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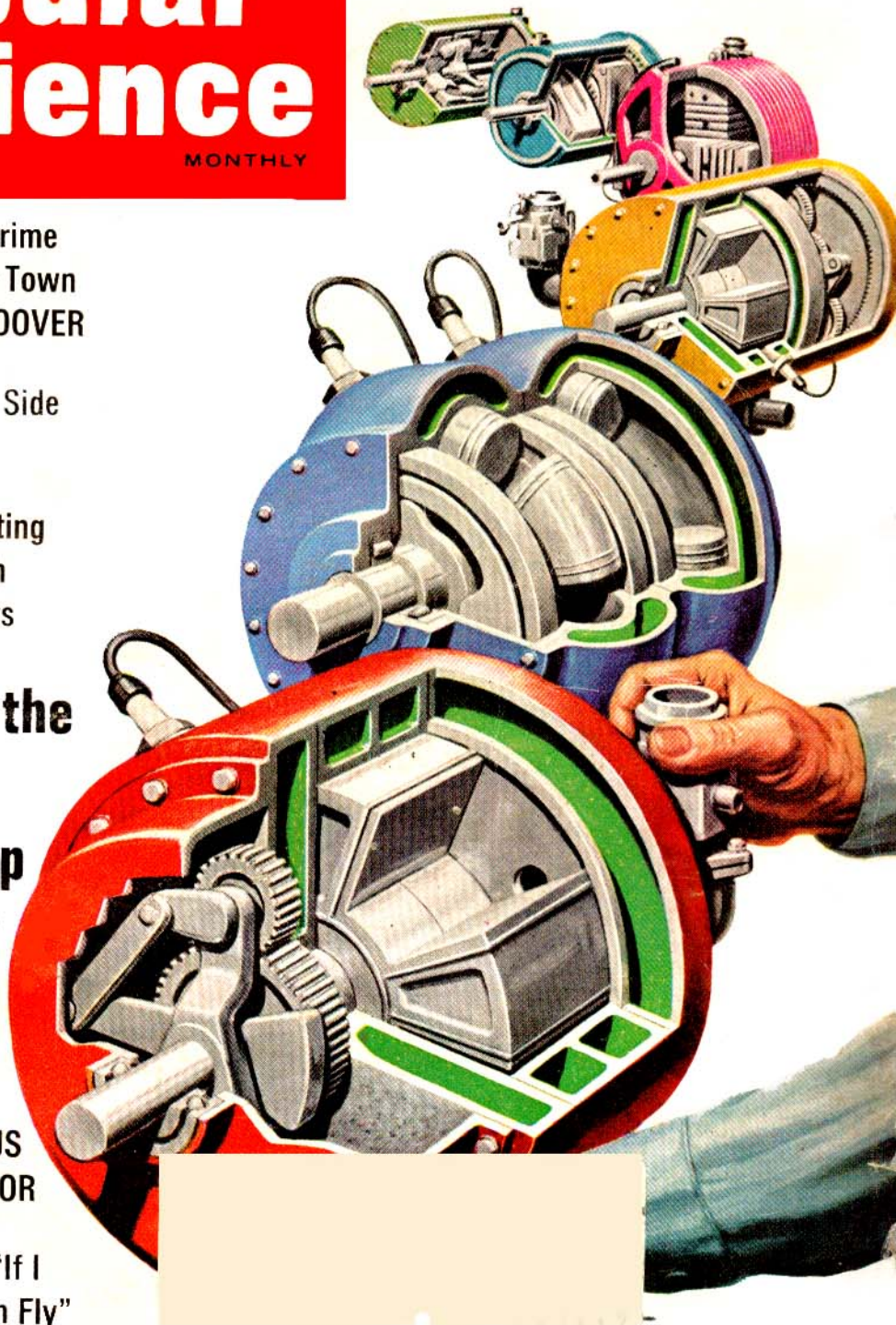
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Gus Makes a Guest

When the school auto instructor is out sick, Gus takes over — and reveals one of his most valuable troubleshooting secrets

By MARTIN BUNN

ILLUSTRATION BY RAY QUIGLEY

Gus Wilson ducked from under a car hood and grabbed the ringing phone at the Model Garage. The persuasive voice of Matt Edwards, director of the new Vocational-Technical school, came through the receiver.

"Gus, I've got a problem, and I hope you can help me out."

Edwards seldom called just to chat. Operating on a shoestring budget, he had become adept at persuading local technical experts — including Gus — to serve as his advisory board.

"Fire away, Matt." Gus knew how badly the area needed youngsters with sound post-high-school auto-mechanics training, and was a staunch supporter of the school.

"Your monthly lecture is Thursday, Gus. But I wonder if you'd come over this morning? Our auto teacher is out sick today." Edwards paused. "I've been trying to keep his class busy, but the truth is, I'm not enough of a mechanic to fix an ailing Falcon. What they need is a Gus Wilson lesson in troubleshooting."

"The car belongs to one of the boys," Edwards went on, "and the group is counting pretty heavily on taking it to Centerville this afternoon. They're competing with the Voc-Tech school over there in a mechanical-proficiency exercise. Incidentally, I hear young Bill Harvey is in trouble with the police about faulty equipment on the Falcon, too. See what I mean about needing your help, Gus?"

Gus sighed, put on his jacket, and started out of the office. He met his assistant, Stan Hicks, on the drive.

"Take over awhile, Stan. I've got to go take care of an investment."



"I think the biggest problem is that Gus Wilson is afraid to dirty his hands!" Gus wheeled to see Matt Edwards grinning delightedly.

"I didn't even know he owned stocks," Stan muttered to himself, as he watched Gus climb into the service truck.

Entering the old factory building Edwards had converted into a school, Gus quickly made his way toward the section devoted to the mechanical trades.

About six pairs of assorted jeans showed beneath identical shop-coated figures crowded around a faded but glistening Falcon. One of the boys was talking.

"If we don't get smart quick, we'll not only be walking to Centerville — we'll lose the contest sure, for being so dumb."

The boy, Bill Harvey, broke into a broad grin as he looked up and saw Gus. Sweeping

Appearance



back a shock of red hair, he extended a hand. "Mr. Edwards is flying around here like a mother hen today. Said we could expect you over. And man, have we got problems for you!"

Gus knew that the boys were allowed to work on their own cars in class if they bought the parts. On the used Falcon he'd just bought, young Harvey told Gus, the class had completely restored the ignition and fuel system using almost all new parts.

"Needs more than parts," Sam Archie said, looking up from the engine compartment.

"He's right, Mr. Wilson," Bill Harvey said sadly. "It runs great in here, but on the street it hasn't the power to pull the hat off your head."

"How about your trouble with the law?" Gus asked.

"Oh, gosh, yes. Two faulty-equipment tickets in two days. Officer Corcoran says if I don't get the stoplights on this thing working today, he'll make me go to a garage and get it fixed."

"The crazy thing is, they work fine in here." Lanky Sam Archie's Adam's apple quivered. "We found blown fuses, and a sluggish pressure switch. We went over every connection and grommet, and checked everything with a circuit tester. Nobody home. This morning Bill blew another fuse, got picked up, and still doesn't have any power."

"Will you have a look at it?" Bill urged.

Continued

"It's your problem," answered Gus. "I'm here only as an adviser; you guys are the mechanics. I'll offer a couple of thoughts, though. First off, I hope you don't expect that little engine to win drag races. Secondly, fuses don't blow without good cause, and a sticky stoplight switch is seldom a cause."

"I think the biggest problem is that Gus Wilson is afraid to dirty his hands!"

Gus wheeled to see white-haired Matt Edwards grinning delightedly.

"Sometimes a mechanic can earn his keep by listening and thinking," Gus said.

"Seriously, Gus, think you can help us? With the instructor off, and me tied up this afternoon, we'll have to make some

"I'll bet you don't think we even have a problem," Bill said glumly.

"I think we should assume that the two problems are not related," Gus said. "Let's go back to the shop."

Pulling up to the school building, Bill applied the parking brake and ran up the ramp to open the overhead shop door.

Inside, Gus directed the students to block the wheels, put on the brakes, rev the engine, and try to stall it in high gear.

With Bill at the controls, the little car strained at the blocks, labored bravely, and finally stalled. "What does that prove, Mr. Wilson?" he asked, cutting the ignition.

"Well, I'd say it proves what we found in test-driving it. It doesn't lack power."

"So either we're nutty, or . . ." Bill hesitated. "I bet I know—the air cleaner!"

"Right." Gus said, grinning.

"We've been running it around here and on the test drive without an air cleaner."

"Can't be," Sam Archie argued. "I cleaned it, and it wouldn't make any difference, on or off."

"Put it on and see," Gus said.

"I'll do it," Sam offered.

"I'm the air-cleaner expert here." In no time he was calling "okay."

Bill hit the starter. The boys watched closely. As the engine started to rev, it starved, faltered, and started again.

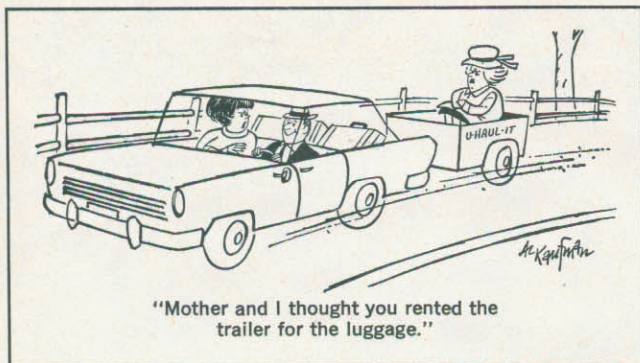
Sam's face turned red. "How stupid can a guy get?" he moaned.

"That's your trouble, all right," Gus said. "Want to explain it to the class, Sam?"

"I guess I've been putting the air cleaner on wrong," Sam said shamefacedly. "The rush of air on acceleration was sucking the antifreeze tag over the intake horn. I guess I must have put it on wrong each time I replaced it."

"Don't feel too bad," Gus said. "When things go according to the book, a mechanic's job is easy. In troubleshooting a job like this, you may have to duplicate every condition that existed when the problem occurred."

"Does that hold true for the fuse and stoplight problem, too?" Bill asked.



other arrangement to get the boys to Centerville if they can't get the car fixed."

"Well," Gus said, "these boys are sharp, and it sounds as if they've taken every normal action. But I think it's about time to guide them in some logical thinking that will isolate the troubles."

"That's what they need," Matt said. "Nothing would make me happier than to see these boys whip Centerville this afternoon. They'll have some tough mechanical bugs to dope out, and they'll have to do it faster than the Centerville Voc-Tech youngsters."

With Bill at the wheel, Gus rode along as they took the Falcon for a test run. The engine performed perfectly.

"Let's take it on some rough streets and try the brakes a few times," Gus suggested.

They stopped on a quiet street, and Gus watched from behind as Bill repeatedly applied the brakes. The stoplights glowed.

Continued

"Could be. You fellows have established the result: blown fuses. You know it's in the stoplight circuit, and you've done the diagnosis work. What do you think?"

"Beats me," said Bill. "You checked when we made the test runs. Stoplights worked fine. It only happens when I drive it to school."

"Well, what are you doing differently?" asked Gus.

"Gee, I don't know. I back it out of the garage, close the door, and come to school, that's all."

Gus glanced at his watch. They'd have to do something pretty quick if the boys were to make it to the afternoon contest.

"Take it for a spin again and see what happens," he said.

Bill backed out of the stall. Gus noted that the brake lights did not go on as Bill braked to wait for the door to open.

"Brake lights don't work!" Gus shouted.

"But they worked when we checked."

"Somehow," Gus said, "we've duplicated the conditions. You say you have to stop, then close the door at home."

"What difference does that make? I stop, put on the parking brake, close the door, and go. Besides," Bill added, "the parking brake isn't electrical."

"Granted." Gus stoked his pipe. "But if I remember correctly, the parking brake is pretty close to a lot of wiring under the dash of a Falcon. You don't suppose. . ."

"I'm not supposing. I'm looking. Pull the brake for me, Sam." Bill was on his back under the dash.

"Well I'll be darned!" Bill came up. "There's a loose wire across the parking-brake housing. It gets hooked by a screw that guides the parking-brake lever shaft in the slotted housing tube. It pulls the wire taut when the brake is applied, and it cut through the insulation."

Sam spoke up. "So nothing happens until you apply the foot brake with the parking brake on. Then you get a dead short, and the fuse blows. Right, Mr. Wilson?"

"That's the way it looks. Probably didn't find it on trial runs before because you guys are so helpful that Bill didn't have to stop and close the door."

"Speaking about being helpful," Bill said, eyes narrowed, "which one of you fatheads put that new tag on when we changed antifreeze yesterday?"

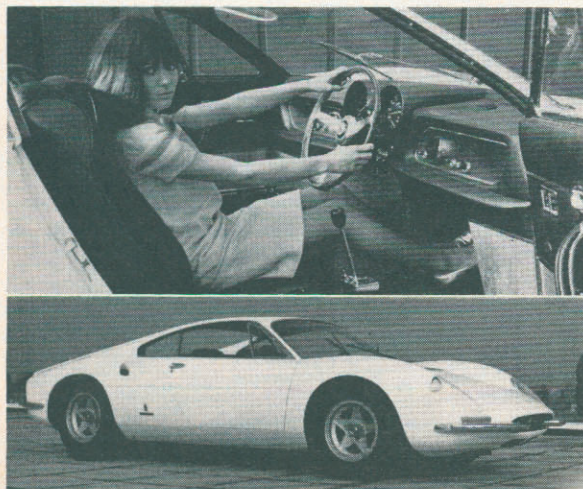
"Hold on," Gus said. "Let's nail down just how we went at these problems. It may help you this afternoon."

Gus was at his desk poring over the day's bookwork when the phone rang. Matt Edward's voice came on. "Wanted to thank you for substitute-teaching today, Gus. And get this. Our boys won the contest. Just by a hair, you understand, but they're learning. Also, about that lecture of yours next Thursday—"

"Next Thursday?" Gus murmured weakly. "But I thought—"

"Thought what, Professor? You know you have a lecture the first Thursday of every month!"

PE



New Ferrari three-seater has steering wheel in center

Ferrari's new 365 P Special Berlinetta, designed by Pininfarina, puts the driver in the middle with a novel centrally located steering wheel. The driver's seat is three inches forward of the passenger seats, which flank him. The dashboard controls are also located in the center of the instrument panel for the driver's convenience. The Berlinetta has a V-12 rear-mounted engine with 4,400cc. displacement. The classic Ferrari grille and low-slung body give the car a race-bred look.