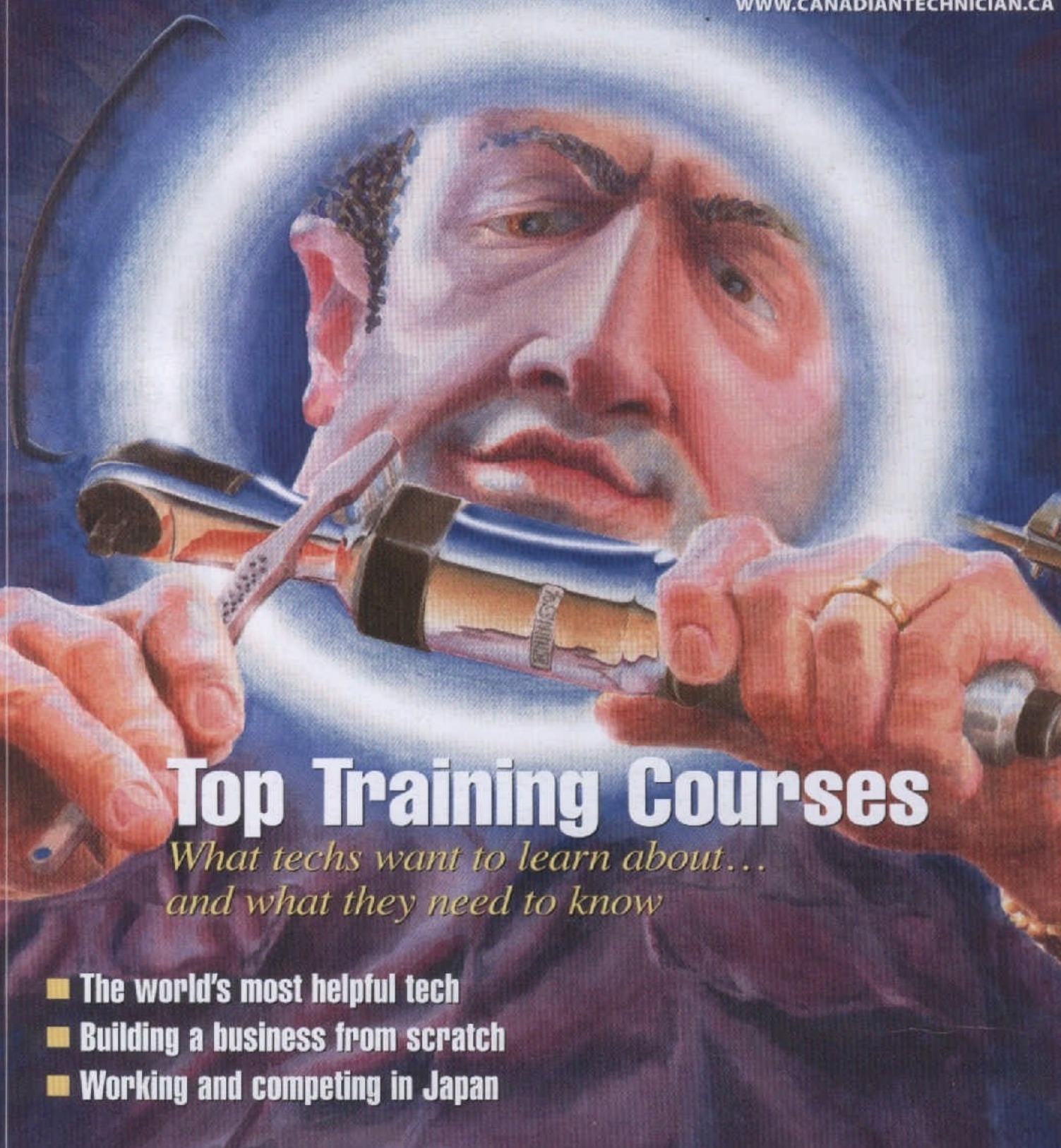


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What's behind curtain #1?

For a while, the simple carburetor got really complex to fix before it disappeared altogether.

By Richard Goulet

In the television game show "The Price is Right," you can be both a winner and a loser if you choose what's hidden behind the wrong red velvet curtain.

You could have had the vacation to Cuba but you got a can of shaving cream instead. So even though you're taking something home with you, you feel like you missed out.

In the automotive repair business, vehicle owners can sometimes feel the same way. Sure, the car got fixed, but it took two or three kicks at the cat, and a lot of inconvenience. For customers and technicians alike, that's a no-win situation.

I remember a time when what appeared to be a minor change in the design of carburetors caused a whole lot of no-win situations for the aftermarket repair industry. It was a time when customers felt that trying to get a driveability problem fixed was like playing a game of chance.

In the early days of electronic engine and emission management systems, fuel delivery depended on the carburetor – one of the most common features of car and light truck engines for more than 80 years. But some new fuel and emission laws created the need for a better fuel management system, and auto manufacturers had to re-engineer their carburetors to work with a complex computer program.

A major new development on this front was the "feedback carburetor," and the most popular carburetor of this type was the family of 2700 and 7200 VV (variable venturi) carburetors from Ford. They came in a variety of sizes and configurations (one-, two-, and four-barrels) and promised significantly improved emission control and fuel economy. But after several years of driving, these car-

buretors began to cause stalling, stumbling, and poor fuel economy complaints.

Unfortunately, customers who turned to independent repair facilities to get their vehicles fixed had limited satisfaction.

Diagnosing and repairing a Ford VV carburetor was more complex than most technicians were prepared for. Even replacing one with a remanufactured unit

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didn't always guarantee a resolution to the original customer complaint.

What technicians often didn't understand was that they had to follow the step-by-step installation instructions absolutely to the letter. If any step was done out of sequence, the vehicle wouldn't run properly. This was because the carburetor was no longer a stand-alone engine component dedicated to delivering fuel to the cylinders. The new feedback design carburetors were only a part of a much more complex computerized system. If the system received only some of the information it required from the

carburetor settings, it couldn't make the necessary ongoing minor adjustments to optimize performance, emissions, and fuel economy.

The majority of the problems in properly diagnosing and repairing a feedback carburetor were the result of a technician either ignoring the manufacturer's specific step-by-step process or they didn't have access to the proper diagnosis and adjustment procedures.

As in the game show, where contestants are invited to "Come on down!" vehicle owners with driveability problems were invited to "Come on in!" to their local repair shops, only to find that there was no prize waiting for them behind the curtain.

When a customer with a driveability problem spends his time and money on a repair, he wants to win the prize of a reliable car. If he doesn't get that, the repair facility has the potential for lost income and, more importantly, the potential for a lost customer.

Carburetors are no longer part of a vehicle as all of the manufacturers have replaced their fuel management systems with fuel injection. But the lessons of the VV carburetor remain with us. Diagnosis of highly sophisticated engine management systems cannot be left to chance. A technician needs to stay current and have access to the correct information to effect proper repairs. And industry associations must continue to lobby governments to ensure that aftermarket technicians continue to have access to the necessary diagnosis and repair information from the original manufacturers.

Otherwise we all go home empty handed! 

Richard Goulet has worked in many facets of the repair and service industry for more than 30 years