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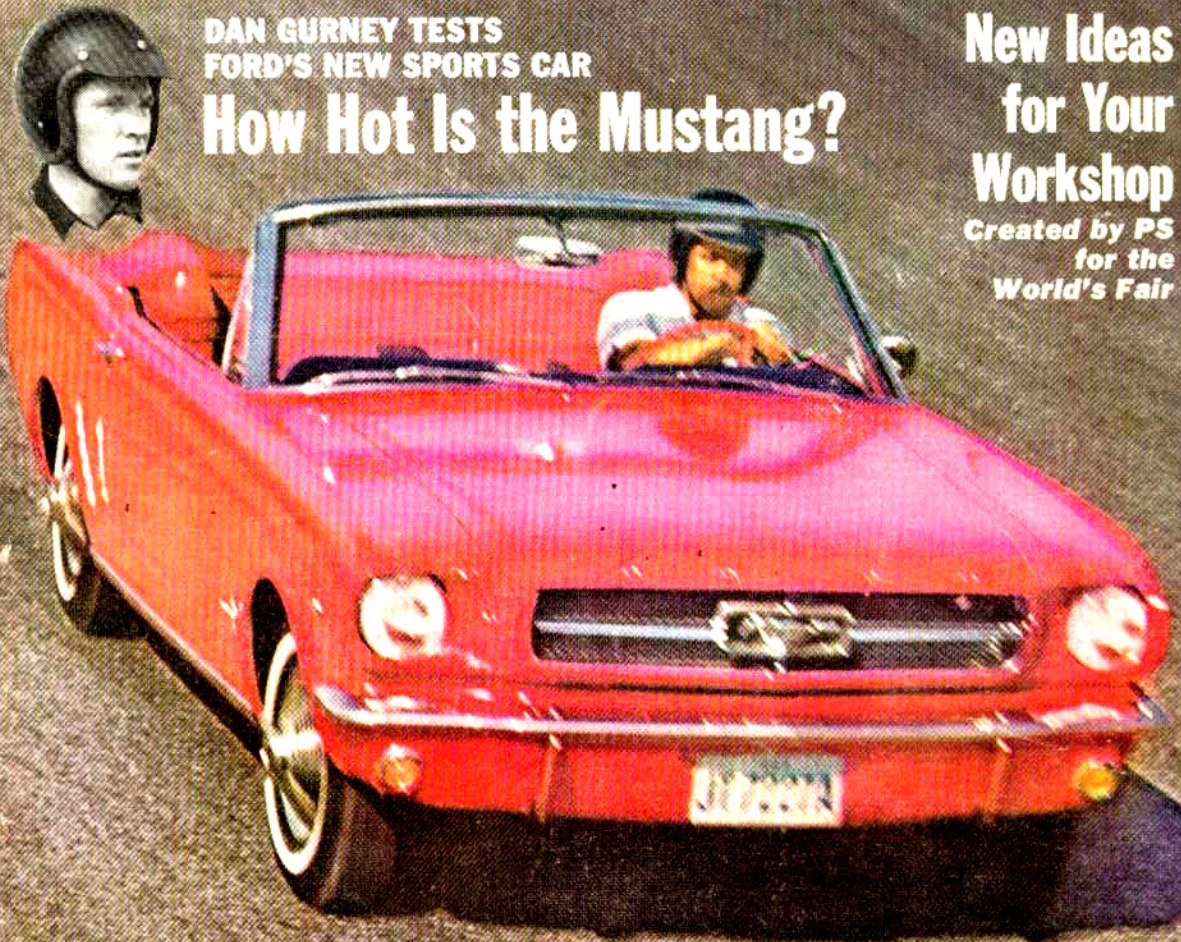
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CAR CLINIC

Gus Draws Two of a Kind

By Martin Bunn

NEAR closing time, a squeak of brakes made Stan Hicks look out through the Model Garage shop door. "Speaking of all kinds, Gus," he said to his boss, "there's a rare bird."

Gus Wilson glanced at the small English car and its driver. "Mr. Holmes? Strictly a gas customer. What's unusual about that?"

"The British routine, Boss. He wears that silly cloth cap, calls the hood the bonnet, and won't even let me check the oil. No, sir! Does that himself every morning, he says, and adds nothing but imported oil. Now he's opened the hood and is twisting the oil-filler cap. Right?"

Amazed, Gus looked at Stan, who was facing the other way.

"Right. And you better get out there."

Grinning, Stan did so. Under a slanted beret, Holmes's cherubic face wore a reddish mustache and a troubled smile.

"Want gas today, Mr. Holmes?"

"No, I have plenty of petrol," returned the stocky little man in a clipped accent. "But it seems to be missing again."

"Same as yesterday?"

"Yes. It's a rum go. The car runs fine when I drive to the plant mornings. But on the way home, when I've driven about 25 miles, it develops that miss, which disappears if I look at the engine."

"Let me check it this time," said Stan.

The ignition wiring seemed in good order. All connections, from the ignition-switch terminals to both ends of the high-tension cables, were clean and tight. Stan snapped off the distributor cap and examined it. No cracks or carbon tracks were evident. The points seemed almost new.

"Nothing wrong that shows," said Stan, replacing the cap. "Let's hear it run."

Holmes got in and started the engine. It ticked over at a smooth, even idle.



"It certainly didn't sound like that when I stopped," he insisted.

"It may only miss under load. Let's try it on the road," said Stan, getting in.

The little car took off vigorously. Neither on acceleration nor on a short, steep hill did the engine falter. Puzzled, they returned to the garage.

"Sorry to have taken you on a wild-goose chase," apologized Holmes.

"That's all right. It's hard to track down an intermittent miss sometimes. Suppose we try next time it happens?"

"Good show. I'll stop tomorrow if it does," promised Holmes.

The Austin sped off as Gus came out to help lock up the gas pumps.

"Yesterday was the first time he ever wanted anything but gas," remarked Stan. "Said his engine was missing, but it never missed a beat. He must be imagining it."



The six-foot-plus driver unfolded from the car like a pop-up gift card and came up to Gus with a paper bag.

"Don't be too sure. Most complaints have something back of them," said Gus.

"Yeah, but he's a checker. If anybody can imagine trouble, it's a checker. You know—the kind who checks the radiator, gas, and battery caps you just tightened."

Gus chuckled. "As you said, it takes all kinds. And here comes another."

A Falcon had stopped clear of the pumps. From it the driver unfolded like a pop-up gift card, until he stood a gaunt six-foot-plus. Reaching into the car, he took out a paper bag and came up to Gus.

"Wasn't that Holmes who just drove off? Anything wrong with that car of his?"

"Not a thing," said Stan.

"Funny guy. We were pooling rides to the plant where we work and getting along fine—even if he does think only foreigners know how to build cars—when suddenly —*ppft!* Last week he said he wants to drive by himself."

Gus reached for the paper bag. "The usual plug cleaning, Mr. Bates?"

"Right. I'll pick 'em up tomorrow."

The Falcon sped off.

"The *usual* plug cleaning?" asked Stan. "What's that mean?"

"Four times now, he's showed up with fouled plugs to be cleaned," explained Gus, handing Stan the heavy bag. "You've always been elsewhere. But this time . . ."

"I know," said Stan, looking into the bag. "This time, it's my job."

Stan had just opened next morning when the Falcon was back, followed by Holmes's little Austin. Stan hurried over.

"The plugs aren't ready, Mr. Bates."

"That's all right. Holmes offered me a ride to work, so I thought I'd leave you the car," said the tall man. "It's sluggish and the plugs get dirty awfully fast."

"I noticed the ones you left were rusty,

as if water is getting into the cylinders. Does the radiator take much?"

"More'n it used to," said Bates.

Stan opened the Falcon's hood. The water in the radiator was low. Replacing the cap, he withdrew the dipstick. On it was a thick, frothy gunk.

"Sure is water in the oil," announced Stan. "I'd guess the head gasket's blown."

"Can you fix it by tonight?"

"Can do. Change the oil, too?"

"Okay," agreed Bates, as the Austin sounded a plaintive horn. "I told Holmes I'm leaving the car for a lube job. Don't say it's giving me trouble, will you?"

Stan drove the Falcon into the shop and, after making sure the gasket was on hand, removed the plugs. All six were damp.

As he was looking at them, wrench in hand, Gus came in.

"Cleaning the plugs in the engine, too?"

"No. There's water in the oil," Stan explained. "So I sold the man a head-gasket job. Now I'm not so sure."

Gus looked at the plugs. "You're wondering why all six of them are wet?"

"Yeah! That bothers me. If the gasket were blown between two cylinders, two plugs would be wet. Not six."

"Better not pull the head just yet."

Was the water loss in the radiator coincidental? All the hoses were tight, Stan found—even the small ones that bypassed water from the heater circuit through the carburetor heat block. There was no sign of leakage from the radiator or water pump. He added water, clamped on a pressure tester, and checked again.

A spot near the top of the radiator oozed water. It was too high, too small a leak, to account for the low water level.

"Stan!" called Gus. "Phone for you."

Stan listened, grunted, and hung up.

"It gets goofier," he said to Gus. "That was Bates. Just before this trouble, the car ran better than ever. Some time in

February the car suddenly behaved like a T-bird instead of a Falcon. Then performance fell way off. He wants us to find out why it ran so good and keep it that way."

"The question is, Stan, how does water get into *all* the cylinders?"

"Shall I yank the head?" asked Stan.

"No." Gus became thoughtful. "The engine suddenly had extra pep—in winter, with the heater on." He paused. "Ever hear of water injection?"

"Sure. Those gadgets that go between the carburetor and manifold, taking water from a tank or the radiator."

Gus nodded. "Up to a point, water vapor in the mixture improves combustion. It gives that plus performance you sometimes notice when driving on a damp day. But too much water causes plug fouling and rust. That's what happened here."

"But there's no injection gimmick on this car, Boss."

"Isn't *supposed* to be. Look again."

Stan peered closely at the engine, thoroughly puzzled.

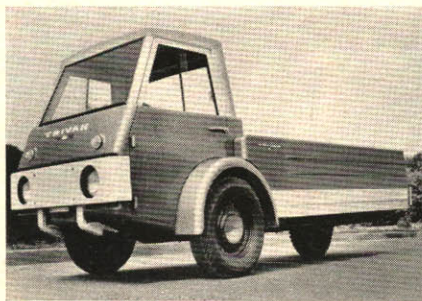
"But there isn't—unless that carburetor heat block is making like one."

"Let's have a look," said Gus.

It took only a few minutes to detach the heater hoses, remove the carburetor, and take off the water-spacer block that warmed the fuel mixture on its way to the manifold. Plugging up one water tube, Gus put air pressure on the other. There was a sharp hiss. He dropped the block into a can of water. A stream of bubbles rose from the wall of the large hole through which the fuel charge passed.

Stan whistled. "So water leaking out there was pulled in with the mixture. But why did it only start now, on a car that's been around since '61? And how come that flashy performance first?"

"Must have been a blow hole in the metal—that can happen with any casting," explained Gus. "There was probably a thin metal skin over the flaw, so it couldn't be



Truck rolls on three wheels

With a single drive wheel in the back, the three-wheeled Trivan half-ton pickup, with a 38-hp. engine, was designed to give better traction on mud, snow, and ice than larger four-wheelers. Roustabout Co., Frackville, Pa., says that it's almost impossible to overturn and that skids are more controllable. It also comes with the chassis only, on which you can attach a camper or other body.

spotted. The water pressure, corrosion, or cavitation erosion—maybe all three—finally broke it through. At first the hole was small and let in just enough water to give the engine extra pep. But then water action enlarged it until too much water got through.”

“I’ll go get a new water spacer. Shall I punch a hole in it to give Bates that extra pep he wants?” asked Stan with a grin.

“Nope,” returned Gus. “If he wants water injection, let him buy a gadget—one made for the job.”

Some time before closing, the Austin’s brake squeak alerted Stan. Holmes had already shut off the engine and released the inside hood latch by the time Stan got there.

“Hold it!” said Stan as Holmes began to get out. “Start the engine.”

Holmes did. It ran raggedly.

“There! This time you can hear it,” the little man said with grim pleasure.

Stan walked in front and lifted the hood. What he saw made him grin.

“Okay,” he said to Holmes. “Now do exactly what you were going to do.”

Holmes promptly shut off the engine. Getting out, he raised the hood and busied himself under it.

“You always shut it off before you do that, don’t you?” asked Stan.

“Rather! Got a bad shock the one time I didn’t,” said Holmes, cinching up the oil-filler cap.

Deliberately Stan took the cap off and let it dangle from a wire that secured it to the filler neck.

“Does it ever fall off like that while you’re driving?”

Holmes nodded. “Constantly. Bit of a nuisance. But what about that miss?”

Stan pointed. “See how that cap hangs between No. 1 and No. 2 plugs? When the engine’s running, it jumps around and shorts them out again and again. That’s the whole trouble—but every time I looked, you had just put the cap back on and the miss was gone.”

Stan picked up the cap and with pliers gently bent the retaining prongs.

“That’s okay, Mr. Holmes. But you don’t have to check the oil every day. You had that cap on and off so often it wore loose; 25 miles or so of driving made it work free and drop off. It’ll hold now.”

“I really am obliged. Would you give Mr. Bates a message when he comes? Say I’m sorry that I had to pass him up today—had to get cracking—but would he ride with me again?”

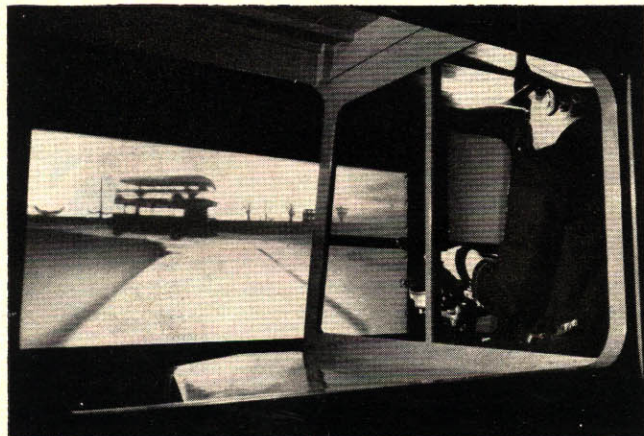
Bates arrived on foot, obviously annoyed. “Had to take a bus,” he said. “That jerk Holmes took off right in front of me.”

Stan delivered Holmes’s message, then explained the Falcon’s troubles. Mollified, Bates drove away in a better mood.

“Sure is a lot of rigmarole going on between those two,” remarked Gus.

“Know what I think, Gus?” said Stan. “Those two quit sharing rides because their cars weren’t running right, and each was too stubborn to let the other know it.”

Gus nodded. “Even though they’re as different as Mutt and Jeff, they’re sure two of a kind.” ■ ■



Bus-driving simulator

To teach new drivers how to handle London’s cumbersome double-deck buses, a mock-up is used with a shadowgraph screen in place of the windshield.

Moving silhouettes of bends, intersections, pedestrian crossings, and parked vehicles are formed by a painted, back-lighted disk of transparent plastic controlled from the cab.

As the driver steers the mock-up, changes gears, or varies speed, the picture in front of him moves accordingly.