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With a smirk, Cooper said: "Mr. Wilson, I believe you know Harry Brook of the Better Business Bureau."



Gus Heals a High-Test Headache

"At least you're punctual about opening up, Mr. Wilson!" The precise, high-pitched voice knifed through the early-morning quiet. "I trust that your assistant will be here soon, too."

Gus Wilson spun around to greet the slight, pinch-faced man who had silently walked up behind him as he unlocked the Model Garage's office door.

"Good morning, Mr. . . er . . ." Gus stammered. "You startled me. We don't see many pedestrians around here—especially at seven a.m."

"The name is Cooper, sir, and it is hardly a good morning. I am a pedestrian, as you put it, solely because of your high-handed business tactics." Glowering, Cooper swept past Gus into the office, and began to stamp the snow off his shoes. "Now, about your assistant here . . ."

"You mean Stan Hicks," Gus said with a puzzled look. "He's back in the shop."

"Call him, please," Cooper squeaked, attempting a commanding tone of voice.



Would the Model Garage fill a tank with regular and charge for premium? Fantastic! But the man claimed he had proof

By MARTIN BUNN

ILLUSTRATION BY RAY QUIGLEY

"We can't talk about this without him."

As Stan appeared, Cooper shoved a small slip of paper at Gus.

"Here is a credit-card receipt, dated yesterday," Cooper began, "for 16.6 gallons of premium gasoline."

Stan nodded. "Yep, you have a 1966 Buick sedan. I filled the tank just before last night's closing."

"Correct," said Cooper, "but you filled it with regular gas, not premium."

"That's impossible," Stan protested. "I distinctly remember that you asked for

premium and you pulled up to one of the premium pumps."

Cooper slapped a palm against the desk top. "Granted the pump was labeled premium, but what came out was regular gasoline."

Gus's face darkened as he fought to control his temper. "Are you accusing the Model Garage of fraud, Mr. Cooper?"

"Call it what you will," Cooper answered. "Almost as soon as I left here yesterday, I felt a distinct loss of power, and I began to hear a rattling noise coming from the engine. I know nothing of engines, but my business partner tells me those are the symptoms of too-low-octane gasoline. He said the rattle is pinging caused by . . ."

"Not necessarily," Stan interrupted. "There are other things—"

"I'm not finished talking, young man," Cooper shouted back.

"It's my turn," bellowed Gus. He turned to Cooper.

"A ping-like sound usually means that the air-fuel mixture is detonating—or exploding—too early in the cylinders. A Buick V-8 is a high-compression engine, and feeding it low-octane fuel will cause detonation."

"Then you admit it," Cooper said smugly. "You sold me regular gas instead of high-octane premium."

"No, sir!" said Gus. "If the gas you bought came out of the premium pump, then it's premium gas. Something else must be causing the symptoms you've described. Where is your car?"

"In my garage," answered Cooper beligerently, "where it will remain until you siphon out that low-octane and replace it with exactly 16.6 gallons of real premium gas. I won't risk damaging the engine by driving any farther."

"Siphon it out!" Stan sputtered. "You must be joking."

"I never joke about mistakes in choosing honest people to do business with," snapped Cooper.

"You've said enough, Mr. Cooper," Gus broke in. "If you will bring your car in, we'll be happy to locate what's really wrong with it. As far as I'm concerned, though, the discussion about gasoline cheating is closed."

Cooper reared up on his short frame

Continued

and glared at Gus. "Since you won't give me satisfaction voluntarily, you force me into more severe action, Mr. Wilson." The door slammed behind him.

The gloom disappeared some by afternoon, and Stan sidestepped up to Gus and asked conspiratorially, "What happened with the squirrels last fall?"

"Squirrels?"

"Yep," said Stan. "They left a lot of loose nuts around. First old man Cooper and now Ed Phelps."

"Is Ed mad at us, too?" asked Gus.



"Not us—the weather man," Stan said. "Ed claims that the horn on his new Fiat 124 sport coupe doesn't like cloudy weather. And before you ask me for details, he's outside. You'll have to hear it to believe it."

Gus went out to the trim little car, and shook hands with its owner.

"I'd like you to act as a sort of consultant," Phelps explained. "The car is still under warranty and my dealer agrees to fix the trouble, but his mechanic can't find anything wrong. Maybe you'll be able to make a diagnosis."

"A temperamental horn?" Gus asked.

"I know it sounds crazy," said Phelps, "but the horn works fine on sunny days. When it's cloudy, forget it—the horn-circuit fuse blows out a few seconds after I start the car. Replacements burn out as fast as I pop 'em in."

Phelps reached into the car and yanked the hood-release lever. "It's not the usual electric-horn pair found on most cars. As you can see, the system contains two

small air horns driven by an electric compressor."

Gus leaned over to examine the horn, but straightened up when Stan interrupted: "Mr. Cooper's back. And it looks like he's brought reinforcements."

With a smirk on his face, and a broad sweep of his arm, Cooper said, "Mr. Wilson, I believe you know Harry Brook of the Better Business Bureau."

"Hello, Gus," said Brook in an apologetic tone. "Mr. Cooper was very insistent and since you are a member of the Bureau, I thought . . . well . . ."

"It's okay, Harry," Gus said.

"Let's get this misunderstanding settled quickly." He turned to Stan. "Drop the portable ignition analyzer into the truck and I'll get over to Cooper's house. I'll be back as fast as possible. You check out Ed's horn system while I'm gone."

"Aren't you forgetting something, Mr. Wilson?" asked Cooper. "A siphon hose and a tank of premium gas."

Gus shook the end of his pipe in front of Cooper's nose. "As I told you earlier, there's nothing wrong with the gas

you bought. I'll find out why your engine makes noise, Mr. Cooper, and you'll get a bill for service when I'm finished."

The big engine of the Buick on Cooper's driveway started sluggishly, then settled into a rough idle, punctuated by a sharp metallic rattling. Gus connected the ignition analyzer, and watched a glowing green jagged line on the screen.

"What's that, Gus?" asked Brook.

"Each of these eight peaks on the screen represents one of the high-voltage pulses that fire the eight spark plugs," Gus explained. "By studying their shapes, I can get a good idea of how well the ignition system is working."

"It's working perfectly," said Cooper. "The car was tuned up last week, complete with new plugs and points."

"I think you're right," agreed Gus, "except for a slightly odd pattern for cylinder number three."

He reached for his stethoscope. "Let's find out just where that rattle comes

from." He looked up at Cooper. "And I mean rattle, not detonation ping."

After careful probing at different points on the engine block, Gus surfaced. "Seems to be something rattling around inside number-three cylinder."

Whistling softly, he examined the number-three spark plug now gripped in the socket of his ratchet wrench. "A chunk of the ceramic insulator around the center electrode is missing."

Carefully, Gus inserted the end of a flexible-cable spring-finger pickup tool through the plug hole. After several tries, he felt the finger clamp down on something solid.

"Here's the troublemaker," he said, as he dropped a small jagged piece of ceramic into Cooper's palm. "The up-and-down piston movement made it bounce around like a jumping bean. And the exposed center electrode let the spark jump to the plug's metal housing, rather than fire across the gap. This made ignition erratic, so the idle was rough and power reduced."

"And that's why the analyzer pattern for number-three cylinder was different," said Brook. Gus nodded.

Cooper merely grunted and reached for his checkbook.

"Searching for buried treasure?" Gus asked Stan on his return.

"Seems like it," Stan replied, looking up from a Fiat wiring diagram he was studying. "It's like Phelps says. Fuses keep blowing." He looked up at the clouds. "I can't figure out why. I'll show you." He ducked under the dash to slip in a new fuse as Gus watched.

Suddenly, out of the corner of an eye, Gus saw a tiny spark—a spark that

flashed at almost the same instant as Stan said, "There! She popped again."

Gus nodded, a smile breaking across his face, as he quickly traced a wiring path on the circuit diagram. He leaned into the car for a moment, then straightened. "The trouble's fixed, Ed, you've got an all-weather horn now."

Stan replaced the fuse and tooted the horn, as Phelps slid into the driver's seat. "I dunno," said Phelps. "It's worked okay for a little while before, but eventually the fuse goes."

"I guarantee this fix," said Gus.

Phelps looked up at the rear-view mirror. "Hey, have you guys seen my sunglasses?" he asked. "They were hanging on the mirror."

"I put them in the glove box, where they belong," said Gus. "Keep them there when you aren't wearing them, and your horn will keep working."

Phelps shook his head. "How's that again? I don't get it."

"That little map light built into your rear-view mirror is powered by the same circuit that feeds the horn. The metal frame of your sunglasses cut through the insulation of the 'hot' wire to the light and short-circuited the line."

"And on cloudy days I always kept the glasses on the mirror!" said Phelps.

"What a day!" Stan remarked as Phelps drove off. "A couple of real nutty problems, but you cracked 'em, Boss. You know," Stan went on with a wide grin, "I thought for a while you were going to have the same trouble as Ed Phelps."

"What's that supposed to mean?" Gus asked suspiciously.

"If Cooper had accused you just once more of cheating him on the gas, you'd have blown a fuse yourself." P.S.

A new limousine for the White House driveway

This recently delivered Presidential limousine has a hinged glass top so occupants can stand during parades. The rear bumper drops down as a platform for Secret Service agents; a handrail rises from trunk deck. The 21-foot Lincoln Continental has many new security, communications, and engineering features.

