

# Fun on the Hotline



by David Skora

Every day starts the same: “Good morning, thanks for calling the ATRA HotLine. This is Dave: Can I get your account number please?”

From that point through the rest of the day, I never know what to expect. I could get 5-10 calls on Audis and Volkswagens. A few people will call in with an oddball Volvo, Land Rover or FMX. Typically, most of the calls are from domestic vehicles like Ford, GM and Chrysler.

What’s most surprising is that very few of the calls turn out to be a rebuild question, such as where an accumulator spring goes, or the tightening specification on a valve body. So if most ATRA Members don’t need help rebuilding transmissions, what do they call for?

It turns out most of the calls are related to diagnosing a complaint and finding information. Under the category of finding information, I have to include the people that are trying to use the wrong scan tool to get codes or data on a vehicle.

Take the guy who has the reputation in town of being able to fix anything. Then one day, a 2007 Volvo XC94 350hp, twin-turbo, sleeve valve engine with a 6-speed automatic shows up (figure 1). Yesterday the owner drove it up Pikes Peak and it was fine.



Figure 1: What’s up with these Volvos?

# Sonnax Expands AW55-50SN Product Line!

## COMPLAINT

SECONDARY COMPLAINT

## Overheating of fluid, bushings and converter

• Harsh reverse engagement • TCC slippage/RPM surge • Poor shift quality • High or low SLT pressure

## CAUSE

Bore wear at the spring end of the valve allows the SLT circuit and regulated converter pressure to cross leak. Bore wear at the balance end of the valve reduces converter and lube flow.

## CORRECTION

Install the new Sonnax Secondary Regulator Valve & Spring kit to restore hydraulic integrity to the circuit.

## Secondary Regulator Valve & Spring Kit

### 59947-16K

1 Secondary Regulator Valve  
1 Secondary Regulator Spring

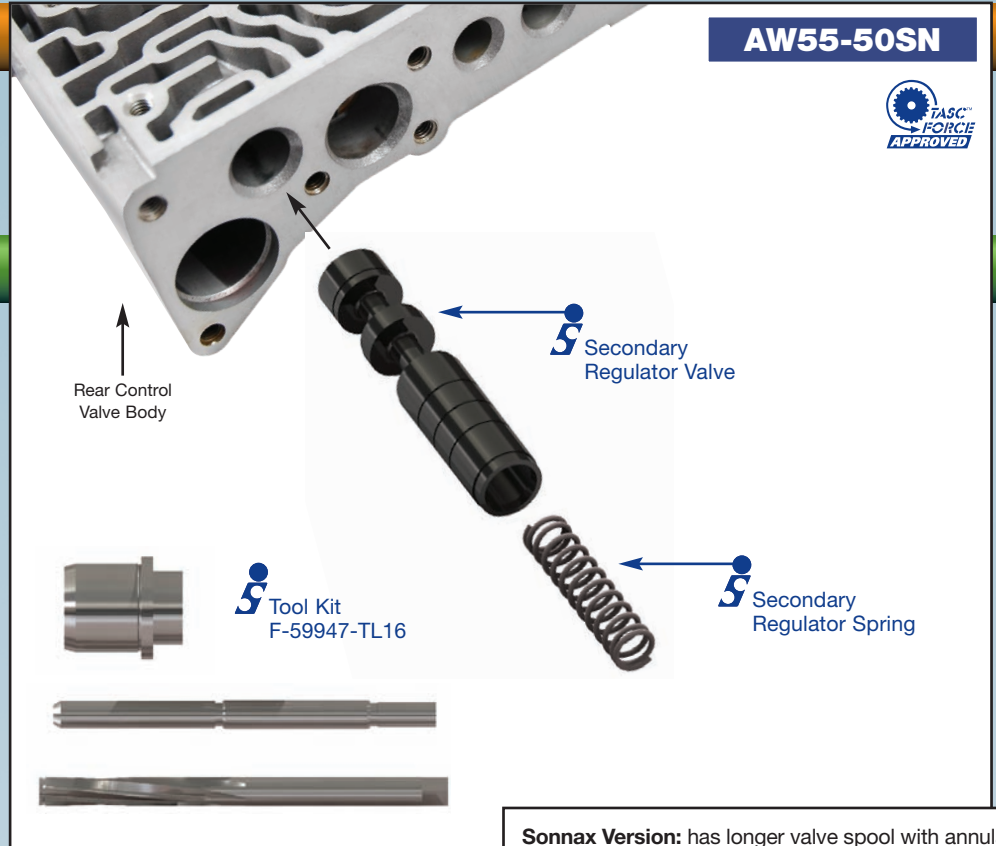


### F-59947-TL16

1 Reamer  
1 Guide Pin  
1 Reamer Jig



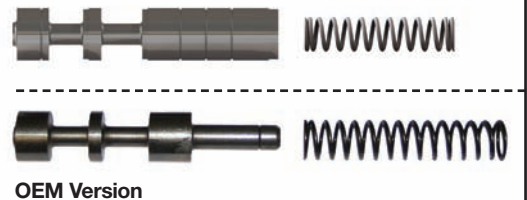
**Note:** Also fits AW55-51SN, AF 23/33 and RE5F22A units.



### Features & Benefits

- Salvages valuable core.
- Improved valve support to reduce wear.
- Improved converter feed and lube flow.
- Anodized aluminum valve replaces OE steel valve for better clearance control with the aluminum casting.

**Sonnax Version:** has longer valve spool with annular grooves which offers improved valve support and reduced wear.



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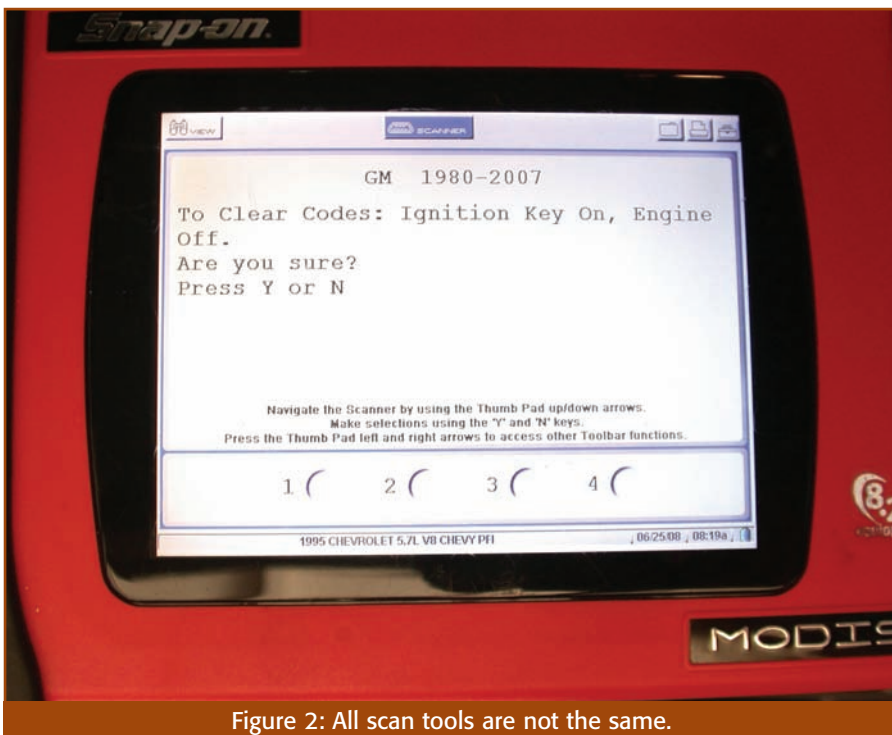


Figure 2: All scan tools are not the same.

This morning he put it in gear and the CHECK TRANS light came on. The owner was told this is the guy to see.

Of course our guy has a Volvo SI or X-431 scan tool to diagnose this. But a lot of great technical guys across America may not. So what do they do? These guys have a couple of options: Pass on it (which may put a ding in his reputation), scan it with OBD-II and hope for the best, or find a specialist they can take it to whom they trust. No doubt this last choice will take longer, but it's probably the best way to maintain his reputation.

The same thing applies to having a DURAMAX with an LCT 1000 show up. To work on a DURAMAX with an LCT 1000, the best scan tool is a GM TECH-II. If you have one of the more popular aftermarket scan tools, you may be able to perform all the functions of the TECH-II, but sometimes you can't (figure 2).

Here's a little tip. When you want to clear codes from a DURAMAX using an aftermarket scan tool, you may find that the codes won't clear. Before you tear your hair out, try this:

- Go to the step where the scan tool asks you to Clear Codes "YES or NO," hit YES. It should say "Codes Cleared."
- Now go to Clear Codes again and repeat the code clearing steps about 6-8 times.

This should eliminate the remaining codes stored in all the networked modules such as the body, instrument panel, ABS, and transfer case control modules.

The tech calls needing information are pretty cut and dry. The real fun starts when I'm helping someone troubleshoot or diagnose a problem. I remember when I first started doing tech calls, before I came to work for ATRA, I got a call from a tech working on what *sounded* like an '84 Sentra. He started to tell me that it had a harsh 3-2 kickdown.

I asked him to hold on a minute so I could get a hydraulic diagram. I came back and asked him if he had checked the pressure when he kicked it down and what the intermediate band was adjusted to. At this point, all I heard was silence. Then he said, "You know this is a Buick Century." "Oh," I replied, "the one with a 440, not the 3-speed Jatco." At least we both laughed.

Every once in a while something happens to a vehicle that isn't caused by a human or an act of nature. The technician on the other end of the line sounded confused; he was at a loss. He had a 2004 Nissan Altima with a RE4F04A towed in. The complaint was it wouldn't upshift.

Since it had to be towed in, the only diagnosis was to connect a scan tool to it and check the oil. There were

**If you have one of the more popular aftermarket scan tools, you may be able to perform all the functions of the TECH-II, but sometimes you can't**

no codes and the oil was dark red, not burnt, and near the full mark. The tech decided it might need a converter or a planetary might have broken (it had 160,000 miles). It came out and he found nothing wrong inside. It went back together with a rebuilt converter.

On the road test, the transmission went right in gear both forward and reverse. As the tech started out the driveway, the engine didn't seem very powerful (even for a 4-cylinder). Just as the customer explained, the transmission didn't want to upshift.

Back at the shop, the car still didn't display any red flags, like codes, bad smells, noises, etc. Since the car went forward and reverse, the tech made some long test leads and connected them to the shift solenoid wires.

He discovered the computer was only commanding first gear. To be sure the transmission was able to work, he used a couple of live jumper wires and got the transmission to shift through all the gear ranges while the car was on the rack. Since there was very little data on the scan tool, he figured it was time to call the HotLine.

To me this sounded like the engine had a clogged fuel filter or the timing was retarded. I faxed over fuel pressure testing and engine timing information. He called back and reported they were fine.

Next I had him connect a vacuum gauge to the intake manifold and try to drive it around. This time he called back with some strange findings. He said it had 18 inches at and idle and it was steady. When we tried to accelerate, it dropped to 12-15 inches, even if he floored it. "Ah-hah! I think you have a plugged exhaust." I told him to drop the exhaust and try it again.

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Figure 3: This car has gone to seed.

**When he opened the air cleaner to start removing the MAF and throttle intake ducts, he discovered that the air box under the filter was full of birdseed!**

Still no luck. I found out that this engine uses a drive-by-wire throttle control. So I asked the tech to look at the throttle housing (figure 3). This time the tech reported success. When he opened the air cleaner to start removing the MAF and throttle intake ducts, he discovered that the air box under the filter was full of birdseed!

He called the owner and asked him about it. The owner started laughing. A couple of days before, he'd helped his wife unload the groceries from the car. He'd set a large bag of birdseed on the ground next to the garage. He got distracted and forgot to put it in the cabinet. After he discovered the problem with the car, he noticed the bag had been torn into. He figured some squirrels had made off with the seed, but he never thought they'd hide it in an air filter box.

I asked the tech to email me a picture. (Figure 3)

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