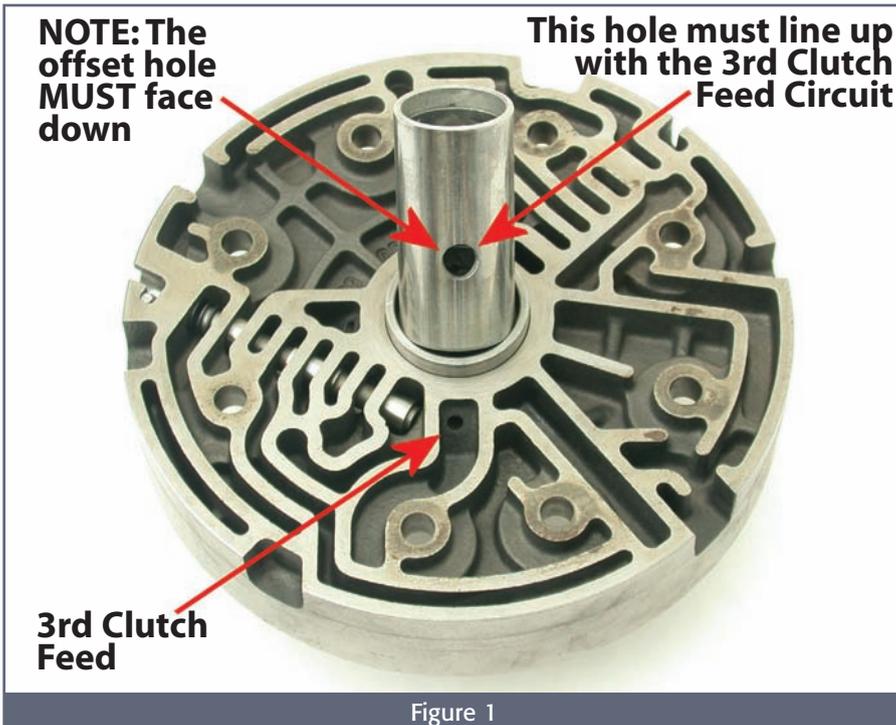


# Solutions from the Seminar



**Y**ou've heard us say, time and again, how valuable the ATRA Technical Seminars are... how they can help you stay on top of breaking news and information. To demonstrate some of the cutting edge solutions that are constantly being presented at the ATRA Technical Seminars, we've devoted this edition of *Q&A* to questions and solutions covered in past seminar programs.

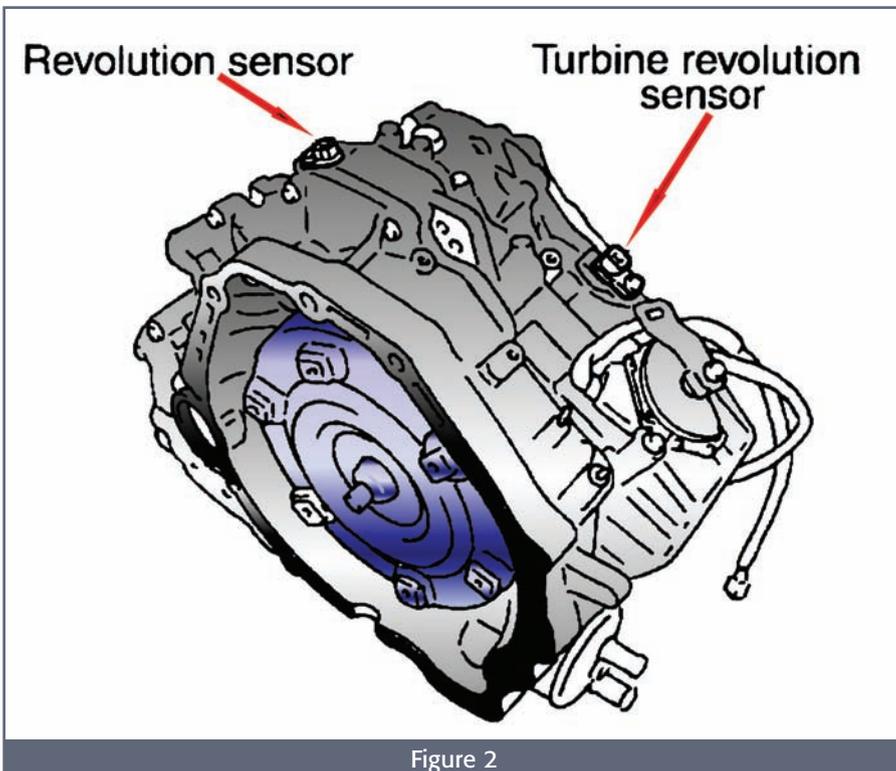
Questions like these — and dozens more — are being answered at the 2006 ATRA Technical Seminar. As a transmission repair professional, you owe it to yourself — and your customers — to attend. This year's seminar season is already under way: Check the schedule on page 72 to learn when we'll be playing in your area.

And now the questions:

*Hi my name is Orin, and I work in Northern California. We're working on a 2001 Dodge truck with a 47RE and a gas engine. While driving the vehicle on the freeway, the transmission will fall out of overdrive and lockup. It's not your typical hunt; it seems to fall out and stay out for up to a mile at a time. I thought that would make the problem easy to catch with a scan tool, but I can't see any signal going out of range while the problem occurs. The TPS, MAP, VSS, Battery Voltage, Brake Signal and Overdrive Cancel input all seem okay. My boss wants to replace the computer but I really don't want to throw parts at the problem. What am I missing?*

Orin, you seem to have done a proper diagnosis so far. There are really only two things left: The computer and the charging system.

The computer may need to have updated software installed. Check with



**Wire a 100-ohm resistor and a battery as shown in the diagram (figure 3).**

your local dealer to see if it's available for that year, model and engine.

Believe it or not, the other possible problem may be a bad alternator. The alternator produces alternating current, which it converts to direct current by diodes located inside. When the diodes start to go bad, they allow varying amounts of alternating current through to the charging system.

Because all computers work internally with digital signals, this added frequency can confuse the computer and make it do some crazy things. How much is too much? There's no absolute answer on that. The best way to diagnose this problem is to disconnect the alternator and test drive the vehicle. If the problem goes away, chances are that the alternator is the cause.

*Hi my name is Fred; I'm from New Jersey. We just installed a 4L30E into a 1999 Isuzu Trooper and it binds up during the 1-2 upshift. It doesn't bind in manual low or reverse. I'm looking at the application chart and I'm having a hard time figuring out which component is causing this problem.*

Hey Fred, the 3<sup>rd</sup> clutch is on in manual low for engine braking, and even though it isn't applied in reverse, it *can* be without causing a problem. That may be what's causing the confusion. If the 3<sup>rd</sup> clutch is on in 2<sup>nd</sup> gear, the input sprag can't freewheel, which causes the bind.

A warped or cracked drum support can cause the 3<sup>rd</sup> clutch to stay applied in 2<sup>nd</sup> gear, but the more common cause is a bushing that was installed improperly in the drum support. Figure 1 shows the correct way to install the bushing. The 3<sup>rd</sup> clutch feed hole in the bushing must be lined up with the 3<sup>rd</sup> clutch feed circuit, and the offset hole must face down as shown. If it's installed wrong, lube oil will apply the 3<sup>rd</sup> clutch and cause the bind.

100 ohm Resistor  
Radio Shack Part Number  
271-1311

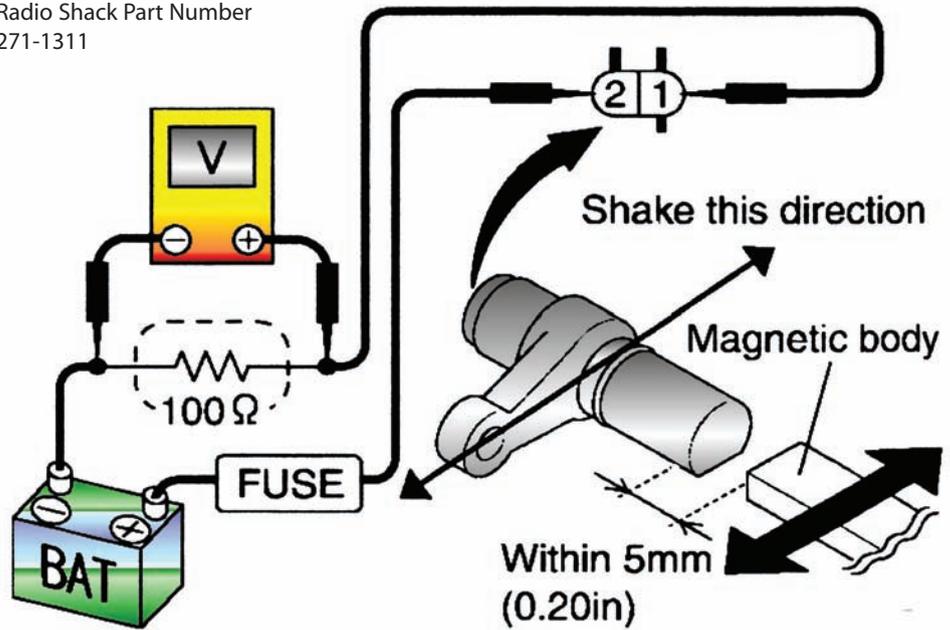


Figure 3

*This is Robert from Arizona. I was working on a 2005 Nissan Maxima last week and I was trying to test the pulse generators. There were no trouble codes and the vehicle worked fine. But I couldn't get an AC signal from the sensors. I didn't replace them because I know I must have been doing the test wrong. Can you please explain this?*

That's a great question Robert and I'm glad you didn't change the revolution sensor and the turbine revolution sensor (figure 2). These sensors don't produce an AC signal like pulse generators; they need voltage applied to operate and be tested properly.

Wire a 100-ohm resistor (Radio Shack part number 271-1311) and a battery as shown in the diagram (figure 3). Wave a piece of steel back and

forth past the face of the sensor. The voltage should fluctuate from a high of 1.2-1.6VDC and a low of 0.4-0.8VDC as the steel piece is waved past the sensor.

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OFF/ON, Operative Solenoid, Clear Solenoid, Hold Valve Solenoid

The components and features of this controller are independently configurable and are programmed differently for each application.

Due to complete reconfigurations of each application, an identification overlay with directions is required for each transmission application. The overlay is retained with the two thumb screws in the middle area of the faceplate.

Additional applications require a properly flashed EPROM Card which contains the updated data for existing and new applications. The card is mounted on the lower PC Board inside this device. The six mounting screws at the edges of the faceplate must be removed to gain access to the Card. A removed card can be returned for credit, to be re-flashed.

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