Speedometers Sometimes Tell Lies

By MARTIN BUNN

"Maybe they're both wrong," Gus suggested.

Both men sputtered indignantly, replies as Gus walked to the front curb where the two cars were parked.

"Mine's a newer car than his," put in Otis. "My speedometer ought to be nearer right."

"I looked up the mileage according to the roads we took and it checks nearer mine than yours," retorted Taylor.

Gus calmly walked around one car and then the other.

"Say, if you fellows will can the chatter for about five minutes I'll tell you something interesting," he said finally. "In the first place, no matter how good a speedometer is, it rarely clocks the exact mileage after a car's been driven five or six thousand miles."

"Humph!" grunted Otis. "If they go bad that soon, that's the sense of having one?"

"The speedometers don't wear out," Gus corrected. "But your tires do."

"What have tires got to do with it?" asked Taylor.

Gus walked into the garage office and beckoned the others to follow.

"See these?" he asked, picking up a pair of gears that served as paper weights on Joe Clark's desk.

"One is larger than the other, isn't it?" The two men nodded.

"Suppose we roll them along this desk top for one complete revolution," suggested Gus, demonstrating as he spoke. "The small one doesn't go as far as the large one, you see?"

"Now, let's apply that to the wheels on a car. To start with, speedometers tick off the miles according to the revolutions of the wheels and each one is designed to be used with a certain size wheel. Naturally, if the wheels are larger or smaller than they're supposed to be, the speedometer reading will be wrong."

"How can a wheel be smaller or larger than it's supposed to be?" demanded Frank Otis.

"Easy enough," Gus said with a smile. "Tires have a bad habit of wearing out and car owners often forget to keep the air pressure up. In both cases, the tires will be smaller than they should be. If you fit your car with oversize shoes as you've done, Otis, the wheels will be larger."

"I can see how it might make a difference on an old automobile that has the speedometer geared to the front wheel," Otis replied, "but what about the cars that have it geared to the drive shaft?"

"Makes no difference where it's geared," Gus insisted. "It still gets its movement from the wheels and if the tires don't space off the distance they're supposed to, the reading will be wrong."

"Gosh! The size of your wheels will make a difference, won't it," exclaimed Taylor. "But forty miles is a big error in a trip to Chicago."

"Let's figure it out in black and white just for the fun of it," Gus suggested as he picked up a scrap of paper and fished for his favorite pencil stub. "Just to make it easy, let's take a car with thirty-inch tires."

"Normally, a thirty-inch tire, with a circumference of about seven feet, nine inches, will make about six hundred and seventy-five complete revolutions every mile. Since that's the normal condition, the speedometer will be set to tick off a mile every time the wheels turn that number of times. (Continued on page 91)
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SPEEDOMETERS WILL SOMETIMES TELL LIES

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"Now, let's suppose the tires are worn down half an inch or underinflated the same amount. That'll bring the diameter down to twenty-nine inches and the tire will space off three inches less every revolution. In a mile the error is three times six hundred and seventy-five or approximately two thousand and inches.

"Changing that into miles," Gus continued to calculate, "will mean that every time the speedometer clocks a mile the car will have travelled one hundred and seventy-five less than a mile. In a trip of one thousand miles, that amounts to about thirty-five miles error.

"And the same thing happens if the tires are larger than they should be," Gus added. Only the error will be in the other direction. The speedometer will read low.

"As Gus talked, Al Taylor drew a small notebook from his coat pocket, ripped out several pages, and began tearing them into small bits.

"What's the matter now," Gus asked.

"A lot of good those gas and mileage figures will do if speedometer's wrong," the man groaned. "Here I've been keeping accurate account of the speedometer readings and the gas used. I guess I hoped I could make an accurate test on my gas mileage."

Gus grinned. "Maybe your readings aren't as bad as I've painted them," he confessed.

"True, you two fellows differed forty miles on a thousand-mile run but then those oversize shoes Otis is using will make his speedometer read high.

"How can we check them?" asked Otis.

"Simple enough," explained Gus. "Make sure your tires have the right amount of air in them and then run out on the Mount Rose highway where the automobile club has that measured mile. Just run the length of it several times and see what your speedometer reads.

"Of course, if you want to make a longer test, take a trip some place where you're sure of the mileage. Then, when you've found out the error, if there is any, you can figure it in percentage.

"By the way, Gus, how about the miles-per-hour reading of a speedometer?" asked Otis.

"Won't the size of the wheels affect that also?"

"Sure," said Gus. "The speed reading does depend on the revolutions of the wheels just like the mileage. Naturally, if the wheels are smaller than they should be, the speedometer will show a low result. On the other hand, if the wheels are larger, it will read lower.

"Oh, so that's it, Al," Otis grinned with satisfaction. "No wonder you got that hum of junk you call a car run up to seventy when the best I've been able to do is sixty-seven. Your tires are worn and mine are oversize."

"Aw, go on," Taylor snapped back, "you couldn't get that crate of yours up to seventy if you got spoons for wheels."

Gus shoved his pencil stub back in his pocket and walked out of the office.

Soon the door opened with a bang and the two men were arguing loudly, apparently.

"What's up now?" Gus asked as they rushed toward their cars.

"We're going out to that measured mile," said Frank. "Maybe we can settle two arguments at once."

"You didn't do so well with them," Joe grinned as the two cars disappeared up the street. "They came here with one argument and left with two."

"Oh, well," drawled Gus, "I started them thinking anyway. And, if you don't think that's something, you don't know those two birds as well as I do."

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