

Texaco is developing high-mileage engine

By ALAN S. LENHOFF
Free Press Automotive Writer

One of the future's most promising high-mileage automobile engines may not come from the giant research labs of the automakers. It's being developed by an oil company, Texaco Inc., which is hoping to cash in by licensing manufacturers to produce it.

Texaco says tests of its controlled combustion engine in a United Parcel Service truck have been encouraging, with 35 percent greater fuel mileage than a comparable gasoline engine (although critics say a typical car would likely have only a 20 percent improvement). But the engine



automotive engineers

can also save energy by burning fuels that require less energy to refine than unleaded gasoline.

William M. Tierney, Texaco project manager for automotive engine developments, said the engine performs better and is quieter than a diesel, should equal the durability of a gasoline engine, won't require extra maintenance and, in mass production, should cost only \$300 to \$400 more than a conventional gasoline engine.

Tierney, in Detroit for the Society of Automotive Engineers annual meeting, says the only potential problem is that the engine would need a catalytic converter if the government tightens hydrocarbon emissions standards.

But so far, the engine remains relatively untested on the road. And no automaker has shown any interest in mass-producing it.

Tierney says the automakers' lack of interest is

mainly because the public doesn't know about it, meaning there is no demand.

IN THE Texaco engine, combustion is controlled by co-ordinating fuel injection, spark ignition and air swirl to produce a lean air-fuel mixture. The system gives high fuel economy and allows the engine to burn anything from gasoline to jet aviation fuel.

Tierney says the nation should be concerned with getting "more miles to the gallon of crude oil," instead of just looking at getting high mileage from a gallon of fuel.

"... It costs the petroleum industry something like five percent of a barrel of crude to do the refining necessary to make unleaded gasoline for conventional engines," he says. "We can save that and more if an engine like ours (burning other fuels) were in substantial use in the U.S."

Texaco has worked on the engine since the early 1940s. Both Ford and GM have done research on similar engines.

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'Speak out,' engineers urged

By HUGH McCANN
News Staff Writer

A top public-relations executive is challenging America's engineers to speak up and take an active role in helping to shape the nation's public policy.

But before they say a thing, cautions Elias Buchwald, they better learn to speak English instead of "engineering-ese."

Buchwald, who holds a degree in chemical engineering, is vice-chairman of Burson-Marsteller, a New York-based agency doing business in 18 countries. He was in Detroit yesterday to address the 1981 Society of Automotive Engineers International Congress and Exposition at Cobo Hall.

"SO MANY of the problems and issues that surface today," Buchwald said, "are based on technical

matters and technical understanding. So engineers ought to speak out more than they do.

"Too much of the impetus for legislation and regulation comes from people who don't have a real understanding of technology. They tend to make simple, generalized statements of what's good or bad, of what's safe or dangerous, of what's effective or ineffective."

The problem in the past, according to Buchwald, was that when engineers did attempt to speak out, their technical terms got in the way of good communication and understanding. "The engineer doesn't speak English, he speaks 'engineering-ese,'" he added. "He forgets the necessity of trying to think through what he wants to say and translating it into words the general public — be it legislators, regulators, people who read

the newspaper — can understand."

Buchwald said that engineers can fill the great need in contemporary society for explaining highly complex issues, but traditionally they have been reluctant to do so. "Take just the simple question of what comes out of a car's tailpipe," he continued, "and what happens when it gets into the air. You talk to engineers and they'll tell you it's one of the most complex phenomena you can examine."

"SOME ENGINEERS will say: 'This is so complex, and if I make it simple, I'll be missing Factor A and Relationship B and co-relationship C. I don't want to compromise my professional standing, so I'm not going to tell you anything.'"

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Goodyear, Firestone Split On Future Demand for Tires

By RALPH E. WINTER

Staff Reporter of THE WALL STREET JOURNAL

AKRON, Ohio—The two giants of the tire industry are debating a multi-million dollar question:

Will the American motorist drive less as the price of gasoline continues to rise?

Probably not, says Goodyear Tire & Rubber Co., the nation's largest tire maker and the industry's optimist.

Yes, on the average, quite a bit less, replies Firestone Tire & Rubber Co., the No. 2 producer and, since John J. Nevin took over as president a year ago, the industry's harbinger of gloom.

These conflicting forecasts have led to sharply different business strategies. Upbeat Goodyear opened a \$216 million tire plant in Lawton, Okla., last year. Firestone closed five domestic plants last year, will close another in 1981, and has no plans for any new factories.

Others Affected —

Tire companies aren't the only ones curious about how motorists will respond to rising gasoline prices. Oil companies, auto makers, filling stations and car dealers are the most obviously affected. But the fortunes of motels, airlines, restaurants, amusement parks, highway contractors, shopping malls and hundreds of other institutions are linked to the same pattern.

For tire makers, of course, what matters most is the number of tires that drivers will wear out, or blow out, and have to replace. Replacements make up about 70% of total tire sales. In 1985, Goodyear figures American motorists will buy 138 million replacement tires. Firestone thinks the figure will be only 105 million, or 14 million fewer than last year's 119 million replacement sales.

The huge gap in the sales forecasts stems largely from the companies' differing views of how the driving habits of Americans are likely to evolve. The two tire producers agree that the total number of cars on the road will increase by 1985. But they differ on how much each car will be driven. In 1985, Goodyear predicts the average car will travel as many miles as last year. Firestone forecasts a 4% decline in mileage-per-car.

Goodyear figures all motorists will drive nearly 11% more in 1985 than they did last year, a total of 1.26 trillion miles, notwithstanding an expected doubling in the price of gasoline to \$2.56 a gallon. Firestone, on the other hand, forecasts a more modest 6.5% increase in cumulative mileage in the same five-year period.

As evidence for its bullish forecast, Goodyear points to the preceding five years. Between 1975 and 1980, gasoline prices also doubled, to \$1.26 a gallon from 60 cents, and U.S. auto mileage rose almost 10%. In the 1970-75 period, gas prices rose to 60 cents a gallon from 36 cents and cumulative mileage rose 15%.

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What often happens in such a case, Buchwald said, is that "people who are demanding solutions want instant answers to complex problems. If you tell the public: 'That's complex,' they say: 'No, that's a cop-out; you just don't want to deal with the problem.'"

The major corporations that Burson-Marsteller represents employ many engineers and scientists. For this reason, and because Buchwald is an engineer himself—he graduated from City University in New York, he feels he knows the engineering profession. He said that engineers, by temperament if not by training, tend to be doers, not speech makers. But whenever an engineer does comes along with the talent and motivation to speak out on public issues, usually his boss doesn't encourage him.

Buchwald continued: "We run into a number of companies which say: 'Hell, we pay these guys to make and do and design; I don't want them wasting their time making speeches.' But I think, from the standpoint of the public's welfare and those companies' welfare, it's desirable that their technical people be given an opportunity to speak out."

"THE FACT OF the matter is that management has got to give their technical people the opportunity to get the kind of training that will enable them to speak out effectively, and give them the opportunity to speak out."

"I think the public has respect for engineering people. And when an engineer says: 'Hey, wait a minute, let me tell you,' they're willing to listen."

But if engineers speak out effectively, will nontechnical people be able to understand?

"Well, it sure as hell isn't working this way," he said. "Are we better or worse off for making the attempt? I think it can work. The country, in general, has the highest level of education it has ever had. It is much more receptive."

"Take a look at the proliferation of science magazines. There's a market out there that wasn't there 15 or 20 years ago."

Goodyear is also convinced the typical American motorist won't be scared off the highway by higher gasoline prices because he'll be driving an increasingly fuel-efficient car. Federal law requires 1985-model U.S.-made cars to average at least 27.5 miles per gallon, compared with 20 miles per gallon for 1980 models.

But greater fuel economy inevitably means a smaller car. Mr. Nevin, who was recruited from his post as chairman and chief executive of Zenith Radio Corp. to bring new leadership to Firestone, thinks less-roomy cars will equal fewer driving miles. "Small cars won't be acceptable for many families for long-distance vacation

travel," he says. Rather than cramming the family into a subcompact, they'll fly to Disney World and other vacation spots, he says.

Not likely, says Rob Loughridge, Goodyear's director of economic and strategic planning. "The expense and inconvenience of alternate vacation travel are just as formidable as putting the family in a smaller car." Air fares are soaring, partly because jet fuel prices climb right along with gasoline prices, he says. Also, airlines have dropped many routes, making trips to some destinations more complicated.

Nor is Goodyear dissuaded by a 7% drop in mileage-per-car from 1978 to 1980. Mr. Loughridge blames 1979's gasoline shortage, last year's recession, and a 94% price increase at the gas pump in that three-year period for the motoring slump.

French Are Cited

The Goodyear executive notes that motorists in Great Britain and France are driving more, even though gas prices there are far higher, and have gone up faster, than in the U.S. "In both the U.S. and Europe, it is obvious that escalating gasoline prices haven't reversed the trend to greater mobility and car ownership," says Mr. Loughridge.

He adds: "The trend toward two-income families, and the extra commuting required, hasn't peaked. And the trend toward suburban living—the sprawl into exurbia—is continuing."

Firestone's Mr. Nevin, however, sees Americans gradually cutting back on nonessential driving. For example, he thinks car pools to and from work will become increasingly popular. He also sees teen-age driving diminishing, as more parents insist that their children ride the school bus.

Charles J. Pilliod Jr., Goodyear's chairman, is unconvinced: "The day an American boy or girl reaches the age of 15 years and 364 days, the question always is: 'Where's my car?' That isn't about to change."