

GUS Tackles a Tough One

THE big, well-turned-out man who had driven a speckless sedan into the shop of the Model Garage got out of it and came over to the workbench with a wide smile on his large face.

"You're Gus Wilson," he stated positively to the Model Garage proprietor. "My name's Magruder—Willis J. Magruder. Glad to meet you!"

"I'm glad to meet *you*," Gus said, wondering what he was selling. "What can I—?"

Magruder's hand gripped Gus's powerfully and he went right on talking. "I'm a nut on champions," he said. "I collect them just like some folks collect postage stamps. Name the top man in any line, and it's dollars to doughnuts I know him. Why,

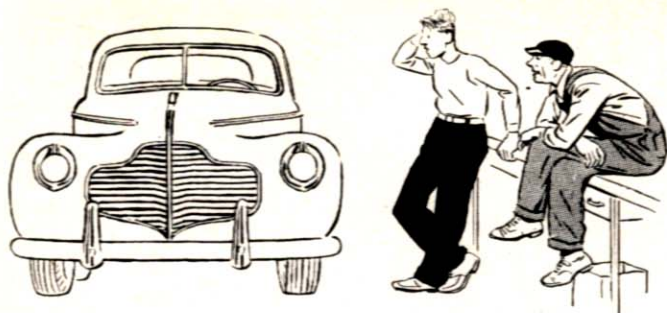
say, once I drove all the way down to Kentucky and back just to have a look at Man-O'-War! I couldn't shake hands with him"—Magruder laughed heartily—"but I've shaken hands with 'most all the other champs. Joe Louis, Bill Knudsen, George M. Cohan, Jim Farley, Clark Gable, John J. Pershing, Joe DiMaggio, Doc Einstein—I know 'em all. Yes, sir, top-liners are my hobby!"

"That's an interesting hobby," Gus admitted, wondering what was coming next.

Magruder shook hands again. "I've heard all about you from my friend Doc Marvin," he went on. "He says you're a champion—the top trouble shooter of the automotive business—that you ought to be the head

"Let's take a little ride," Gus suggested. "You drive and I'll listen." Magruder climbed in behind the wheel





"There's a devil of a noise in this bus when you put the brakes on, but it wasn't where I thought it was," said Gus

man in some big organization down in the city instead of running this—this—" His voice trailed off as he tried to find a word to describe the well equipped but small shop.

Gus laughed. "The Model Garage suits me swell," he said. "I've worked for several of those big organizations you speak of, and I like this job here a whole lot better. But is there anything that I can—?"

"Yes, there is," Magruder assured him. "I didn't come in here just to waste a busy man's time. Doc Marvin says that the way you take a quick look at a car and tell just what's the matter with it is worth seeing—that it smacks of black magic. Well, just take a look at my bus, will you, and tell me what's the matter with it? It's driving me nuts!"

"Doc Marvin's put me on a spot," Gus objected. "I don't deal in magic, black or white. I've been in this game for a long time, and sometimes what I've learned in it makes it possible for me to cut corners and guess the right answer. But on most of my jobs I have to check and recheck and sweat and cuss, just as every service man does. Don't expect any miracles from me, Mr. Magruder. But I guess maybe I can find out what's the matter with your car, and fix it. How has it been acting up?"

"It's an almost new car," the big man told him. "There's less than four thousand miles on the speedometer. But every time I put the brakes on suddenly there's a loud, grinding noise that's got me worried."

"Let's take a little ride," Gus suggested. "You drive, and I'll listen."

Magruder drove out of the shop and down the highway. When he got his car up to thirty-five he pressed his foot down on the brake pedal. The brakes took hold smoothly enough, but the grinding noise was very noticeable. "Hear it?" he demanded. But there was no need to ask.

"I sure did," Gus said. "Sounded as if a chip from the gears was being

For withholding facts about his car, a new customer at the Model Garage — expecting miracles—will get a severe shock instead when he sees his labor bill

ground between the differential gear teeth. If you'll drive back slowly—don't use your brakes any more than you have to—I'll have a look."

Back in the shop, he got out a grease pump, removed the plug from the differential housing, and began drawing out the lubricant from the housing. He forced out each pumpful on a screen placed over a bucket. When he had finished, he carefully examined the screen.

"What's the mosquito netting for?" Magruder wanted to know.

"To catch any little thing like a chip off a gear tooth in the oil that shouldn't be in it," Gus told him. But when the draining was completed, there wasn't anything on the screen.

Then Gus really went to town. First he dismantled the rear-axle housing and flushed the assembly thoroughly with kerosene. Then he checked it carefully. No gears were chipped, and he couldn't find fragments from any other broken part. The faces of the gear teeth were polished brightly at the point of contact. "No smoke!" he said. "No gears are riding, and none are bottoming—and the backlash and end-play clearances seem just right."

"That doesn't mean a thing to me, not a thing," Magruder confessed. "I must have been hiding behind the door when they passed out mechanical ability. What d'you mean—that the trouble isn't what you thought it was?"

"It isn't what I thought it *might* be," Gus said. "I warned you not to expect miracles from me. This looks like one of those jobs I have to check and double-check and sweat and cuss over. The chances are it will be some time before I find out what's wrong, and then it may take me a couple of hours to fix it. You're welcome to wait if you want to, but probably it will save you a lot of time if you call up late this afternoon or tomorrow morning in-

By MARTIN BUNN

stead. By that time I should be able to tell you what the trouble is, and about how much it will cost you to have it fixed."

Magruder thought for a moment. "I guess you're right," he said. "I've got to be down in the city this afternoon and evening. I'll phone you about ten o'clock in the morning. But don't wait for my call to fix up whatever's wrong. Get started on the job as soon as you can find the trouble."

After the new customer had driven away in a taxicab, Gus fired up his pipe, perched himself on the end of the workbench, and stared at the Magruder sedan as he did a job of serious thinking. Before he had finished it, Harry, the Model Garage grease monkey—who has grown into a pretty good sort of mechanic in his own right—came in. He watched his thoughtfully silent boss for a few minutes, and then he asked: "Stuck?"

Gus grinned at him. "Stuck tight," he admitted. "There's the devil of a noise in this bus whenever you put the brakes on hard. Sounded to me as if it was in the differential, but it wasn't where I thought it was. So what?"

"Brakes, maybe?" Harry suggested. "Rear-wheel bearings?"

"Give me a hand," Gus said, "and we'll find out."

They took off the rear wheels, and Gus examined them carefully. The wheels weren't bent, the tires gave no indication of uneven wear, the bearings seated properly on the axle, and the axle keys were tight.

Gus grunted, and started checking the brakes. The contact surfaces of both the drums and the brake linings were as good as they had been the day the car had come off the assembly line. The brake shoes also were good as new, and the anchors were tight.

Harry wiped sweat off his forehead with the back of a greasy hand. "Nothing there," he said.

"It's *somewhere*, that's sure!" Gus growled. "I'll take another look at that differential."

They uncoupled the drive shaft and this time took the differential assembly completely out of the car. Gus examined it, and gave special attention to the universal-joint needle bearings, but they showed no wear, and were well lubricated. "By gum," he said. "I'll find the cause of that grind if we have to tear down the whole differential gear assembly."

They tore it down, but they didn't find the cause of the noise. Then Gus reassembled it in a vise on his workbench, and found that it ran smoothly both forward and backward. They cleaned the rear-axle housing, reassembled it, and filled it with lubricant. It ran sweetly when they put it on jacks.

Gus tipped the peak of his cap over his left eye and scratched his right ear—a sure sign that he was buffaloed.

"Maybe we fixed whatever was wrong without knowing it—I've had that happen to me more than once or twice."

When the car was removed from the lift, he took it out for a road test. Within ten minutes he was back.

"How was it?" Harry demanded.

"Just the same as it was before I fixed it," Gus grumbled. "Maybe it's in the trans-

mission. Or maybe in the clutch. We'll have to—"

"Wait a minute!" Harry interrupted. "Don't you ever look at the clock?"

Gus looked at the shop clock. It was after six. "I'm sorry," he said. "You go ahead home."

"What are you going to do?" Harry wanted to know.

"I'm going down to the Park House and get my dinner," Gus told him. "Then I'm coming back here and lick that job if it takes me half the night. If I don't, I won't be able to sleep for thinking about it."

"I'll stick with you," Harry offered. "I wouldn't walk out on the old master while he's in the middle of a dither!"

"I'll dither you!" Gus said. "Come on—get washed up and we'll eat."

"Well, now, we've got to hunt," Gus observed when they got back from dinner. "The brakes, wheels, and differential are all right, so the noise can't be coming from the rear end, even if it sounds as if it is. Let's have a look at the transmission."

They dropped the drive shaft and removed the transmission, disassembled it, and examined it carefully. Not a gear tooth was broken or even so much as worn. Neither were any of the bearings. No loose nut was fouling the gears.

"Transmission's O.K.," Gus decided. "This is getting interesting. We'll have to check the clutch. Sometimes a projecting rivet, or a poorly fitting thrust ring makes a grinding noise. (Continued on page 224)

GUS SAYS:

I recently read where one of the engineers from a big auto company declared that thirteen percent of your engine power is lost if your tires are six pounds underinflated. At ten pounds under, almost one quarter is wasted. That's something for drivers to think about!



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(Continued from page 142)

You never know what you'll find. Let's go!"

They disconnected the clutch pedal, and methodically went about removing the clutch. All of its working parts seemed to be in perfect condition. The thrust ring fitted snugly. There were no projecting rivets. The clutch shaft was in alignment, and so were the bearing seat on the clutch sleeve and the throw-out yoke.

Gus said something under his breath. Harry laughed. "It sure does me good to see you stumped," he said mockingly.

"Go right ahead and enjoy it!" Gus told him. "There's something screwy about this job. Well, there's no sense in wasting more time on the clutch. It's all right."

They put back the clutch and replaced its cover. Then they started to reinstall the transmission—but for some reason it didn't slip smoothly into place.

"Now what?" Gus grumbled. "Hey, look at this!" He pointed at one of the hangers, which also acted as a rear engine support. It was badly bent. "There's the cause of that darned noise!"

Harry examined the support. Then he did some thinking. "I don't get you," he confessed at last. "The hanger's bent, of course, but what—"

"The front end of this car has been wrecked," Gus said, "and that darned Magruder didn't have sense enough to tell me about it. Look—this cross member is bent, too, on the same side. Whoever botched up the repair job forced the bent hanger into place on the bent cross member. That cocked the engine a little, and cocking the engine took most of the road play out of the drive shaft. Putting the brakes on hard caused the engine to move a little on its rubber mountings. That further decreased the amount of play and caused that grinding noise. I knew there was something screwy about this job!"

"Well, what'll we do now?" Harry asked. "Go home and go to bed," Gus said.

"First thing in the morning we'll straighten that cross member and put in a new hanger to replace that bent one—and that'll be the job! Maybe I won't tell that champion-collecting Magruder something when he calls up! He'll find our time on his bill, but I might have gone to a movie tonight."

"You might have," Harry agreed. "But you know darned well that you enjoyed this a lot more than you would have a movie."

Gus grinned. "Sure I did," he said. "I like a sweat-and-cuss job once in a while—they get you up on your toes!"

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