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Gus Cures a Case of the Shakes

By MARTIN BUNN

The radio was sounding off: “. . . and for the third straight day, the Weather Bureau forecasts more snow, starting later this morning, with a predicted day’s accumulation of over 12 inches. All public schools remain closed . . .”

Gus Wilson switched off the bad news, threw the lever to drop the snowplow blade, and aimed the Jeep at a drift that half buried the Model Garage.

Stan Hicks, his assistant, stopped salting the walkway in front of the office door to zip his parka up another notch.

“One more pass will do it, Boss,” he called. “I’ve got the heater going full blast inside the shop, and hot coffee on the burner.”

Gus wheeled his Jeep around for the final attack. “Two feet on the ground, and another on the way,” he muttered. “Well—it’s a good day to catch up on paper work.” He sliced into the snowbank with a vengeance.

“Hey, Gus, save some snow for me!” It was Dr. Fred Snyder shouting from the driver’s seat of his 1967 Olds Toronado. “This is real front-wheel-drive weather.” The big car slid to a stop in front of the tall overhead door. “Too bad I can’t really enjoy it.”

“What can we do for you today, Doc?” Gus asked, climbing out of the Jeep.

“Same old problem. The front wheels

Stan swore that the wheels on Doc Snyder's car were perfectly balanced. Doc swore they weren't. And they were both right



ILLUSTRATED BY RAY QUIGLEY

"If you think they are balanced, young man," the doctor answered angrily, "try driving this car on the turnpike."

are out of balance, thanks to my new snow tires."

"Impossible! Absolutely impossible," Stan blurted out. "I checked the balance on Saturday, when I mounted the tires, and yesterday, too, when you brought the car back."

"If you think they are balanced, young man," the doctor answered angrily, "try driving this car on the turnpike faster than 50 miles an hour. The steering wheel vibrates like a mixing machine . . ."

"Let me break in, Doc," interrupted Gus, "before I have to become a referee. We can talk better in the office."

"Good idea," said Stan. "I'll get another coffee mug."

"As I see it," said Snyder, "the symptoms lead to only one possible diagnosis." He took a sip of coffee.

"Before the snow tires were mounted, I observed not the slightest trace of steering-wheel vibration. But since the installation the wheel has vibrated badly both times that I've driven at turnpike speed: yesterday morning and this morning. What other conclusion is possible?"

"I stand pat," said Stan, a determined

glint in his eye. "Those wheels are perfectly balanced."

"And I'm right in the middle," said Gus, grinning slightly, "between an expert diagnostician and an expert wheel balancer." He turned to Stan with a wink: "Drive the Tornado inside the shop, Stan, while I tell the doctor about the dozen or so other things that can cause steering-wheel shake."

Stan rolled the big car into the service bay, and was jockeying it into position over the hydraulic lift, when a rapid series of loud backfires, outside, shook the whole garage.

Shuddering to a stop at the pumps was a 1961 Volkswagen Microbus. Seven small children and the driver—a young woman—piled out. Gus leaned out of the door, but ducked inside when he saw Stan trotting out to the car.

"What's the trouble, Madge?" Stan asked the driver.

"Trouble? What trouble?" asked Madge Winslow. "Oh, you mean the backfiring. That started this morning, but my husband says it's happening because the ignition system got wet. We parked on the street last night, and a snowplow went by and buried the car. He says the backfiring will stop when the engine warms up and dries out." She smiled. "What I really need is a tankful of gas."

Continued

Stan filled the tank and rejoined Gus and Dr. Snyder in the office.

"Boy, oh, boy," said Stan, "you'd think that Madge Winslow would see enough kids in her kindergarten class. Here's a day when there's no school, and she takes off with her neighbors' children to go sledding at Fitch's Hill."

"Why the fireworks when she drove in?" asked Gus.

"Wet wiring, she says, but it's odd . . ."

"Hey," interrupted Snyder, "I have a busy morning ahead of me. What about my unbalanced wheels?"

"Sure thing, Doctor," said Gus, "come on into the shop."

"Shall I lift her?" asked Stan.

"Not yet," said Gus, a puzzled look on his face. He knelt next to the right-front fender and examined a slowly growing puddle of water under the wheel.

"There's a puddle on the other side, too," said Stan. "Just like yesterday."

"Hmm," grunted Gus. He looked up at Dr. Snyder. "Did you park in your garage last night and the night before?"

"Couldn't because of the snow," the doctor answered. "I have a 200-foot driveway and no snowblower, so I just plowed nose-first into a snowbank at the foot of the driveway. I had no trouble getting in or out—these front-wheel-drive cars have great traction."

Gus was smiling now. "Why do you drive the turnpike only in the morning?"

"My morning schedule starts at County Hospital—and that's far out of town. Then I work my way back, stopping to see patients along the way. It just happened that I didn't ride the turnpike in the afternoon or evening. But what's that got to do with my front wheels?"

"Everything," said Gus. He reached

around behind the massive right-front wheel. "Here's the villain."

"A piece of ice? You can't tell me that a little chunk of ice caused the wheel shake I felt."

"Yep, when you parked in the snow-bank," explained Gus, "the warm brake linings melted some snow into slush, which packed into the dished part of the wheel. During the night it froze, literally forming a solid wheel weight attached to the inner rim. The weight was more than enough to unbalance your wheels at turnpike speeds."

Stan sheepishly nodded. "I saw the ice yesterday morning, but I carefully cleaned it out before I rechecked the wheel balance."

"You're telling me that if I had driven home on the turnpike last night . . ."

"Absolutely right," broke in Gus. "You wouldn't have felt any wheel shake."

"Well, Stan, you win," the doctor admitted. "I owe you an apology."

Stan waved it away with a toss of his hand and a smile.

"Guess I'll have to learn to take my

own good advice," the doctor remarked.

"How's that?" asked Stan.

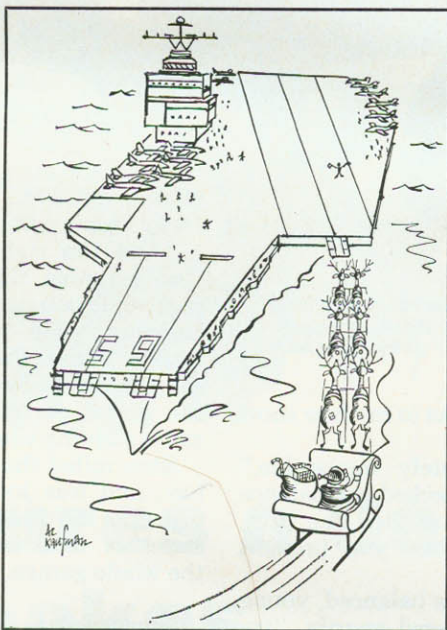
"As a physician," Snyder said, "I'm forever telling people not to make a self-diagnosis. That can be dangerous."

Snow began to fall, as predicted, shortly after Dr. Snyder drove away. Stan stared thoughtfully at the darkening sky, then turned to Gus.

"What Doctor Snyder said about non-professionals making a diagnosis, Boss, got me thinking about the VW."

"You mean that backfiring through the car's muffler?"

"Yep," said Stan. "Madge's diagnosis—actually it was her husband's—doesn't make sense."



"Why not?" asked Gus. "Wet wiring can short-circuit the high-voltage pulses, putting a mixture of unburned gas and air into the muffler. And the hot muffler or the next blast of hot exhaust gas explodes it."

"But that wouldn't account for the clink."

"What clink?"

"After I filled the tank," Stan explained, "the engine wouldn't start for a few seconds. There were more backfires, then suddenly there was this loud clink, and the engine turned over."

Gus stroked his chin. "That could mean several things."

"Yeah, and none of them very happy in the middle of a snowstorm."

Stan walked over to the area road map tacked on the office wall, and traced out the route to Fitch's Hill. "None of these roads are snow-emergency ones, marked for early snow removal. If the Volkswagen breaks down on that route it could stay stuck till spring."

He reached for his parka. "It may be silly, Gus, but I have a funny feeling about that car. I think I'll go for a ride in the tow truck."

Stan heard the Volkswagen before he saw it; a chain of backfires guided him to the little bus like a radio beacon. It was sitting on the shoulder, nosed into a snowbank.

"She'll never start that way," he shouted on arrival, "and enough of those backfires will ruin the exhaust system."

"Wow," Madge exploded, "am I glad

to see you! When the engine stalled, I was really worried. I'd hate to leave these kids alone in a car, during this snowstorm, while I hiked miles to a phone. But what are you doing here?"

"I kinda figured this would happen," answered Stan.

"Can you fix it?" asked Madge.

"Not out here. But I'll tow you back to your house so you can get all these kids home. Then I'll deliver the Volks to the garage."

"You won't believe this one," said Stan, as he showed two pieces of metal to Gus. "We have here the VW's camshaft."

Gus examined the pieces. "That's one of the strangest fractures I've seen."

"Sure is," said Stan. "The two halves keyed together so that sometimes the shaft would turn properly, working all four sets of valves. But, whenever the halves slipped apart—probably under greater load or speed—two of the cylinders began operating out of phase. That's when the backfiring began."

"And the clink?" asked Gus.

"That must have been caused by the two camshaft halves slipping together and locking in place temporarily."

"Stan," Gus said, "I'll add you to my list of great diagnosticians—along with Doc Snyder. But I'm sure glad you're not a medical doctor."

"Why?" inquired Stan.

Gus pointed to the disassembled Volkswagen engine on the shop floor. "Imagine having to take your patient apart every time you go to work." PS



Trailer turns into a houseboat

This little amphibious house trailer, made in England and called the Gull, can be eased down into the water (left), where it will sail

away under its own power—a seven-horse outboard. The hull is molded of fiberglass. On land, the 15-foot vehicle, with lounge and fully equipped kitchen, is easily towed by an average car to the next campsite.