

Shudder... Vibrations

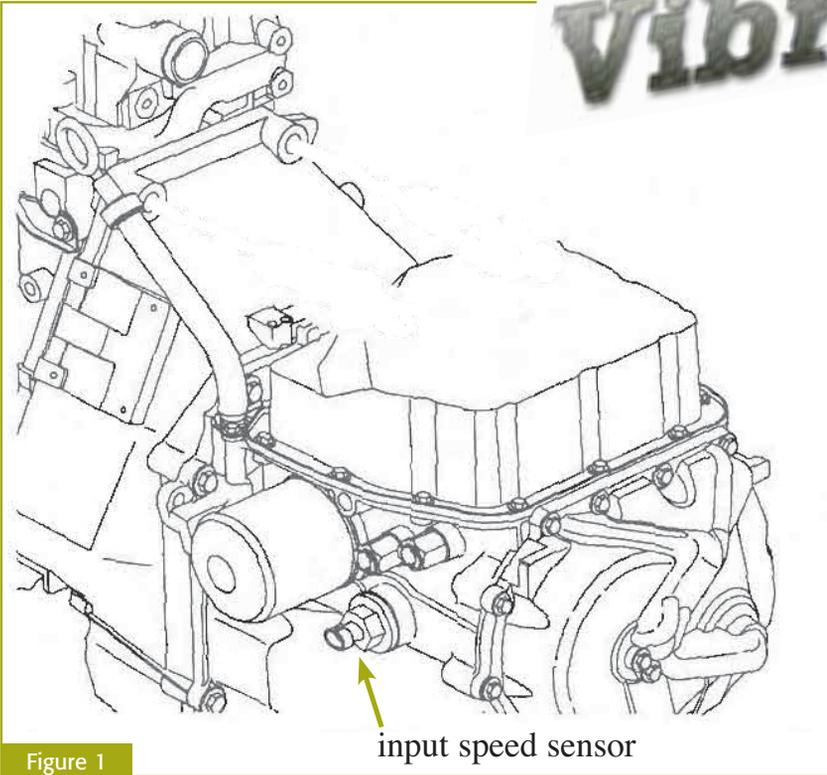


Figure 1

Welcome back to Q&A. We've gathered some frequently asked questions that come through the ATRA Technical Department, and will share the answers with our readers. Once again, the names and towns have been changed to protect the innocent.

Converter Shudder

Hi, my name is Stewart from Alaska. We have a 2000 Chevy truck with a 4L60E and a 5.7L gas engine. We've been fighting a converter shudder for about four weeks. We've tried 3 different torque converters and two PWM solenoids and replaced the internal wire harness and TCC solenoid. We've also installed a brand new pump from GM and friction modifier. None of this has changed a thing. The scan tool shows no TCC slip, and as far as the engine goes, it idles

fine and has plenty of power. We've monitored manifold vacuum, and it seems to respond properly with throttle opening, and looks smooth even during the shudder.

Stewart: the only question I have is *does the converter apply smoothly?* Clutches can shudder only when there is slippage, and during the apply of a clutch is when it slips most. So if the apply is smooth, chances are the converter clutch is not the cause of the shudder. With that in mind, I believe you do have an engine performance problem. It's very common for engines to have a fuel injection or a timing problem during slight acceleration or during tip in throttle. The difficult part is proving this to someone that wants to blame the transmission - especially an engine performance shop that has tried unsuccessfully to find the performance problem.

The best way I have found to prove this is to unbolt the exhaust pipes from the manifolds and let them hang down about an inch. This produces an exhaust leak so that you can listen to the engine. When the shudder occurs, listen for small misfires or even small changes in pitch. If you hear anything that changes during the shudder, suspect the engine.

Saturn TAAT Fluid Fill

Hi, my name is Dean from San Diego, CA. Every time we fill a Saturn transmission, oil burps back out of the fill tube. It takes forever to fill one and it's very messy. Once we get the fluid in the transmission, it stops happening and everything works fine. Is there a special fill procedure that we need to follow or a special tool we can use to prevent this?

Dean, the vent is located in the dipstick handle, so when you pump fluid into the transmission you're producing pressure that has no where to escape. What really helps is if you remove the input speed sensor (figure 1). This makes a temporary vent while you're filling the transmission. Just don't forget to reinstall the sensor. Another thing to keep in mind is that you'll need to remove the air box to get to the input speed sensor. To do this you'll need to disconnect the Idle Air Control connector on some models. It's not difficult; just remember to plug it back in when you're finished.

Vibrations

Hi, this is Richard from the Northern California area. I work on four wheel drive trucks with many types of lift kits. As you know, some lift kits are

In using the Vibrate Software, you must level the vehicle, and use a high-quality digital angle finder to determine accurate numbers for input into the calculator.



Figure 2

better than others. Some of the trucks that come to my shop have extreme driveshaft angles which I believe are causing vibrations. Is there anything written about proper driveshaft angles and how to correct improper ones?

Richard, that's a very good question. There are definitely many things that cause vibrations, and driveshaft angle is a very common one. A company called Vibrate Software, located in Ogden, Utah, offers software that includes a calculator for driveshaft angle (fig 2). Another part of this program allows you to input gear ratios

and cylinder count, and graph the vibration frequency from a vibration analyzer available from several different companies. A 15-day trial version of this software can be downloaded from www.vibratesoftware.com.

In using the Vibrate Software, you must level the vehicle, and use a high-quality digital angle finder to determine accurate numbers for input into the calculator. These tools can be expensive, so I wouldn't suggest that everyone run out and invest in them. It seems your work with lifted four wheel drives may be a money-maker for you, so the

expense may be justified. The cost of the software is currently less than \$200, where the cost of the angle finding tools and levels vary greatly depending on the quality you choose.

That's all the space we have for this issue's Q&A. If you or anyone in your shop has a technical question or a fix of your own that you'd like to share with the industry, send them in... we'd love to hear from you!



Email: sales@atec-trans-tool.com
or call **800-531-5978**

Get Off The Rental Treadmill!

For Product Information Visit
www.atec-trans-tool.com

StillClean Solvent Recycler

PATENTED LOW TEMPERATURE VACUUM DISTILLATION TECHNOLOGY

T-STILLCLEAN

- Extends solvent life
- Waste oil indicator
- Interior fan
- 1-1/2 gallon per hour capacity
- Small, compact and portable

\$1195⁰⁰

SHOW SPECIAL

One Low Price, FREE Stand
(\$199.95 value)
and FREE Shipping!

Midi-Pro Parts Washer

With Skimmer ... Featuring

T-0100-MIDI-PRO

SPROCKET DRIVEN 30" FIXED DIRECT DRIVE TURNTABLE AND 2 HP SEALESS VERTICAL PUMP

- Exterior: 67"Hx40"Wx52"D
- 43" interior height
- 700 lb. capacity
- 58 gallon tank size
- 16 brass spray nozzles
- 6 KW heater

Recycler with stand

T-0177 Table

T-0171 Foot Press

WE OFFER A FULL LINE OF: Transmission Tools, Tanks & Tables and Cleaning Equipment - Call For Free Catalog or you may request one online at www.atec-trans-tool.com

T-0220-39 BUSHING DRIVER SET
Case hardened steel - Made in USA