



Elec-Tran Diagnostics co-owner Jesse Zacarias with some of the shop's extensive array of testing equipment

Elec-Tran Diagnostics

For the Love of It

When someone asks Jesse Zacarias, co-owner of Elec-Tran Diagnostics in Gilroy, Calif., why he's willing to spend hours diagnosing electronic problems in transmissions, his response is, "I'm an amateur." He points out that "amateur" had its origin in the Latin word for love, and an amateur literally is one who does something for the love of it.

The shop that Jesse and Octavio Ramirez operate specializes in electronic diagnostics and gets much of its business from other shops that can't figure out a problem.

"People ask me, 'Why do you do this? You're not getting paid for it.' You can spend 20, 30 hours on an electrical, and you're not going to get paid for that. But it's not because of the money factor."

Technicians and shop owners get frustrated when they spend several hours, or sometimes days, trying to diagnose an electronic malfunction, Jesse said, and when they can't see the light at the end of the tunnel, they turn to Elec-Tran.

"That's how this business got started," he said. "At first we didn't even deal with the public. We had two major accounts that would just send us many transmissions."

Today, retail customers account for about 80% of the shop's business.

As their reputation for solving electronic problems spread, other shops in the area began to take the ones they couldn't fix to Jesse and Octavio. Jesse has authored a number of Shift Pointers articles in *Transmission Digest*, and he notes that most



Elec-Tran Diagnostics has two bays with lifts and a third that is used for electrical diagnosis that doesn't require raising the vehicle.



Octavio Ramirez is the other partner in the business.



Octavio is running a diagnostic procedure on an Audi.

of them have been based on diagnosing problems other shops couldn't figure out.

Jesse and Octavio became friends in 1981 while working in a transmission shop in Daly City, near San Francisco, and have worked together in shops ever since. The name for the shop in Gilroy, which opened in 1996, came from a diagnostic sheet that Jesse developed in the late 1980s to early 1990s and called Electronic Transmission Diagnostics. The function of the sheet is similar to that of the checklist that an aircraft crew uses before taking off or landing.

"Whenever a transmission was giving me a real problem, it was breaking all the rules of diagnosing, then I would grab this sheet and it forced me to fill in certain blanks, like solenoid application, band application; I had to put in

battery voltage, charging system, voltage drops and things of that nature so that it would help me to diagnose that unit. I had to run through each of these tests, and that would help me diagnose it better. Many times I found the problem halfway through the sheet."

Elec-Tran Diagnostics, which draws customers from as far north as San Francisco and as far south as Paso Robles, works on automatic and manual transmissions, transfer cases and differentials. Jesse and Octavio each do whatever needs to be done in the shop, which can include offering a fresh look at a problem when one of them gets stumped.

"When I can't seem to find the exit, I tell him, 'Take a look at this,' and I walk away and he takes over, or vice-versa, and sometimes that's how we find problems," Jesse said. "Sometimes you just confuse yourself. You start accepting something as OK because you're going over the mistake and you're not seeing a mistake. So I learned that sometimes it's just best to let another pair of eyes take a look at it, and sometimes they see what is so obvious that you already accepted as a fact. I learned that lesson back in high school, and now when I have something that I just can't seem to find, I tell Octavio, 'Take a look at this' and I walk away. One time we

were doing that and he said, 'Well, your ground wire is disconnected.' I do all my testing with reference to battery ground, and my battery ground was knocked off and my meter was giving me a different reading and I was accepting it."

Jesse's first job in the industry was cleaning a transmission shop on weekends while he was in high school, and after graduation he started doing R&R. In 1977 he enrolled in De Anza College in Cupertino, Calif., to learn about transmissions, and the instructor heavily emphasized operating theory. Later he studied hydraulics at San Jose City College, and he learned about electronics from Vince Fischelli, founder of Veejer Enterprises, who has written numerous books on electrical and electronic troubleshooting.

With its specialty in electronic diagnostics, the shop has a lot of test equipment, including scopes, meters and the latest scan tools, Jesse said. "I've been a consultant for Snap-on since 1985, so I get to test most of the equipment." He has even designed some test equipment himself, such as a four-channel pressure transducer he made from a two-channel version because no four-channel units were available.

Jesse also is a part of the research-and-development department at Valve Body Pro.

He says he enjoys the challenge of taking on a problem somebody else couldn't fix. "The way I'm looking at it, it really doesn't matter how long it takes me. I document everything, so I don't ever say, 'What is this? Let's throw in a computer and find out.' I basically back-probe the computer, I document everything so that when I do replace the computer and it fixes it, I know why, not just, 'Well, I threw in a computer and that was it.' And back-probing some of those things can take you a long time, because there's not easy access. But I love documenting my results." **TD**



Jesse and Octavio have been working together in transmission shops since 1981.