari (although there are Diesel Alfa Romeos) and no Diesel powered production sedan or coupe has a top speed of 140-160 mph, or can do 0-60 in 6 or 7 seconds, as can such super cars as Corvette, Porsche, Jaguar, Aston Martin, Lamborghini, BMW, Lotus or Maserati. But neither do the cars 99.9% of us drive have anything like this performance. We modern motorists (males certainly) have been beguiled and corrupted by car magazine road testers exclaiming over those acceleration times of 0-60 in 6 seconds and top speeds of around 150 mph - neither of which is practical to sample even once in a while in normal usage. Indeed, few people ever want to passenger in a car leaving a stop

light at a 0-60 in 6 seconds rate with the tires smoking and squealing, or to drive at 140 mph on even a completely deserted highway. No, a useable yet still interesting and entertaining level of performance is more in the range of a top speed of 95 to 115 mph and 0 to 60 in 10 to 13 seconds. Several current Diesel cars are already in this performance bracket.

Remember, many of the most famous performance cars of that great automotive period just before WW11, cars we all longed to own or just to drive for an hour of so, had no higher top speed or faster acceleration than the present turbo-Diesels of Mercedes-Benz, Volvo, BMW, Citroen or Alfa Romeo that we can buy right now.... with the turbo-Diesels of Audi, Rover, Peugeot, Toyota not far behind. Even the normally aspirated (non-turbocharged) Diesels of General Motors, Isuzu, VW, Datsun, Ford, Renault, Opel, FIAT and Citroen will provide the sort of performance most people actually utilize - even those owners of the big gasoline engined cars still available. Most drivers leave a stop light at a 0-60 rate of 16 to 25 seconds, not 10 seconds. Or even 13.

My 1979 Cutlass Diesel station wagon with the 5.7 litre General Motors Diesel engine, has a 0-60 time of 13.5 seconds which is not far off the 13.2 time of the spectacular front wheel drive Cord V8 I owned in 1938. A car that not only satisfied car lovers of the day - it thrilled us!

The best performing turbo-Diesel cars now available are thoroughly enjoyable and entertaining motor cars. Even the normally aspirated Diesels of a few years ago (doing 0-60 in 20-22 seconds) must have pleased and satisfied their owners for they were usually traded on another Diesel, not for a higher performance gas engined model.

Today, a Lady can almost certainly find a Diesel car that meets her requirements for performance among a wide range of makes and models.

##### 5. Diesel cars are slow to start and almost impossible to get going in winter.

It used to take up to a minute or longer for the glow plugs of a Diesel car to heat up sufficiently to start a cold engine. But in 1980 General Motors introduced the 7 to 10 second glow plugs and now some Diesels have 2 second ones! You can't even get your seat belt fastened before your Diesel is ready to start. Actually, glow plugs are only needed when start-

ing from cold. Once a Diesel engine has been run it retains some heat even several hours after being parked, and it will then restart without waiting (even 2 seconds).

But a Diesel engine can be difficult to start and reluctant to run in very cold, near-zero (Fahrenheit) conditions if some simple precautions are not taken. Mainly we must use suitable "winter" fuel at temperatures below 15° F, because at this point normal Diesel #2 will begin to form wax crystals that can clog the fuel filter, restricting the flow of fuel and soon bring the car to a stop. But there are two ways of preventing this situation from developing. First there is Diesel #1, a winter fuel that will function well below zero F. Diesel #2 is also widely sold in a winterized form, having had kerosene added by the distributors. If necessary, we can make our own winter fuel simply by adding 20 to 50% kerosene to regular Diesel #2. The second step is to have your Diesel car fitted with a fuel line heater. Some cars come with one. General Motors have this, as well as an engine block heater, available as a low cost extra. Don't leave home without them! At least not if you are going to Aunt Mildred's house in Iowa for Christmas.

Of course no engine, gas or Diesel, will start in very cold weather if the starter cannot crank it fast enough to bring the pistons up on compression very smartly. This is especially vital with Diesels so it is important to use the correct low-drag winter engine oil and to be sure the battery doesn't get partially run down.

Diesel trucks, busses and farm equipment operate all winter in our Northern States and Canada (even Alaska) and so can our Diesel cars. In Canada almost every gasoline powered car has a block heater and motels and private homes have outside electrical outlets into which the cord for these block heaters can be plugged. A Diesel asks little more.

6. Some Diesel cars are less reliable than gas engined ones.

True, one recent Diesel engine has had a quite bad record of problems. Unfortunately, and unfairly, this example has cast a cloud upon the reputation of all Diesels. The situation arose from the early 5.7 litre V8 Diesel of General Motors, 1977 to 1980. It was an exceptionally fine performing Diesel but as the miles accumulated was soon subject to head gasket failure, excessive oil leakage, some injection pump problems and,

worst of all, occasional crankshaft breakage which results in a broken engine block as well. Understandably, there were a lot of distinctly unhappy owners of those GM V8 Diesels when this happened out of warranty, as was usually the case. The factory did, in many instances, bear part of the cost of repairs but there was also considerable litigation.

Virtually all these difficulties came about because this Diesel engine was derived from a gasoline unit and manufactured to gasoline engine standards and tolerances. Material and manufacturing changes after 1980 greatly improved the reliability of these engines but, regrettably, the damage to the reputation of the GM Diesels had already been done and sales of even the excellent new V6 Diesel (designed as a Diesel and built to Diesel standards in a special factory) have been adversely affected.

However, in 1983 General Motors instituted a 3-year 50,000 mile warranty on all their Diesel cars which should be going some way to restoring customer confidence in them. They deserve to become popular again for they have outstanding driveability, pleasing performance and commendable economy. The owners who experienced no serious trouble simply loved these Diesels.

Mercedes Diesels, even the lowest priced ones widely used throughout Europe for taxi service, have demonstrated impressive reliability over the years and are directly responsible for both the myth and the reality of the economy and long life of the automotive Diesel engine.

The myth is everlasting life, or at least 500,000 miles before an overhaul is needed! Even the reality is pretty impressive - at least 30% better mileage than a comparable car with a gas engine and something like 200,000 miles of life for the engine. Made possible because these engines have been designed as Diesels and manufactured to very high standards.

Though not as long in the field with production Diesel cars, Peugeot's engines are, like those of Mercedes and Alfa Romeo true Diesels and not derived from an existing gasoline unit and, therefore, have also earned an enviable reputation for reliability and long life.

Although VW and Audi Diesel were developed from their sturdy gasoline engines, German engineering thoroughness and production line quality

control have saved them from suffering the many problems that afflicted the early GM V8 Diesels. Even so, VW also had some difficulties with cylinder head cracks and warpage and the resulting head gasket failure. Customer faith in VW Diesels was largely retained because the problems were not catastrophic, have been eliminated and because of the factory's liberal interpretation of their warranty coverage.

Alfa Romeo cars with the optional Diesel engine are powered by what are surely the world's best automotive Diesels yet. These VM engines were not only designed as rugged, long life Diesels but were conceived as turbo-charged units and have many features that are not even to be found in heavy duty truck engines. These Diesels also uphold the unique Alfa Romeo sporting image.

London's very special taxis have for many years been Diesel powered (like London busses) simply because the fleet operators found these engines to not only give a third better fuel consumption but to run twice the miles between overhauls. They went Diesel for better profitability, not because they liked the sound of those engines!

No mechanical devices are 100% trouble-free, not even exceedingly costly aircraft engines, but well designed and properly constructed automotive Diesels should, can and do outlive their gasoline counterparts. That is why the taxi companies of Europe (now starting here, too) run Diesels in preference to cheaper gasoline powered cars. It means money in the bank.

But I cannot guarantee that you will never have a problem with your Diesel - just as I could not assure you of never having some sort of engine failure with a gasoline powered Rolls-Royce, Mercedes or Cadillac.

Overall, Diesel reliability and long life is a fact, not a myth.

#### 7. Aren't Diesels the worst of all automotive polluters?

Far from it. Diesel car exhaust contains much less carbon monoxide, the most deadly component of exhaust emissions, than does the exhaust of gasoline engines - despite the latter's complex and expensive anti-pollution devices including the costly catalytic converter exhaust systems that can be rendered inoperative with only a tank or two of leaded fuel.

Burned and unburned hydrocarbons are about the same with both types of

engines. The Diesel does have trouble meeting the latest EPA standards for nitrous oxide emissions; which are now widely held to be illogically stringent, considering the benefits we get. We pay through increased fuel consumption and greater manufacturing costs with both gasoline and Diesel engines for this ill-advised final stage of those EPA requirements. There are jokes in California about the exhaust of cars next year being cleaner than the air they suck in!

Diesel exhaust, especially the white smoke produced on a cold morning as an engine starts up, has a strong odor and looks as if it might be unhealthy to breathe, but research has failed to detect a serious hazard even for mechanics working in ill ventilated bus maintenance facilities. The occasionally sooty exhaust of some Diesels is mainly made up of material representing no threat to our health, but there are also some too-small-to-be-seen carbon particles that may be carcinogenic. However, ongoing research has not yet (after some years) confirmed these suspicions. In lower amounts, these particulates are also present in the exhaust of gasoline engines. (See box on facing page).

In any event, the lives of far more people will be saved because of the greatly reduced fire hazard and low carbon monoxide emissions of Diesel engines than will ever die because of the particulates in the exhaust of these cars.

It is quite probable that road dust swirled up by winds and passing vehicles also contains sand and other possibly dangerous "particulates" that also "might" prove a health hazard .... if one spent most of one's life breathing deeply in the wake of a tractor-trailer unit cruising at high speed! Nevertheless, California seems determined to insist upon limits of particulates emitted by Diesel cars (but not trucks!) that can not be met, all the while ignoring the proven life saving aspects of Diesel fuel and engines.

In the emissions that really matter, Diesel cars are not polluting as much as do gasoline engines, jet aircraft... and cigarettes.

To sum up briefly those real and imaginary drawbacks to owning a Diesel car -

1. Even though not every gas station has a Diesel pump, their numbers are steadily increasing. Finding Diesel fuel is not a problem.
2. Diesel cars do not smell of the fuel they use but you will usually

want to wash your hands after handling the hose and nozzle when refueling and you certainly must if you spill fuel on them... as you would with gasoline. Hardly a problem.

3.Noise. Bear in mind, although Diesel engines are inherently somewhat more noisy than are gasoline engines (primarily at idle), this sound is rarely disturbing inside a car. Not a very serious drawback to owning a Diesel car.

4. Performance. If you are used to smoking and squealing your tires as you leave a stoplight or stop sign, you might well find Diesel cars not quite up to your requirements. However, most drivers are quite pleased with the acceleration and top speed of even normal, non-turbocharged Diesel cars. Few women will demand a higher performance than they will find available in one or another of the various Diesels.

5. Winter problems. Severe cold is only a problem if a couple of simple precautions are ignored. I have ridden in Diesel taxis in Helsinki in December. Diesel trucks and busses run all winter throughout the world. It occasionally gets down to 10-15° below zero Fahrenheit where I live and I've had no more trouble starting Diesel cars over the years than gasoline powered ones. Cold is only a problem for your Diesel if you let it become one.

6. Reliability. Big, heavy, slow running Diesel truck, marine and industrial engines do run 300,000 miles (or the equivalent revolutions) between rebuilds. Lighter, faster revving, less costly automotive Diesels will not likely last that long before needing a major overhaul. Nevertheless, the superiority of most Diesels in hard use has been established by those who use them only because it is profitable to do so. Of course some Diesels are more reliable and longer lived than others and this will be considered when we come to discussing specific cars in the road test chapter.

7. Diesel cars pollute. They do sometimes smoke a bit more than gasoline powered vehicles but actually emit less of the really dangerous compounds. A little smoke doesn't harm us.... carbon monoxide can and does kill motorists in quite some numbers every year. A ruptured fuel tank containing gasoline can turn our car into a fireball instantly... Diesel fuel is very unlikely to ignite.



So it comes down to only two factors that might seem undesirable to a Lady Motorist considering a Diesel car....less acceleration and power for passing on a grade with some Diesels , a bit of white smoke for a few seconds and a couple of minutes of a noisy idle when starting up from cold in the morning. Two characteristics that a prospective buyer of a Diesel car can easily determine for herself if they constitute valid drawbacks to having a Loving Relationship with a Diesel. It might take no more than a 30 minute test-drive, but you might want to have the use of a demonstrator for a whole day and I certainly recommend this. A not unreasonable request by a Lady wanting to come to terms with a strange new vehicle.

## Chapter 5.

### HOW MUCH CAN A LADY SAVE BY DRIVING A DIESEL?

Perhaps the matter of true Diesel economy needs to be discussed both in greater detail and in broader terms as it is the main reason most people give for considering one of these cars. It is also a matter often in dispute.

It is sometimes claimed that gasoline is actually cheaper than Diesel fuel. Not so! Only regular grade leaded gasoline costs less, but this fuel should not be compared to Diesel because it cannot be legally or safely used in any current U.S. automobile engines. These must be run on unleaded gasoline to protect their catalytic exhaust systems. And unleaded gas is basically about three cents more expensive than Diesel fuel. Some new cars need Premium unleaded and this is priced well above what we should pay for Diesel.

primarily

Diesel economy does not derive/derive from the price of fuel, which is always subject to change, but from the 30-50% better mileage that we always get. Slightly cheaper fuel is just the icing on our Diesel cake here in the U.S. I'm surprised that so many English motoring journalists so often comment that with Derv (Diesel fuel) costing the same as petrol there isn't much saving in going Diesel... completely dismissing that 30-50% better mileage and the fact that London taxi operators and British truck and bus lines find it highly advantageous to run Diesels. Diesel economy is a fact... world wide! Even when we deduct the extra cost of somewhat more

frequent oil and filter changes required by some, but not all, Diesel cars.

However, the point is often raised as to whether or not this reduction in fuel expenditure can actually offset the extra cost of the Diesel engine option. Diesel engines for trucks, boats and industrial equipment also cost more than their gasoline burning equivalents, much more, yet Diesel engines are the almost universal choice of the operators of truck lines, fishing boats, pleasure yachts, bus lines, earth moving equipment and farm tractors. Except for the yachtsmen and fishing boat operators who are also influenced by the greatly reduced fire hazard of Diesel fuel, all these people use Diesels only because it costs less overall to do so. When gasoline prices in the United States fell to nearly \$1.00 a gallon in 1982-83, many car buyers thought there was no longer an advantage in owning a Diesel; quite ignoring the fact that the one third better mileage of these cars still saved an owner at least 30 cents on every gallon purchased! We should not forget that the almost complete switch from gas to Diesel by the industrial and commercial operators took place at a time when the cost of both fuels here in the U.S. was only 20 to 35 cents per gallon and the savings a mere 6 to 10 cents per gallon! When fuel prices here reach \$2.00 a gallon the effective saving will be a whopping 60 cents on every gallon we pump. A bit more if Diesel can be had for a few cents a gallon less than gasoline in your area. Assuredly, \$2.00 a gallon fuel for U.S. motorists is inevitable, despite the 1982 drop in prices, for by 1983 they were steadily edging upward again. However, \$2.00 gasoline will not arrive here a penny at a time, it will almost certainly be upon us over night in one big jump when Congress realizes that a 50 cent per gallon tax is absolutely necessary to pay for maintaining our highways and rebuilding our thousands of over-age and increasingly dangerous bridges.

But how long will it take for a Lady to recoup the extra cost of a Diesel

version of a car she fancies through reduced fuel expenditures? Obviously this depends upon the cost of the Diesel engine option in the car she has selected, the price differential between Diesel fuel and gasoline in her area or country and the mileage she gets with her Diesel car compared with what she would get if it ran on gasoline. Some owners in the United States or Canada can recover their Diesel engine cost in 20,000 miles, some need 35,000 miles. Others may require as much as 60,000 miles today. In France or Italy it may take only about 12,000 miles or 20,000 kilometers because of the lower cost of Diesel fuel compared to gasoline.

Mercedes-Benz cars cost no more with a Diesel than with a gasoline engine, even less in Europe... so M-B owners save 30% on every litre or gallon right from their first fuel stop! Most other car makers charge \$300 to \$1200 more for a Diesel version. A turbocharged model may cost \$1,000 to \$2,000 on top of that.

Critics of the Diesel car (there are some!) are quick to point out that it might well take several years or at least 60,000 miles to recover the extra cost of a turbocharged Diesel engine, although they always fail to mention that it is never possible to recoup a single penny of the extra cost of a turbocharged gasoline engined car no matter how far it is driven, simply because it uses more and not less fuel than the standard engine it replaced. The sole benefit to be derived from the extra-cost turbocharged gas engine is its enhanced performance.... but often at the risk of some horrendous tuning and carbureton problems.

Turbocharged Diesels, on the other hand, also deliver more power and better performance but do so with no loss of economy and sometimes even slight improvement in mileage! Turbocharging a Diesel is quite different from turbocharging a gasoline engine. The former breaths in only air but the latter requires a delicately balanced but constantly varying mixture of air and gasoline

which, if only a little too lean or fired by a too-advanced spark, can almost instantly produce a rise in heat and pressure within the cylinders that can result in the need for a major overhaul. Diesels, turbocharged and non-turbo, breathe in only air and then just the amount of fuel needed to produce the power being called for by the driver is injected into the cylinder or combustion area. There is never a "mixture" that can be too lean. If more fuel is injected than can be burned at any time, no harm is done to the engine although the exhaust will get excessively smoky.

There is clearly a double standard used by those denigrators of the Diesel car who maintain that the extra cost of a Diesel VW, a Diesel Peugeot, a Diesel Rover, Oldsmobile or Ford ought to be recouped in relatively short order. They never seem to admit that we buy an extra cost, high performance, gas engined VW GTI instead of a cheaper Chevette, a Cadillac Seville rather than a less expensive Buick Riviera, an Alfa Romeo instead of a FIAT for reasons having nothing to do with economy or "getting our money back". We pay as much for air conditioning as for many Diesel options but no one expects "air" to pay for itself! The same applies to a set of expensive mag wheels or a \$600 stereo tape unit that adds to the appearance of a car or to our pleasure of being in it but without saving us a dime or contributing to our safety. A Diesel engine enhances the practical worth of a car and even our enjoyment of it as well as making possible that peace of mind that comes from knowing that we, our friends or family members are unlikely to die a fiery death in an accident.

Because of its manifest overall virtues, we shouldn't even be concerned about any operational savings it might provide. That the Diesel engine does actually lead to savings that eventually returns its cost somewhere between 12,000 and 60,000 miles down the road should be looked upon as the economic miracle of our time!

One further point about that one third better mileage - even if you buy a fairly large and expensive Diesel Cadillac, Buick, Volvo 760, Lincoln, Audi, BMW, Citroen, Rover, or Mercedes-Benz and don't give a damn what your fuel costs or savings are, you can take personal satisfaction in the enjoyment of a luxury car without driving a real gas guzzler. Petroleum-based fuel is still a vital, non-renewable resource; a big Diesel car saves an impressive amount of it during its operational life - making you a practical conservationist whether you drive in Europe, the Americas, Japan . Even Saudi Arabia.

Despite its many virtues, no one suggests that a Diesel car is ideal for everyone. But everyone considering the purchase of a new car today ought to give serious thought to making it a Diesel.

Should a Lady buy a Diesel? Indeed she should if she wants to cut her fuel expenditures to the bone, wants a car that pulls smoothly and strongly from the moment it starts, wants a car that never stalls and needs the minimum of servicing..... and wants a car that greatly reduces the possibility of asphyxiation or a most unpleasant death by fire.

Can a Lady love a Diesel? Can a Lady love a motor car? If she can she can surely love one with a Diesel engine.

## Chapter 6.

ROAD TESTS - WHICH DIESEL FOR WHICH LADY ?

The following road tests and evaluations of almost all Diesel cars currently in production are here to assist you in deciding upon a specific make and model. A car we hope will meet your needs as reliable and economical transportation as well as being a motor car that you can truly love... a fine and entertaining companion for the highways of your life.

But we cannot flatly say, "Buy this one", or, "Buy that one", because, although we know quite a bit about each of these cars, we do not know anything about you. The best we can do is guide you with information on the "Diesel" aspects of each of these cars, although we won't ignore various other qualities that have impressed us and which we think you might want to take into consideration or look for when you try out cars before buying.

We do not deal extensively with EPA mileage figures simply because, even after all these years of spending the public's money, they still do not provide very realistic data. Why tax dollars continue to be spent to produce admittedly inaccurate fuel consumption figures while cutting down on school kid's lunch support or Medicare is hard to understand. Millions of dollars would be saved by letting the public judge cars by the reports and road tests in the many independent automotive journals whose figures have always been much nearer to those that owners get in actual use.

Even the manufacturer's own figures would be preferable, for if they would be blatantly false and misleading we could sue them. Now they dispense those false and misleading EPA figures about which we can do nothing!

In fact, it is quite impossible to come up with accurate fuel consumption figures for every make and model of car in use in all circumstances. But

right from the start the EPA figures for miles per gallon were so wildly optimistic that the agency lost all credibility among people who actually drove real cars on the streets and highways of the real world. Recently, long overdue changes in test procedures have improved matters somewhat; nevertheless, very few drivers will ever obtain the mileage figures these bureaucrats so blythly offer us each year.

But for some strange reason, cars with Diesel engines come nearer to meeting their figures than do those with gasoline engines!

Our figures for fuel consumption on the highway are given for normal Interstate cruising speeds of 60-70 mph - as most people use them, despite the unreasonable 55 miles per hour National speed limit. If you find it possible to drive at 55 you will get slightly better figures than we quote. However, fuel is effectively saved, not by that unrealistic speed limit, but by our use of smaller, lighter more fuel-efficient cars - and by Diesels. As we did, you will get close to 30 miles per gallon at 60-70 driving a large luxury car which is Diesel powered, but will get appreciably less mileage than that even at 55 with a similar gas engined model.

Our second mileage figures are based upon "surburban" use which includes some town traffic, shopping, taking kids to school, idling at a few stop lights and some driving on rural and mountain roads. You will almost certainly get slightly lower mileage in a large city with lots of stop lights and true bumper-to-bumper traffic conditions. But no matter what mileage you get with a Diesel car in such circumstances, it is far better than you could manage with a gas engined version of your car, for these are conditions in which a Diesel can be up to 50% more fuel efficient.

We fear that too much importance is often attached to the 0 to 60 mph

acceleration times even though they are an accurate indication of that aspect of a car's performance and ought to be a useful means of comparing different vehicles. Yet in many instances it doesn't seem to work out that way. Quite often it is the perceived performance that should be given the most weight. You should select the Diesel car that you most enjoy driving, even though its 0-60 time may be a second or two longer than another car you are considering. It is strange (but very true) that sometimes a car slower by the stopwatch feels livelier than a quicker competitor. Remember, the seat of your pants is always with you but you rarely drive with a stopwatch in one hand!

However, good acceleration is only one of a car's performance characteristics to consider. A quiet cruising speed that suits your highway driving habits is absolutely vital. If you do a lot of miles on <sup>Autoroutes,</sup> Interstates, Motorways, Autostradas or Autobahnen at an entertaining speed and there is so much engine and/or road and wind noise that it interferes with normal conversation between driver and passenger or with your enjoyment of the radio or tapes, that is not a car for a Loving Relationship! Though it might be a quite suitable car for a Lady who cruises at a somewhat reduced speed.

This is why I advise car dealers to let a potential customer try a Diesel (or any car, for that matter) for at least an hour. Better yet, for a whole day to enable her (or him) to have sufficient time to get acquainted with a new and strange vehicle under conditions approximating those in which it will mainly be used. It is unfair to both car and driver to expect a Lady who does most of her driving in the suburbs or on highways to try to decide on a strange new car by trying it for ten hectic minutes in the vicinity of a dealership located in a crowded and busy part of the city. We should only decide on a car after we have driven it as we would in our daily routine.

The top speed of a Diesel car here in the United States is not as important



as it may be to you Ladies who use the roads of Europe where you may often travel city-to-city or country-to-country on superhighways where many if not most cars are cruised at 80 to 100 miles per hour as a matter of course. In England with its unpopular 70 mph limit on the Motorways, much traffic moves at 80. Even here in the U.S. very few of us drive at 55, despite the radar traps and risk of high fines, most cars and trucks moving at 60-65 on the Interstates with some at 70-75, which used to be our speed limit on these safest of all roads.

The smaller non-turbocharged Diesel cars such as VW, Chevette, Isuzu, Ford Escort and Fiesta, Opel, FIAT, etc all have top speeds in excess of 80 mph and most of the manufacturers suggest that this can be considered to be their cruising speed. But unless such cars have an overdrive transmission they are going to be over stressed if driven flat out at maximum engine revs for mile after mile, and they will certainly be rather noisy. With an overdrive the engine speed and stress upon it is reduced appreciably and so is the sound level inside the car so that 65-70 is a pleasant cruising speed.

A larger turbocharged Diesel car such as the Peugeot 604 and 505 with a 5-speed gearbox, will cruise happily at 80+ and can run you up to almost 100, thus offering high speed cruising at level to please Lady Motorists almost anywhere in the world. The same with the turboDiesels of Alfa Romeo, Volvo, BMW, Rover, Citroen, Audi and Mercedes-Benz as they all have top speeds in the range of 105 to 115 mph and will cruise easily at 85-90 mph - fast enough even for the Lady Drivers of Europe, I suspect.

Here in the U.S., a large Diesel Cadillac, Buick, Oldsmobile or Chevrolet, having to make do with a mere 105 horsepower, will still get you more speeding tickets than you can afford to have because of its silent, effortless Interstate cruising at 70-75. The same with the GM V6 Diesel cars and the new Lincoln.