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Things don’t always work out the way you’d like them to, especially with transmission repair. You rebuild a unit — a type you’ve built a hundred times before — but this one bounces… it doesn’t even make it off the rack. Maybe you tried a new procedure or component and it didn’t work the way it was supposed to.

So what do you do? You try something else. You ask for advice. You read up on the topic, looking for fixes for similar problems. Maybe you go to a tech seminar to look for the answer.

You know it can work; you’ve rebuilt these units before without any problem, so why won’t it work right this time? In most cases it’s something you missed or failed to do properly, or a modification that backfired.

It doesn’t really matter what the specific problem is: The fact is you’re going to find it, and you’re going to fix it; giving up isn’t an option.

But when it comes to business problems, shop owners don’t always exhibit that same determination. Too often they explain away a poor month or a bad quarter as something outside their control: “The economy has just killed business in this town,” they say. And because they accept that premise, they don’t take the steps necessary to invigorate their businesses.

The problem with that is it isn’t true: During my shop visits I’ll often stop in at shops that are just a few blocks from one another. In one shop they’ll be sweeping the floor and emptying trash, while the next one is packed. How could the difference have anything to do with the economy or regional issues when the shops are so close to each other? It can’t.

So if the problem isn’t regional or economic, what is it? And why is it so hard for shop owners to identify what’s wrong, and what it’ll take to fix it?

That’s because there’s a difference between identifying a problem on the bench and one in your business model: time.

Everything you do has a cause-and-effect relationship. You flip the switch on the wall and the light comes on. Cause, effect. Usually, as with the light switch, the cause and effect are right next to one another, so it’s easy to recognize the relationship.

The same is true with transmission repair. You replace a rolled seal or a cracked ring, and now the clutch applies. You know you found the cause of your problem because it goes away as soon as you install the new parts.

But in business there’s a huge time delay between the cause and effect. Changes you make today can take months — even years — to realize their full effect. That delay can make it all but impossible to identify whether you’re getting the desired effect from the changes you made.

So at ATRA, we started to examine the most successful — and not so successful — businesses in the industry. We compared what they were doing, and looked for what they had in common. From that, we were able to identify practices and procedures that provide the greatest rewards for transmission repair shops.

That led to the creation of ATRA’s What’s Working program; a targeted approach for discovering the differences between shops that are doing well and those that are barely surviving. Over the past five years we’ve learned what works…and what doesn’t. There are clear examples of this, regardless of how big the shop is, how long it’s been in business, or where it’s located.

That’s a critical consideration: It’s far too easy to pour time and money into additional marketing. But, because of the delay between the cause and effect, you may never know for sure whether your investment worked or not.

That’s why the What’s Working program is so valuable: Through our industrywide sampling, we’ve been able to identify the procedures that provide the biggest bang for your buck, and which ones are more likely to drain your wallet, without ever producing the results you were hoping for.

This year, the What’s Working program is going on-site to successful shops across the country to see firsthand what they’re doing and how. We’ll share their stories at this year’s ATRA Powertrain Expo. And we’ll have some of those successful shop owners on hand to tell their stories and answer your questions.

There are still some great opportunities in this industry. The trick to success is no different than at the bench. You need to dig in and discover the causes that provide the effects you’re looking for. What if it doesn’t work? You can learn what will… at Expo!
Help me win that bet and become a Certified Transmission Distributor. The Certified Transmission Program is unique, designed exclusively for professional transmission shops (or: auto and truck repair shops) looking to increase capacity, sales and profits. More than just another reman unit, Certified transmissions are installed by the people who build and test them and by professional shops throughout North America.

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- A program allowing you to pay for them after you sell them

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  Glen Burnie Transmission  
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  Transmission Distributors Inc  
  800-891-5508
- Casper, WY  
  Auto Dynamics  
  800-222-4646
- Des Moines, IA  
  All Drive Transmission  
  800-247-1499
- Framingham, MA  
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- Manhattan, KS  
  Stagg Hill Transmissions  
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- North/Central NE  
  Norfolk Transmission  
  800-234-8726
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  Eddie’s Transmissions  
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Peter and Amanda Fink  
Certified Transmission

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PARTNERSHIP  
PRODUCTIVITY  
PROFITABILITY
The Toyota A750E was first introduced in the 2003 4-Runner and Land Cruiser, and the Lexus LX400 and GX470. Since then it’s become quite popular, showing up in the Tacoma, Sequoia and Tundra in 2005 and the FJ Cruiser in 2007.

These transmissions have been on the road for up to seven years and are getting a lot of miles on them. With all the cars using this transmission, there’s no doubt you’ll be seeing it in the years to come (figure 1).

A common complaint is the transmission falling out of gear when coming to a stop, sometimes so harsh that it feels like someone has rear-ended you. This happens because the trans has fallen out of gear due to low pressure, caused by a faulty SLT pressure solenoid. The ECM then ramps up the pressure to max and it slams back into gear. Replace the SLT solenoid is the fix for this concern. But before we get into fixes let’s learn a little about this unit.

Line Pressure Specifications
Line pressure tap location and specifications (figure 2).

ATF Temperature Sensor
This transmission uses two temperature sensors, each with a different function. The ECM uses ATF temperature sensor 1 to modify pressure control for the clutches and brakes. If this sensor fails, the ECM will prevent upshifts into fifth gear and lockup. The ECM uses ATF temperature sensor 2 for shift timing control when ATF temperatures are high.
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ETEREMAN.COM
In some vehicles equipped with the A750E, the MIL may light intermittently, and the computer may store DTC P2742 in memory (Transmission fluid temperature sensor 2 circuit low). To diagnose this, monitor ATF temperature sensor 2 and watch for it to short to ground intermittently. When the sensor shorts, ATF temperature sensor 2 will indicate 302°F (150°C). This is usually due to a faulty internal wiring harness; replacing the harness will correct the problem.

ATF temperature sensor 2 has two blue wires; ATF temperature sensor 1 has two orange wires (figure 3).

### Solenoid ID and Location

This chart provides the repair manual ID for each solenoid in the A750E transmission, and the part name and description provided in the electronic parts catalog.

Figure 4 shows the solenoid ID and location.

<table>
<thead>
<tr>
<th>ID</th>
<th>Solenoid Name</th>
<th>Parts Catalog Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>Shift Solenoid A</td>
<td>3-Way Transmission Solenoid</td>
</tr>
<tr>
<td>S2</td>
<td>Shift Solenoid B</td>
<td>Transmission Solenoid 3</td>
</tr>
<tr>
<td>SR</td>
<td>Shift Solenoid E</td>
<td>3-Way Transmission Solenoid 2</td>
</tr>
<tr>
<td>SL1</td>
<td>Pressure Control Solenoid A</td>
<td>Clutch Control Solenoid 1</td>
</tr>
<tr>
<td>SL2</td>
<td>Pressure Control Solenoid B</td>
<td>Clutch Control Solenoid 2</td>
</tr>
<tr>
<td>SLT</td>
<td>Pressure Control Solenoid D</td>
<td>Line Pressure Control Solenoid</td>
</tr>
<tr>
<td>SLU</td>
<td>TCC Pressure Control Solenoid</td>
<td>Lockup Control Solenoid</td>
</tr>
</tbody>
</table>

### Valve Body Disassembly

There are a few procedures you should always keep in mind when working the A750E valve body. Two things that you need to do are:

1. Make sure you record the accumulator control pressure setting prior to removing the accumulator control valve (figure 5).
COMMITMENT
IS MORE THAN SKIN DEEP

Yeah, we’re that
serious. When you see
the Transtar seal of
quality, you can trust that
when you build it once,
you’ve built it right.

You Can Count On Us.

Transtar Hard Parts.
Build it once. Build it right.
The Premier Provider of World Class Driveline Solutions.

TRANSTAR
HARD PARTS
OEM / Aftermarket
Good Used / Remanufactured
There’s no factory preset specification. From the factory setting, you can turn the stepper in to provide a firmer shift feel. Backing the stepper out will offer a softer shift feel.

2. Make sure you record the primary regulator valve setting before removing primary regulator valve from the valve body. The tallest step will provide the highest base pressure reading; the shortest step will provide the lowest base pressure reading (figure 6).

Always inspect the valves and springs thoroughly during disassembly. Check the valves for scoring and make sure the valve bore is clean. Pay close attention to the valve layout, and make sure you put them back in the way they came out.

**Exploded View Upper Valve Body 1**

Install the checkball in the C3 check valve lineup (figure 7). If you leave this checkball out, the transmission won’t go into reverse.

Always check the B1 accumulator in the upper valve body (figure 8). This is where debris will build up. It can be difficult to remove, but it’s important to take it out and clean the bore thoroughly.

**Exploded View Lower Valve Body 1**

The primary regulator valve and the accumulator control valve are located in the lower valve body (figure 9). Record the settings for these valves.
Once you’ve recorded the settings, disassemble the lower valve body, check the valves for scoring, and make sure the valve bore is clean.

Always install the solenoid filter screen (figure 10) with the open end up. The screen will snap into the separator plate when properly installed. Install the torque converter check valve as shown.

**Upper Valve Body 1 and 2 Checkballs**

There are three sections to the A750E/F valve body. Upper valve bodies 1 and 2 are the only valve bodies with checkballs (figures 11 and 12).

All of the checkballs are composite. Make sure the checkballs are in good shape; replace any that are damaged or have decomposed. All of the checkballs are the same size: 0.217” (5.5mm).

The coast brake relay valve is located in upper valve body 2 (figure 12). Be sure to remove, clean and inspect this valve body.

**Lower Valve Body 1**

The purpose of the pressure limit checkball is to exhaust pressure if it becomes too high (figure 13). The limit valve will blow off at about 300 PSI.

Now that we’ve covered all solenoids, control valves and checkballs in the valve body, reassembling the valve body should be a snap.

The A750E valve body isn’t difficult to work with. But without the proper information and understanding, you could easily cause yourself problems later on. That’s why it’s so important to have all the information close at hand. It’s not just smart… it’s Street Smart!
Several times when handling a tech call I forget the difficult situations involved when I ask a tech to back-probe some wires and give me the results. I’ll usually get a response of; “Man do you know where that pin is located?” There are times when explaining a procedure over the phone even while the tech and I going over the same wire diagram can still be confusing.

What we’ve done here at ATRA is put together some simple diagrams and procedures to help make diagnosing Dodge and Chrysler vehicles with the RE transmission less complicated. These diagrams along with their procedures should make finding the problems faster which will save time and money spent chasing wires. As we all now how difficult it is to get paid for diagnostic time.

The diagrams in figures 1 and 2 will have to be determined by looking up the year make and model of the vehicle being worked on to know whether the relay is powered up through the C1 or C3 connector. The procedure for both figures is the same; unplug the PCM with the ignition key off, and then jump voltage (always through a fusible link) to the connector pin found in the wire schematic for the vehicle being worked on. Then after jumping a ground to the appropriate connector.
RE Transmission Circuit Test
Typical Wire Diagram 1997 to 2003
(Trans Relay Powered by C3 Connector)
(Wire Colors May Vary Per Model Year All Circuits Should Identified By Pin Number)

Step 1: Key Off Unplug PCM Connectors C2 & C3
Step 2: Jump Voltage to Connector C3 Pin 25 (with fused link)
Step 3: Jump Ground to Connector C2 Pin 30
Step 4: Check Voltage at Connector C2 Pins 8, 11 & 21

Figure 2
Keeping It Simple

**Electrical Circuit Test**

**Transmission Throttle Valve Actuator Circuit Test**

The ECM will re-calibrate its current position when the ignition is turned on and the engine is not running for 30 seconds.

<table>
<thead>
<tr>
<th>Accelerator Position Sensor</th>
<th>Open Throttle</th>
<th>Wide Open Throttle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>2%</td>
<td>96%</td>
</tr>
<tr>
<td>2%</td>
<td>3%</td>
<td>97%</td>
</tr>
</tbody>
</table>

**TTVA Position Sensor Signal**

<table>
<thead>
<tr>
<th>TTVA Position Sensor Signal</th>
<th>Input Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTVA Motor</td>
<td>5V</td>
</tr>
<tr>
<td>TTVA Motor</td>
<td>2.8 - 2.5 V</td>
</tr>
<tr>
<td>TTVA Motor</td>
<td>3.8 - 4.5 V</td>
</tr>
</tbody>
</table>

**DC Volts**

- +12V
- 0V
- -12V

**Engine Control Module C1**

**Engine Control Module C2**

**Figure 4**

**Figure 3**

**RE Transmission Circuit Test**

Typical Wire Diagram 2004 & Up

**UNPLUG ECM CONNECTOR C2**

1. Plug ECM to Connector C2
2. Turn ECM On
3. Jump Ground to Connector C2 Pins 14, 15, & 16
4. Check Voltage at Connector C2 Pins 14, 15, & 16

**Hot at Start**

- 12V should be present

**Hot at All Times**

- 12V should be present

**Source Voltage**

- 12V should be present

**Transmission Assembly**

- Check for fluid level

**Engine Control Module C2**

**Figure 3**

Switch to voltage and move the red lead to the sensor plug.
“I trust and rely on Raybestos friction clutches and parts!”

John R. Giblin
Mr. Transmission/Vengeance
Motor Sports
Bourbonnais, Illinois

Our commitment to quality manufacturing and product diversity is unsurpassed. Raybestos Powertrain is dedicated to the highest level of service and products.

John says: “I don’t have to worry when I use your products in my car or recommend them to others. These have got to be the best clutches, steels and bands that I have used in the past 23 years. They have stood the test of time and hard driving. Please keep up the high standards of workmanship.”
### Figure 5

<table>
<thead>
<tr>
<th>MHI</th>
<th>Governor PSI - Gas</th>
<th>Governor PSI - Diesel</th>
<th>Pin # 4 Sensor Signal Voltage</th>
<th>Pin # 5 Solenoid Ground Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.30</td>
<td>8.60</td>
<td>9.45</td>
<td>9.80</td>
<td>10.30</td>
</tr>
<tr>
<td>8.60</td>
<td>9.45</td>
<td>9.80</td>
<td>10.30</td>
<td>10.80</td>
</tr>
<tr>
<td>9.45</td>
<td>9.80</td>
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<td>10.80</td>
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<tr>
<td>10.30</td>
<td>10.80</td>
<td>13.80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Figure 6

<table>
<thead>
<tr>
<th>MHI</th>
<th>Governor PSI - Gas</th>
<th>Governor PSI - Diesel</th>
<th>Pin # 4 Sensor Signal Voltage</th>
<th>Pin # 5 Solenoid Ground Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.30</td>
<td>8.60</td>
<td>9.45</td>
<td>9.80</td>
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<td>9.45</td>
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<tr>
<td>10.30</td>
<td>10.80</td>
<td>13.80</td>
<td></td>
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</tr>
</tbody>
</table>

**Electrical Circuit Test**

- Governor Pressure
- Back Probe Connector
- Notch

---

**Keeping It Simple**

- Figure 5
- Figure 6
Verification Test
Governor Pressure Solenoid & Sensor (Transducer) Test

Figure 7

Basic Electrical Tests To Check Circuit Integrity

RESISTANCE TEST:
Circuit must be isolated (both ends disconnected)
Step 1

NOTE:
Resistance Test

ALL BUT ONE STRAND BROKEN
METER READS THE SAME
(check circuit for amps step 4)

Step 2

Step 3

Step 4

Step 5

<table>
<thead>
<tr>
<th>MPH</th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governor PSI - Gas</td>
<td>0</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Governor PSI - Diesel</td>
<td>0</td>
<td>8</td>
<td>38</td>
<td>60</td>
<td>65</td>
<td>68</td>
<td>70</td>
</tr>
<tr>
<td>Pin # 4 Sensor Signal Voltage</td>
<td>.66</td>
<td>.90</td>
<td>1.10</td>
<td>1.45</td>
<td>1.80</td>
<td>2.15</td>
<td>2.95</td>
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<tr>
<td>Pin # 5 Solenoid Ground Voltage</td>
<td>8.30</td>
<td>8.60</td>
<td>9.45</td>
<td>9.80</td>
<td>10.30</td>
<td>10.80</td>
<td>13.80</td>
</tr>
</tbody>
</table>

While monitoring the scan tool data and a pressure gauge on the transmission, which ever data reading agrees with the gauge determines which component is working properly and which has failed.

Example: Gas vehicle, VSS: 30 mph, pressure on the gauge: 30 psi, the scan tool data for DES GOV PR reads 30 psi but the GOV PRESS reads 0 or an amount different than the pressure gauge; This would determine that the Governor Pressure Solenoid is producing the pressure being commanded by the PCM and the Governor Pressure Sensor (Transducer) is not working properly.

The voltage checks on the previous page will determine the correct voltage is being supplied to the Governor Pressure Solenoid and the correct signal voltage from the Transducer is sent to the PCM.

Figure 8
Keeping It Simple

Basic Test For TPS Or Speed Sensor

Noise Interference

Electro Magnetic Interference (EMI)
(AC Ripple)

Figure 9

These diagrams are derived from information that has been carefully compiled from industry sources known for their reliability and should be accurate. Basically this means “we all know why they put erasers at one end of a pencil”. Always verify the circuits be tested with factory manuals whenever possible. Mistakes can be seen in several wire diagrams found in aftermarket sources only to verify these mistakes are copied right from the O.E. manuals. Wire colors vary from module to module as well as year to year. Always identified the circuits that are being tested by their connector pin identification.
Ten years ago a new parts supplier emerged into the transmission industry. Nestled on the outskirts of Louisville, Kentucky this small company of around forty employees was full of life. Dreams of a long and prosperous future ran wild amongst the anxious few, nervous about how to survive in a market on the brink of major technological advances, not certain what awaited them with the onset of Hybrids, the CVT Transmission, advanced electronics, and the evolution of the valve body to name a few.

“It was a tough time for all parts distributors, let alone a newcomer” says WIT president and CEO Kenny Hester. Fortunately for WIT that core group of loyal employees proved to be the cornerstone for this once small business with most of them having spent ten, fifteen, and even twenty years in the transmission industry. There was certainly no shortage of expertise and experience flowing through the halls of this budding organization. “That kind of experience made it easy to hit the ground running” explained Kenny.

Today WIT proudly stands as one of the top transmission parts suppliers in the United States and believe they are second to none in customer service and customer satisfaction. “At the end of the day it’s the customer that drives us to where we need to be” says VP / Sales and Marketing Director Tom Conroy. “They’ve brought us this far and thanks to our ability to satisfy their needs, they will continue to take us where we want to go”.

Reaching new heights...

WIT currently has 22 branch locations operating in 15 states across the country and isn’t finished yet. Averaging 2 or 3 locations per year WIT has experienced 9 consecutive years of growth and expansion. When asked how they’ve managed to achieve such extraordinary growth the answer was unanimously consistent, “by listening to our customers”. Filling customer needs and looking for every opportunity to make you, the customer more efficient and profitable has long been one of the base fundamentals of the WIT philosophy.

WIT has made it their mission to be a key contributor in the success of every customer they serve. Too often hearing the phrase, “back in the good old days” or “back when”, they realized early on the basics of “old-time service” and how much the customers wanted to be treated like that again. Simple things like getting deliveries during the day and at night, a commitment to receiving credit for returns within 24 hours, getting the proper paperwork so you can better manage your business, multiple brands of the top quality parts you need, depth in part coverage so you don’t have to shop multiple suppliers, consistent pricing, and even multiple options for account terms and methods of payment to mention a few. All implemented from listening to customers’ needs. Anyone who doesn’t feel they get this level of service has a broad range of contacts from local managers, regional manager, VP’s and even Kenny Hester, CEO, to reach out to for help. “Any issue can be resolved as long as we communicate”, Kenny says.
It’s very hard to differentiate between the many parts suppliers in the country today. Whether a small local supplier with years of rapport in the community or one of the largest international parts suppliers in the country like WIT, they all put their parts on the same way, many of them can sell you what you need to get the job done. WIT agrees all suppliers have great employees ready to serve the customer, sales reps with 20 or more years in the industry, technical guys and builders that have dedicated their lives to their craft, buyers with strong powers of negotiation to keep us all competitive, right down to an accounting staff poised and ready to maintain your account. They know because WIT employs some of the best. “It all boils down to your core philosophies and what you do with your resources to best impact the well being of your customers” says VP/CFO John Huff.

Faith in the strength of its employees and the belief that every employee, from top to bottom, has the ability to affect the level of customer service, led them to convert the company to being employee owned in 2004. This change instantly gave the WIT team the added incentive, as owners, to go above and beyond for the customer. “The ownership philosophy really took hold and the customer reaped the benefits”, Tom elaborated.

A good example of what it means to do Whatever It Takes for the customer is worth noting. WIT recently had a 4 skid stock order due to ship out to one of its branch locations. At the last minute the trucking company called and was unable to pick up the shipment for delivery. Knowing this would cause the store to run out of key parts the customers would need WIT management quickly found a trailer, secured the skids, hooked it to a pickup truck and down the road it went. It certainly wasn’t cost effective and it made a long day for the driver who drove 6 hours one way to deliver the goods while his teammates picked up his slack in his absence, but it’s what had to be done to ensure the customer didn’t feel a disruption in service.

Quality parts and depth of parts are very important to WIT. WIT believes one way they must set themselves apart is by offering the most extensive full line of inventory available on the market. While focusing on their primary lines Raybestos and TTK/Parker, having multiple brands of the same part helps them meet the needs of more customers. The only exception to this would be that WIT only carries CVC converters. They believe CVC offers one of the best converters on the market at a very
economical price. WIT is constantly looking to strengthen their product line offerings, a recent example being the new relationships established between WIT and the OE friction manufacturers Exedy and Fuji.

WIT is one of the top suppliers of OE products and their goal is to carry more OE brands than anyone in the country. “This is one of the most costly parts of our business but it’s necessary to give the customers what they ask for” claims Rick Skaggs, VP / General Manager. “Being able to offer the customer both TTK/Parker and Transtec gasket sets, Raybestos, Borg Warner and Dynax (by Exedy) friction plates, or mix and match rebuild kits with any combination of OE overhauls and plates currently offered at WIT, helps us to meet customer needs by offering the product any way they want it” says Tom Conroy, “Being the only company we are aware of with this unique mix and match offering helps us achieve our goal of never having to tell the customer no”. This goes for hard parts as well. WIT began immediately in 2000 building the most extensive hard parts inventory around, offering everything from OE new, aftermarket new, remanufactured and good used. “We knew getting into the hard parts business meant getting in deep” offers Rick Skaggs, “Stocking the common pumps, drums, planets and valve bodies simply doesn’t do it anymore. You have to have the pan bolts, the side pan, shift linkage, or any other odd and end part the customer needs to complete the job, to be at the level of service we’re committed to.”

Then reaching higher

WIT knows there’s much more to service than great employees and deep inventory. WIT has launched an industry leading hard parts customer service program. When customers tell their sales reps about a problem they are having with a hard part or a unit, the rep will contact the technical team and they call the customer directly to see if they can assist. Customers can also call and ask for technical assistance. This is a great benefit to both WIT and the customer. This helps us uncover issues they may have internally and allows them to implement permanent fixes as well as develop product awareness to the customers of common issues we already know about.

Innovative tool design has become another way WIT has found to round out its endless level of customer service. Whether through partner organizations to bring the designs to life or building it themselves WIT has developed many new tools for use in the industry, proudly boasting about having five of the top ten tools in the industry for the past two years. Some of the winning tools were their 2006 – 2008 Automatic Transmission Guide, 2009/2010 Transmission Catalog, 2008/2009 Lipseal Installer, and the 2008/2009 Standard Transmission Guide. When asked why they felt they had to develop these tools WIT simply felt like it was a combination of existing plastic tools breaking too easily or there just wasn’t an effective tool to do the job right, either way, they felt responsible to make it better for the shop owners and builders. Take the catalog, when WIT started to develop the catalog there wasn’t a photograph quality picture catalog readily available on the market. They took the reins and began designing one. The more detailed parts become, a good quality photograph goes a long way in being able to properly ID a part. The catalog was a very expensive undertaking, but the company stands ready to offer their pictures and issue the rights to others so the entire industry can benefit from it. WIT just released the standard catalog (pictures only) and the standard flip chart in November 2009 with the full text standard catalog available in the future.

It’s easy to see the shops of today becoming much more sophisticated and professional than in the past. They’ve had to learn how to handle the new transmissions that have hit the market and they’ve weathered the economical storm. “It’s hard to find a business that is doing more business today
than they did two years ago, but we’re proud to say we’re one of them” says Kenny Hester. For all of those efforts, WIT feels obligated to step up and do their part. WIT is in the process of becoming industry experts for the new Hybrid technology. They plan to use their knowledge to educate the industry through seminars and product bulletins.

Another big area of growth for the company in the past several years has been the accounting department. We know how critical it is for shop owners to be able to focus on your business at hand and not have to worry about what’s going on with your account. From revamping the statement to having a highly trained staff ready to address any concerns you have, it’s one more way WIT is striving to make improvements and prove that every aspect of the customer’s business is of the utmost importance to them.

**Where Do You Go From Here**

Growth is still at the top of the list for WIT. There are plans to expand to more cities in 2010. WIT has managed its growth from nearly every aspect imaginable, from grand openings, acquisitions, to expanding distributor relationships. “I never stop looking for an opportunity” claims David Bailey, VP / Branch operations manager, “The key ingredient to have in any city is someone with good parts knowledge and sales ability to work the local market. We’re always on the lookout for the right person and we encourage anyone that believes they are a fit to reach out to us.” David quickly pointed out that many of these people have sought the company out rather than the other way around, which makes his job a lot easier.

Diversity is the other growth opportunity WIT is exploring. They already own a printing company that can handle printing needs from T-shirts to floor mats. They print checks, invoices, banners, posters, and signs. They also offer one of the nicest two-sided business cards available. The best part is it’s all discounted for the transmission industry. One more endeavor to help the industry as a whole. While this company is based in Louisville, Kentucky, that doesn’t stop them from servicing everyone. They can ship anything you order to you via UPS, or if you are serviced locally from a WIT store they’ll send it to the branch location on a stock truck and deliver it to you with your next parts order. Brochures are available to show their entire offering.

Through commitment to the customers, the industry, and the employee owners WIT has left a lasting impression in the industry over the past decade. Becoming more than a parts house, more than a just another place to work, WIT has shown that they are here to stay, here to make the industry better for all of us. What does the future hold for WIT? Time will tell, but one thing’s for sure, the possibilities are endless.
A Closer Look at Vehicle Data Communications

Through the years we’ve come to depend on the information we can collect with a scan tool. And through those years, the data communication systems or data buses have become more complex. With OBD-II, many of us hoped that the data bus would be standardized and that all our problems would be solved. No such luck.

Today’s vehicles use a variety of data transmission protocols. This forces scan tool manufacturers to constantly adapt their software to those changes. This can be quite a challenge, even if they’re working with a single brand of vehicle. Let’s look at GM as an example; GM has used all of these data communication protocols over the years:

- UART (Universal Asynchronous Receive and Transmit)
- E&C (Entertainment and Comfort)
- SBI (Simple Bus Interface)
- SPI (Serial Peripheral Interface)
- LIN (Local Interconnect Network)
- Keyword 81, 82 and 2000
- Class 2
- CAN (Controller Area Network) or GMLAN (General Motors Local Area Network)

With the average GM vehicle containing more than a mile of wire, dozens of computers, hundreds of connectors, and thousands of terminals, the need for a standardized diagnostic system became imperative. A new system was introduced for the 2010 model year on the Chevrolet Camaro, Cadillac SRX, GMC Terrain, Buick Allure and LaCrosse. The new platform, known as the Global Diagnostic System or GDS, will be introduced in all GM vehicles in 2010/2011 models.

The new diagnostic system still uses several communication protocols from previous models, but it will also
As a successful shop owner, you understand the importance of using the right parts. So does Peter Fink, owner of Certified Transmission, a respected organization that rebuilds over 25,000 transmissions a year. That’s why they rebuild with TransTec®. Manufactured to meet the strictest OE standards, TransTec® kits make for a faster rebuild with virtually no comebacks. TransTec® kits have the broadest coverage of vehicles, and give you value-added features like clearly labeled subpacks, more technical information and the most impressive product support.

TransTec® kits are produced by CORTECO, a division of Freudenberg-NOK, the American partnership with more than $6 billion in resources. Resources like this guarantee you’re getting the best components and support. Because quality should never be an issue, whether you rebuild 25 or 25,000 transmissions a year.

“YOU KNOW YOU’RE GETTING OEM QUALITY OR BETTER WITH TRANSTEC.”
A Closer Look at Vehicle Data Communications

vary greatly when it comes to diagnostic processes and equipment. To understand the typical Global Architecture (Global A) we’ll need to look at the data bus and its operation. The standardized, 16-pin DLC connector that you connect to your scan tool will have these pin assignments (figure 1):

- Pin 1 — Low Speed GM LAN
- Pin 3 — Mid Speed GM LAN; + terminal
- Pin 4 — Scan Tool Ground
- Pin 5 — Common Ground
- Pin 6 — High Speed GM LAN; + terminal
- Pin 11 — Mid Speed GM LAN; – terminal
- Pin 12 — Expansion Bus High Speed GM LAN
- Pin 13 — Expansion Bus High Speed GM LAN
- Pin 14 — High Speed GM LAN; – terminal
- Pin 16 — Scan Tool Power B+

The primary function of the vehicle data bus is still communication between the different control modules. GM has used several different data bus configurations, including:

- Ring Network — Connects each module through a serial data line.
- Star Network — Serial data lines from all the modules are connected at a single point; typically a splice pack.
- Ring/Star Hybrid — A combination of the two common bus configurations.

Let’s take a look at some of the basics for a GM data bus system:

**Power Moding** — Power moding was introduced on GM vehicles many years ago to reduce electrical loads, wiring, and improve module response time during wakeup. Years ago, GM modules required a wakeup signal for the module to come on line. This was typically accomplished using an input from the ignition switch.

In today’s vehicles, wakeup is accomplished by an assigned Power Mode Master module (PMM). The PMM is typically the BCM or DIM. The PMM receives the input from the ignition switch and then relays that information to the other modules through serial data on the data bus. Messages to the modules include:

- Off/A Sleep — Modules need to power down.
- Off Awake — Modules need to wake up and get ready for work.
- RAP (Retained Accessory Power) — Modules that are used after the key is turned off but before the door is opened should stay awake for a set period of time; all others should sleep.
- Accessory — Modules that are used when the key is in the accessory position should stay awake.
- Run — All modules should be awake.
- Crank — Modules that are used for cranking the engine should wake up while all others should continue to sleep.

**Gate Way Module** — Since 1986, many GM vehicles have used a master module to control data transmission on the bus. With a CAN/GM LAN network, the BCM typically acts as the gateway or master control module. The
gateway module translates and prioritizes the messages sent on the bus. In other words, the BCM acts as the interpreter and traffic cop for the system.

**CAN/GM LAN** — The CAN data bus isn’t new, but it’s becoming more common throughout the industry. GM has its own version of the CAN system known as the GM LAN. The GM LAN supports three types of bus configurations: low speed (33.3 kilobits per second), mid speed (95.2 kilobits per second) and high speed (500 kilobits per second) data transmission.

The **high speed bus** (figure 2) consists of a twisted wire pair that transmits a voltage signal that switches high and low to create the data signal. The high speed GM LAN bus is terminated with a pair of 120 ohm resistors. One line is driven high (3.5 volts) while the other data line is pulled low (1.5 volts) in a specific sequence to create the signal.

With a CAN-type system, each message is assigned a unique identifier to classify the type message and its priority. Each module on the bus processes only the messages related to the identifiers stored in the module’s programmed listing. If more than one module is trying to communicate at the same time, priority is assigned to the message that has the greatest importance.

The **mid speed GM LAN bus** (figure 3) is very similar in operation to the high speed circuit, with one exception: the controllers attached to it. The mid speed GM LAN uses the same type of message transmission protocols that the high speed system does. The mid speed bus consists of a twisted wire pair that transmits a voltage signal that switches high and low to create the data signal. The mid speed GM LAN bus is terminated with resistors.

The **low speed GM LAN** is a single-wire circuit that replaced the class 2 data circuits on many GM vehicles (Figure 4). The GM low speed LAN is bidirectional and operates at three times the speed of a class 2 communication circuit. The circuit toggles from 0-5 volts. To wake up the modules on the bus, the voltage level is pulsed to 10-12 volts. The modules are connected in parallel on the low speed bus.

**LIN** — The Local Interconnect Network (LIN) is used to reduce the cost of data bus communications. The LIN is a single-wire network that toggles between system voltage and ground to produce series of voltage pulses.

Multiple LIN circuits are used in GM vehicles. A LIN circuit doesn’t connect directly to the DLC; it communicates with various sensors, actuators and modules on its own circuit.

An example of a LIN circuit would be the power windows on a late model GM (figure 5). The window switch commands the driver or passenger door control module to open or close the window. The module performs the commanded operation while communicating with other modules regarding the action it performed.

**GM Expansion Bus** — This bus circuit can be referred to by many different names, but the function is the same. The expansion bus is designed to reduce the congestion on the high speed bus. By adding a bus that is designed and functions the same as the high speed bus reduces the amount of traffic on the primary high speed bus. This is like adding parallel freeway to reduce traffic congestion in a large city.

With the global architecture, lots of things have changed. For decades tech-
nicians have used the Tech 2 scan tool to help diagnose vehicles. With Global A vehicles, the Tech 2 will no longer function. GM now uses a PC-based program known as GDS or Global Diagnostic System (figure 6) to interface with the vehicle. This means you need to ask your scan tool manufacturer if your scan tool will be compatible with this new system. Lots of other areas have also changed, including:

- Swapping computers for test purposes can cause major problems. While this isn’t new with some GM vehicle platforms, it’s an issue with all Global A applications. Swapping an ECM, BCM, EBCM, SDM, ECC, IPC as well as many other modules can prevent the engine from starting or set trouble codes. In some instances you won’t be able to clear these codes.

The modules are all coded with specific ID information codes when they’re programmed at the assembly plant. So modules that have nothing to do with starting the engine can prevent it from starting. In addition, other symptoms may occur such as the IPC odometer reading “----,” the radio displays “Locked,” or “service the theft system” is displayed on the DIC.

Not only do the Global A vehicles use controller security codes to prevent vehicle theft, they also use a new type of coding known an Environmental ID. This type of coding is designed to prevent someone from stealing a vehicle by swapping modules and keys. The Immobilizer Master (BCM) identifies itself to the other modules. If it has the correct ID, the other modules will respond with a specific Environmental ID code. The BCM will look at all the modules’ Environmental IDs and, if they’re correct, it’ll allow the vehicle to operate.

- Reprogramming is sequential. This means that several controllers are updated at the same time in a specific sequence to prevent software conflicts. Typical programming now requires a lot of data to be transferred (typically 10-40 MB). Programming will take much longer than in the past (up to an hour).

In addition, to protect the modules from unauthorized programming (non-GM), the assembly plant uses a process known as Seed and Key. The assembly plant installs a specific Seed value during plant programming. When the module is connected to reprogramming equipment, that equipment must provide a specific Key value or the module won’t accept the program.

- Many modules require a specific setup procedure to relearn component and system values.

- Many modules require a security code configuration procedure for the module to operate properly. If the configuration codes aren’t installed, some modules will lock out immediately, while others will initially operate and then lock out after several key cycles or after battery power has been removed. This could lead to a customer complaint because the engine won’t start or other conditions after you performed a repair.

Well as you can see times are still changing… until next time, remember: “In the middle of difficulty lies opportunity.”

Figure 6
GENERAL MOTORS
700-R4/4L60, 4L60-E, 4L65-E
SUNSHELL

It has been brought to our attention that a product called “The Animal” has been recently introduced to the market and has created some confusion between this new product and our redesigned sungear shell “THE BEAST”.

“THE BEAST” sungear shell is made solely by Parker Seal Aftermarket Products under US patent No. 6,561,944. We believe it is our responsibility to inform you about the main differences between these two products.

<table>
<thead>
<tr>
<th>Facts</th>
<th>The Beast</th>
<th>The Animal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufactured using a 2 Pc. (middle and low) carbon steel. The wall thickness of the shell body is increased for added strength</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Spline is case hardened to better withstand torque during engagement</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Better and stronger than conventional OEM design</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>The sungear shell assembly includes an injection molded plastic washer. The plastic washer has the tabs inserted into holes formed in the neck section of the sungear shell to form the complete sungear shell assembly</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Strengthened and reinforced the neck to reduce stress and to eliminate high failure rate at the neck section</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Invention protected by US patent</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Recently I was watching an old episode of “Happy Days”. Two things occurred during the show that I felt were a clear message to me to re-release my Yellow Pages report, Avoiding the Yellow Pages Money Pit.

The first thing was hearing the various characters in the show use the phrase, “Just sit on it!” as their way of telling someone to “Kiss off!”. The second was a DEX Yellow Pages commercial that ran during one of the breaks. It was the one where the character that plays the role of a talking Yellow Pages Directory ends up serving as a booster seat for one of the children in the commercial.

The thought that occurred to me was that the phrase “Just sit on it!” was exactly the way most people today use phone books…they make great booster seats.

“The Avoiding the Yellow Pages Money Pit report is a Yellow Pages salesperson’s worst nightmare”. They even try to twist the facts and concepts in an attempt to discredit the report, itself. Let me assure you, the information in this report is true and accurate.

The source of most of the information is the Yellow Pages companies, themselves. The report simply presents it with a different spin, one that will help you see the other side of the Yellow Pages sales pitch.

Here is the story of how I first came into possession of some of the money-saving tips in my report, and what lead to my quest to learn everything I could about the Yellow Pages.

One cold rainy Northwest evening back in 1995 I had a serendipitous encounter with the person who first told me about the other side of the Yellow Pages. As we huddled in an I-5 roadside café and warmed ourselves over our steaming coffees, we began to talk about our respective businesses. He, an advertising consultant and I, an auto repair service business owner with a BA in Business and Marketing, had established an instant rapport.

Well, when he said that he was in advertising, I couldn’t wait to tell him about our company’s marketing and advertising strategy. I was very proud of how our small regional chain of auto repair centers had grown in the recent years. In fact, the U.S. Chamber of Commerce had just selected us as the number one small business in Washington State. I was receiving a number of invitations to speak on marketing at various trade association seminars, workshops, and conventions. It was fun and exciting. We were growing and I was getting the opportunity to not only publicly brag about it, but to get paid for doing it. It was time for me to be taken down a peg.

Until that evening, I thought I knew plenty about marketing automotive service and repair types of businesses. It was obvious to me that people don’t typically think about car repairs unless they’re having a problem. Only when the problem or pain forces them to do something about it will they act, and it seems logical that they will refer to the Yellow Pages to decide who to call or where to go. With this in mind, I believed that the Yellow Pages provided the single most important facet to our advertising strategy. We purchased the largest Yellow Pages display advertising we could afford, as well as purchasing additional features like color and additional listings under every classification heading that even remotely related to our business.

Again, I was proud of how dominant our business was in the Yellow Pages. At that time, we were in several directories serving our various marketing areas, and spending a combined total of over $70,000 per year. Some of our shops were actually spending more on the Yellow Pages than they were on their shop leases. While intuitively, I had always thought of the Yellow Pages as a “necessary evil”, I simply could not conceive our not using them to the
We also had a modest advertising budget for direct mail, radio, and cable television. Even though these types of media were working for us, we were convinced that the Yellow Pages represented our best form of advertising. After all, when we surveyed our customers, most of them told us that they looked us up in the Yellow Pages. I thought we had designed the best advertising plan possible within our limited budget.

Well, my new friend just took a deep breath, sat back in his chair, and offered a long, sincere, all-knowing... sort of an “I’ve heard this many times before” smile. With this he began to tell me all anyone ever needs to know about Avoiding the Yellow Pages Money Pit. In that one evening, he taught me enough money saving strategies to save our company over $30,000.00 in the first year, alone!

You see he was a sales rep for a major Yellow Pages company before becoming an advertising consultant. He not only knew the inside sales tricks, schemes, and gimmicks of the trade, but he had even helped develop some of them. He also knew what the Yellow Pages companies tell us and more important, what they don’t tell us.

Since that night, I have conducted additional research and have interviewed other former Yellow Pages representatives. I’ve also presented this information in my marketing seminars. I’ve received feedback from my students and clients, and their stories further confirm that this information saves them thousands of dollars - year, after year, after year. This report will provide you with the information you need to be an informed Yellow Pages buyer rather than a victim of the Yellow Pages Money Pit.

The report is packed with many more eye-popping facts as well as tips to save big money the next time your Yellow Pages Rep comes knocking.

Perhaps the most interesting aspect of the report is that almost all the information that is contained in it comes from the Yellow Pages Companies and the National Yellow Pages Sales Association, themselves. All I’ve done is taken a more critical look at their own statements and the statistics they quote. What I’ve discovered is that even if their claims are true, they don’t make good business sense.

Here’s just one example. They say that the typical business gets $14 in sales for every $1 they spend in the Yellow Pages. On the surface, that sounds like a good deal, but that’s over 7% advertising cost. I don’t know very many automotive repair shops that can afford an overall ad budget of 7% – let alone putting it all into just the Yellow Pages!

The report is packed with many more eye-popping facts as well as tips to save big money the next time your Yellow Pages Rep comes knocking. Join the hundreds of business owners who have saved and continue to save thousands of dollars every year on their Yellow Pages. Contact the ATRA Bookstore today to order your very own copy of Avoiding the Yellow Pages Money Pit.
In an examination of shops that are making it work, no discussion would be complete without taking a closer look at USA Transmissions; a 5-store transmission repair operation northwest of Houston, Texas.

USA Transmissions is owned and operated by Gary and Gerald Vess. They have five shops, in Cleveland, Conroe, Huntsville, Livingston, and Lufkin, Texas.

Today, USA Transmissions is a model for operating a successful, small transmission repair chain. But before we examine their success strategy, it’d be worth taking a brief look at how they got here.

The Vess History

Gary and Gerald’s father, Gary Sr., opened the first of the family’s transmission shops back in 1981. He opened under the name AARMCO Transmissions, a name they used up to about 6 months ago, when they opened a shop near an existing AAMCO center. It didn’t take long before the larger chain contacted them, demanding they stop operating under the similar-sounding name. Rather than get bogged down by a long, costly courtroom battle, the Vess family changed their business name to USA Transmissions.
Precision International’s “state-of-the-part,” interactive website, www.transmissionkits.com, is like having one of the world’s foremost transmission repair experts working by your side. You’ve got questions? It has answers. You have installation problems? It has solutions. Need a part or kit pronto? Look it up. All you have to do is click.

Helpful how-to videos
Our website puts a wealth of valuable information at your fingertips, including continually updated how-to video seminars featuring renowned transmission expert John Parmenter. A transmission shop owner and prominent industry authority, John presents helpful solutions to many of today’s most prevalent and pressing transmission repair problems with new videos being added every few months.

The answers you seek
Who can you turn to in times of trouble? Our website’s Question & Answer Forum, of course. There you can get the answers you need from leading experts. The kind that can save you a lot of time, money and headaches. You can also sign up for our “Problem Solver” e-mails that will give you more helpful tips on transmission repair.

Our complete catalog
Whatever make, model or year transmission you’re working on, we’ve got the best parts and kits to fix it. All cross-checked against the latest OEM specs (with changes noted and made). All OE quality or better. And all guaranteed to work. Plus, our huge inventory and state-of-the-art warehousing capabilities virtually assure immediate delivery. So go ahead. Take our website for a test-drive and feel the awesome power it can put in your hands.
While still in high school, Gary and Gerald went to work for their father, working their way through the ranks to learn the business.

But neither of the brothers was particularly enamored with the transmission repair business — or perhaps it was more about working in a family owned environment — so they each moved on to other businesses. Gary went to work for a uniform company, while Gerald opened a quick lube store.

Over the next few years, the two brothers moved around a bit, and took on different jobs and responsibilities. Gerald closed his quick lube store and went to work for a transmission shop in Cleveland, Texas. Then he went back to work with his father in the AARMCO shop behind their house.

Gary left the uniform company to run the transmission shop in Cleveland after Gerald left.

With each move, the Vess brothers learned something new that would come into play in the not-to-distant future as co-owners of USA Transmissions.

In the late ’90s, Gerald began dabbling in real estate with a partner. The two opened three tire stores called Tire Express; this is where Gerald first got the idea of turning the family transmission shop into a multishop operation. It would still be a few years before this idea would pan out.

In 2003, Gary Jr. and Gerald opened a second transmission shop in Huntsville, Texas, called Transmissions Etc. In addition to transmission repair, the brothers sold just about anything there that they could get their hands on.

A year later, Gary bought out his brother, and took over the Huntsville store.

Meanwhile, Gerald and a partner had opened a tire store called Tiremax. Business was good; so good that they opened additional stores. They eventually grew to 10 locations. This experience opened Gerald’s eyes to the processes and benefits of operating a franchise-style operation.

In 2007, the brothers took a trip to Expo, to attend the What’s Working seminar program. At the time they had three shops, including a Tiremax owned by Gerald. Gerald had just purchased a billboard located between the shops. During the flight to Expo, the two decided that it’d be smart for them to share the billboard, and put all the phone numbers on it. This was the beginning of their joint business venture.

5 Recurring Traits

While at Expo, they learned about the 5 Recurring Traits of the most successful businesses. They realized that the first trait — Attitude — was one neither had embraced yet. Gerald claims it was after this realization that he first fell in love with transmission repair.

Next they began to examine their business plan and set goals: the second recurring trait. It wasn’t long after that they decided to merge their businesses into one company. And that was the catalyst for turning those two,
Celebrating 50 years in the transmission industry!

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We offer a wide variety of hard parts, soft parts, and converters to the automotive industry, attested by over 50 years quality customer relations and service in the distribution of automatic transmission parts.

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1155 N. McKinley Ave., Los Angeles, CA 90059 Tel: 323-758-1302 Fax: 323-758-9999 Toll-Free: 866-EVT-PARTS (388-7278) SE HABLA ESPANOL
independent shops into the business that USA Transmissions is today.

Once they had their plans made, they began to create the processes and put the systems in place to make them work; Trait 3. They took what they learned at Expo, and added it to what they’d learned in their careers with the tire and quick lube companies, and put their ideas on paper.

They surrounded themselves with the best people they could find — Trait 4 — and then they were ready for the last of the 5 Traits: to pull the trigger. They opened their fourth shop in Lufkin in 2008, and their fifth in Conroe in June, 2009.

**Why It Works**

One of the things that makes USA Transmissions work is that its owners mesh so well together. Gary, the older brother, likes the hands-on approach of managing the day-to-day operations of the shops. Gerald is more of an entrepreneur, preferring to handle the business end of the company.

So while Gary is making sure the shops maintain their standards for quality and competence, Gerald is out selling their name and their brand to the surrounding communities.

One of the biggest difficulties faced by shop owners is focus: Their attention usually wavers after they open the shop doors. Before the shop opens, all they do is think about the business: how to advertise it, which business model to put in place, and how to keep customers coming back.

But after the shop opens, too many shop owners find themselves overwhelmed by the day-to-day distractions associated with the business. A technical problem here, a customer complaint there, and all you do is put out fires.

That’s the great beauty of the Vess family situation. While Gary handles those daily issues of running the business, Gerald remains free to address the business at large; creating new ways to keep their name in front of potential customers. It’s a terrific situation that’s paying off in a big way.

**The Chain Mentality**

If you walk into any USA Transmissions shop, you’ll notice that everything is clean, neat and well organized. More importantly, if you stop by a second shop, you’ll see that everything is pretty much the same as it was in the first shop. The shops look the same, and they feel the same.

One of the things that both brothers discovered during their stints with the franchise world is the value of repeatability. Maintaining a standard of appearance creates an identity for the shop, enhances the comfort of the customers, and helps the management identify and correct problems quickly.

In fact, Gary and Gerald have a general manager for their shops, and one of his jobs is to visit each shop regularly. During his visits he carries a clipboard with a 50-point checklist. The GM looks over each item on the
Make Your Next 4R70W/4R75W Late Rebuild BETTER THAN NEW

Superior’s New 4R70W/4R75W “Super Tough Plate™” Is the Perfect Replacement for Stock Separator Plates.

Tough As Nails – Superior “Super Tough Plates™” save time and money by preventing costly No-Go’s and Comebacks in the Late 2000-up 4R70W/4R75W transmissions by helping to eliminate plate flex, cross leaks and cracking caused by constant pounding from the 2-3 Accumulator Piston Spring Retainer on the stock separator plate.

Proudly made in the USA, the Superior 4R70W/4R75W “Super Tough Plate™” is zinc coated, extra thick and is an easy replacement for the stock valve body separator plate used in this popular Ford application. Replace the old, thinning, distorted, stock plates with Superior’s new “Super Tough Plate™” – now you have a choice.

SUPERIOR TRANSMISSION PARTS, INC. THE SIMPLE SOLUTION

800-451-3115 www.superiortransmission.com
This makes it easy to maintain a level of consistency and quality in the shops appearance and workflow. And it highlights any possible issues right away… before they can turn into problems.

Another benefit of the chain mentality is the ability to combine costs, such as the cost of advertising. While most chain store owners would probably complain about the cost of their advertising pool, there's little doubt about just how much bang they get for their buck.

With five stores sharing the load, each USA Transmissions shop benefits far more than one shop could afford itself. And as any good marketer will tell you, few ads can provide a greater return on investment than a billboard.

**Outside Sales**

One of the recognized common programs found in the most successful transmission shops is a dedicated outside sales program. USA Transmissions only reinforces that conclusion, with a fulltime outside sales person.

As with their other advertising, USA Transmissions shares the outside sales among all five shops. This lowers their costs per shop, while providing an excellent means of generating additional referrals.

And in most cases, referrals are what they're looking for. Gary and Gerald will accept wholesale work, but they prefer referrals from the general repair shops in the area. Upon selling a rebuild, they'll issue a commission to the shop or individual who sent the job.

Most shops are only too happy to work with USA Transmissions, because they know their customers will be treated well, they’ll get quality work at a fair price, and USA Transmissions will stand behind its work.

**Financing Available**

One almost universal problem for today’s transmission repair shops is money: A substantial number of the folks who come in don’t have enough to get their transmissions fixed. And let’s face it, if the customer can’t afford the repair, it doesn’t matter whether they trust you or not: You aren’t going to get the job.

The Vess brothers know this; that’s why they offer financing as a key part of their business. The web site and billboards proclaim “financing as low as $10 a month!”

And at USA Transmissions, there’s never any question about whether the customer will qualify for financing: They have every customer prequalify when they first bring their cars in. Can’t
afford the repair? Sure you can: you’ve already been approved!

To provide this financing, USA Transmissions offers the CarCarOne program, and has additional backups through local banks.

Of course, even with the financing available, not every customer wants to spend the money for a complete custom rebuild. That’s why USA Transmissions also offers repairs, remans, and even used transmissions where possible.

Their object is to make sure everyone gets the work they need, at a price they can afford. And that mentality is reflected in their bottom line.

**Unparalleled Warranty**

A rebuilt transmission is a big investment, and some customers are very concerned about a warranty to make sure they won’t be faced with that kind of bill again. That’s one reason ATRA offers its Members the Golden Rule Warranty program: To help ATRA Members compete with the big chains by providing coast-to-coast coverage.

Of course, providing additional warranty coverage can provide you with a competitive edge, and even give you a way to earn more for your shop.

USA Transmissions offers its customers a wide range of warranty programs, all the way up to a 10-year, 100,000-mile warranty! Of course, USA charges a lot more for that level of warranty, still some customers take advantage of the extra coverage it provides. For others who don’t prefer that level of protection, they also offer 5-year, 3-year, 2-year and even a standard 1-year warranty.

Their option based sales strategy is working for both the customer and USA Transmissions.

[Editor’s Note: Offering a longer warranty at a higher price, without any difference to the actual rebuild, may not be legal in your area. Some states consider that a form of insurance, and require it to conform to insurance regulations for that state. Always check with your attorney for details regarding warranty issues.]

**Another Success Story**

Times are tough all over the US and Canada. But some shops are turning lemons into lemonade, and making a terrific living doing it.

Gary and Gerald Vess are two brothers who’ve discovered how to make it work, by taking advantage of what they’ve discovered through their work in other businesses, along with what they learned at ATRA’s Expo management program, *What’s Working.*

If your shop isn’t enjoying the success that you’d like to see, maybe now would be a good time to start making plans to attend this year’s Expo. And maybe it won’t be long before we’re telling your story here in *GEARS,* as another shop who’s *Making It Work!*
Money is tight for businesses today, and often that means reduced marketing efforts. Cutting back may make sense initially, but research and case studies have shown companies that maintain a focused marketing approach in a downturn reap benefits, capitalizing on the exposure they gain with their competitors sitting on the sidelines. And since people tend to make repairs to their current car in these times rather than buying a new one, there has never been a better time to market your shop as an ATRA expert.

Mustang Marketing has created a strategic marketing plan for ATRA known as the RoadMap. Great creative results and successful marketing are the direct result of a solid foundation—a strategic plan. The same way you would never begin building a home without architectural plans, you should never start actual marketing without a strategic plan. And in 25 years of providing marketing, public relations, and creative expertise to a variety of clients, Mustang has seen the importance of strategy time and time again.

To build ATRA’s RoadMap, we worked to establish the following:

- Goals
- Audience
- Message
- Vehicles

Identifying the goals of ATRA’s marketing campaign, the message of that campaign, who will receive the message, and how the message will be delivered creates the best possible chance of success to maximize the marketing investment of time and dollars.
Easily customizable templates for your shop’s marketing needs

Ad Templates for ATRA Shops
Part of the ATRA RoadMap included building ad templates for ATRA’s shops to use in their respective markets. Some of the advantages of these templates include:

- Easily customizable for shops to put their own logo and information
- Complete with ATRA logo to convey your shop’s excellence
- Available in print, postcard, and billboard formats

Your shop’s marketing will never be easier than with these templates. And if you are one of the first 20 ATRA members to express interest, Mustang will design (at no charge!) your ad utilizing our custom templates—a $375 value!

Get Your Shop’s Templates Today
It’s time to take advantage of your opportunity as a marketer, and the resources that are being offered to you. Mustang has devised the strategy, created the means to implement it, and is ready to help you see your shop flourish with the new business opportunities this campaign will deliver.

Call ATRA Headquarters at (805) 604-2000 to receive the marketing tools you need.
For me, one of the most rewarding parts of my job is when I come across a new way to diagnose a problem. When I say new, I mean something outside of the basic diagnostic tree.

This was the case about eight years ago when I was working in San Diego. The tool truck guy showed up with this fancy, 5-volt signal generator. Its purpose was to simulate a varying 5-volt signal for diagnosing a throttle position sensor (TPS), mass airflow sensor (MAF), manifold air pressure sensor (MAP) or any other 5-volt based sensor on a vehicle.

It cost about $150 and was a handy tool in my arsenal… until I fried it. Apparently there’s a difference between a 5-volt signal generator and a 5-volt power source capable of providing enough current to bench load a 4L60E EPC solenoid. Oops!

So when I tried replacing my trusty signal generator, I found out that it was discontinued. There were other models available but they were expensive. The alternative was to head to my local electronics store and build my own. Here’s what I came up with:

**Parts Needed**
- Project box 6” x 3” x 2” (Radio Shack# 2701805)
- 3-pack (Red, Green and Black) of 18-gauge wire (Radio Shack# 2781226)
- 2-pack of banana jacks (Radio Shack# 2740725) x2
- 5-volt regulator (Radio Shack# 2761770)
- Dual printed circuit board (Radio Shack# 2760159)
- On/off switch (Radio Shack# 2750601)
- Control knob (Radio Shack# 2740424)
- Speaker terminal plate (Radio Shack# 2740632)
- 1 Megaohm linear potentiometer (Radio Shack# 2710211)
- Solder
- 14-gauge female spade connector (Blue)
- 22-gauge female spade connector x2 (Red)

**Tools Needed**
- Drill Bits
  - ½”
  - 23/64”
  - 19/64”
  - 1/8”
- Drill
- Phillips head screwdriver
- Soldering iron

![Figure 1: Marking and drilling on the backside of the cover will provide a cleaner look when the box is assembled.](image-url)
Preparing the Project Box

1. Use the back of the aluminum cover to mark the position for the on/off switch and potentiometer.
2. Place the aluminum cover on top of the plastic cover and loosely fasten both pieces to the project box with the supplied screws.
3. Drill the holes for the on/off switch (1/2") and the potentiometer (23/64") (figure 1).
4. Remove the screws and lift the cover off the project box.
5. Push the potentiometer through the 23/64” hole. With the potentiometer leads facing the longest end of the cover, press and turn the potentiometer firmly against the plastic side of the cover so the alignment peg creates a wear mark in the cover (figure 2).
6. Remove the potentiometer from the hole.
7. With the aluminum cover off, drill a 1/8” hole 90° to the left of the potentiometer hole, on top of the wear mark you just made. If done correctly, the alignment peg will allow the potentiometer to sit flush in the cover, and the contacts will face the on/off switch.
8. Cut 1” off the potentiometer shaft (figure 3).
9. Install the potentiometer into the plastic and metal cover.
10. Install the on/off switch into the plastic and metal cover (figure 4).
11. Drill three, 19/64” holes where you want the banana jacks. The model shown has the continuous 5-volt signal and ground on one side, and the varying signal on the other. I used banana jacks so I could use standard voltmeter leads for testing (figure 5).
12. Install the banana jacks into the holes.
13. Drill two 19/64” holes at either end of the box, 1¾” from one another, for the speaker plate contacts (figure 6).
14. Screw the speaker plate to the project box.

Preparing the Circuit Board

1. Bend the voltage regulator fingers to 90° (figure 7).
2. Place the regulator against the blank side of the circuit board (figure 8).
3. Solder the contacts to the board. Be careful: Too much solder could create a short to the adjacent circuit.
4. For ease of handling, cut these colored wires 6” in length: 2x Green, 2x Black, and 1x Red. Don’t worry about the extra length; there’s plenty of room in the project box to handle the...
excess wiring.

5. Strip about 1/16” insulation from one end of each wire.

6. Push the exposed wire through the appropriate holes on the blank side of the circuit board (figure 8).

7. Using a fully heated soldering iron, use a small amount of solder to attach the wires to the board.

   Caution: Too much solder will spill over to the adjacent contacts and ruin the circuit board.

**Assembling the Box**

1. Cut these colored wires 6” in length: 1x Red, 1x Black, and 1x Green.

2. Strip 3/8” insulation off both ends of the black wire.

3. Solder one end of the black wire to the B– side of the speaker plate (black).

4. Strip 3/8” insulation off the ground wire from the circuit board (one of the black wires).
5. Twist the ground wire from the circuit board (black) with the ground wire from the speaker plate (black).
6. Crimp a 14-gauge female spade connector (blue) to the twisted ends of the wires.
7. Attach the blue spade connector to the ground terminal of the on/off switch.
8. Strip 3/8” insulation off both ends of the red wire.
9. Solder one end of the red wire to the B+ side of the speaker plate (red).
10. Crimp a 22-gauge female spade connector (red) to the end of the red wire from the circuit board.
11. Attach the spade connector from the circuit board to the ACC terminal of the on/off switch.
12. Strip 3/8” insulation off both ends of the green wire.
13. Solder one end of the green wire to the right side terminal of the potentiometer (figure 8).
14. Solder the remaining green wire from the circuit board to the center terminal of the potentiometer.
15. Strip 3/8” insulation off both ends of the green wire.
16. Solder one end of the green wire to the power terminal of the on/off switch.
17. Solder the other end of the green wire from the potentiometer to the red banana jack where you want the varying signal.
18. Strip 3/8” insulation off the two green wires from the circuit board.
19. Solder one green wire from the circuit board to the red banana jack.
20. Using a generous amount of silicone, glue the contact side of the red wire from the circuit board to the red banana jack.
circuit board to the bottom of the project box and let the silicone cure overnight.

24. Gently fold the wires into the project box and screw the lid on.

25. Place the knob on the potentiometer shaft and tighten the jam screw.

The entire project costs about $40 in parts. Keep in mind that this simple generator doesn’t have to look just like the one I built; there are several different on/off switches, knobs and wire connection options to choose from at your local electronics store. I liked using the speaker terminal as a power input because if someone trips on the power cord, it’ll simply pull the wires out of the terminals rather than damage the circuit board.

Caution: Use a cigarette lighter adapter with a built-in fuse to power the generator to protect the circuit. Use an alligator clip cigarette lighter adapter to connect the generator directly to the battery.

The steady 5-volt source and ground aren’t really needed, but they were easy enough to install and could come in handy when dealing with a suspect sensor ground or 5-volt reference.

The most important thing to keep in mind with this tool is, even though the regulator is rated at one amp, using it to power a solenoid creates a lot of heat in the regulator. If you use it to power a 5-ohm solenoid, don’t keep it on for more than a few seconds or the regulator may burn. The main purpose of this tool is for diagnosing sensor circuits, not to modulate an EPC solenoid.

Here’s how you could use this signal generator to test a sensor circuit on a 2001 Ford Expedition (figure 9):

- Set your scan tool to display data.
- Unplug the TPS connector.
- Backprobe the signal (middle) wire on the connector with the varying 5-volt signal output from the signal generator.
- Power the signal monitor using the vehicle battery.
- Turn the power switch on.
- Turn the adjuster knob back and forth while monitoring the TPS voltage reading on your scan tool.

On this vehicle, the scan tool revealed the voltage signal sweeping from 1.15 volts to a full 5 volts. This proved that the wiring from the TPS to the computer was in good shape and the computer had the ability to measure the input voltage signal.

The test took less than five minutes and revealed valuable data that would have saved a lot of time during an actual TPS diagnosis.

I hope you enjoy building and playing with this inexpensive and useful tool.
Seems like it’s always the smallest details that can get us into trouble. When building a unit, these are details that are easy to miss when interrupted by a phone call, a question from one of the guys, or just not paying attention. This was one of those days…

The problem was a 95 Jeep Wrangler. It had a 5-speed AX-15 transmission that was making some very strange noises when the clutch was disengaged: When you took your foot off the clutch it would howl and grind.

With the customer’s approval, we removed the transmission. We dismantled it to find it had suffered a bad case of dehydration: a severe lack of vital fluids. It needed a major overhaul, consisting of a new input shaft, 3-4 shift fork, cluster gear, all bearings, brass rings, seals and gaskets.

After the customer approved the final estimate, we cleaned everything and waited for new parts to arrive.

I usually assemble these units using a vice as a holding fixture (figure 1). This makes it easy to install both shafts and then assemble the rest of the gears and bearings without wrestling it all over the bench. Additionally, shifter rods, forks, and interlock balls are much easier to manage. Once I have all the internal parts installed, I can shift the unit through all of its ranges. Everything worked smoothly at that point.

After removing it from the vice, I installed the rear case section and then the front case section. When it was all bolted together, everything worked...
great… except it wouldn’t go into 4th. 3rd gear went in just fine, but as soon as you entered the 4th quadrant the shifter would lock up.

I removed the front case section and then the unit went into 4th perfectly. After removing and reinstalling the front case section several times and inspecting everything, I finally narrowed down the problem:

I removed the bolt that locked the 3-4 shift fork to the shifter rod and then reinstalled the front case section with two bolts. Although the 3-4 shift fork didn’t move, it allowed me to examine the linkage from the shifter, down through the case, all the way to the shift rod. It shifted smoothly there.

I knew the problem was in the movement of the fork, slide, keys, etc., but everything looked great when I could see it… with the front case off. After pulling out some more of my hair, I started looking inside the front case where the rod operates and that’s when I saw the problem. Right where the 3-4 shift fork would be operating back and forth, I could see something had been scratching the inside of the case (Figure 2).

The new 3-4 shift fork had a little keyway arch casting on it that was hitting the inside of the case (Figure 3) … A few seconds with the air grinder solved it nicely (Figure 4).
Now more than ever it’s important to make sure you’ve got a good message for consumers and you’re doing everything you can to reach them. In the last issue, we discussed ATRA’s plan to reach more consumers and make them more aware of the benefits to selecting an ATRA member shop. There are a lot of great reasons for a consumer to choose an ATRA member shop but up until now it’s been one of the public’s best kept secrets. Since the last reporting in Gears, ATRA has received even more press; bringing more attention to consumers. Most notably, there’ve been articles in the New York Times, Detroit News and Progressive Insurance. There was also a mention of an ATRA member, Dale’s A-1 Transmissions in Mitchell South Dakota in the New Republic. Which makes the point that there are a lot of ways ATRA and ATRA members can keep this effort going. Using the ATRA logo in all your advertising will help increase the branding of ATRA and its members; working to create insistence for an ATRA member shop in the minds of the consumer.
Continuing that idea, ATRA, through the help of Mustang Marketing in Thousand Oaks California have created a range of marketing pieces and an in-depth plan called the ATRA Member Roadmap illustrated on pages 38 and 39. The marketing pieces are based on the theme of ATRA's new consumer site, made exclusively for the interests of the motoring public and for locating ATRA members’ shops across the USA and Canada. This site is scheduled for April, around the time this issue of Gears magazine hits the street. It’s phase two of the new ATRA web site project and will replace the current ATRA site: www.atra.com. The consumer-reach project required a separation of member and consumer content from the single ATRA web site. Phase one was to strip the member components from the original site and build an exclusive industry/member site. Here, members can access all the member information contained in the previous site without the interference of consumer-related material. They can also purchase items from the ATRA Bookstore and register for events, just like the old site. What’s new on this site is the ability for members to manage their account, renew their membership, add employees and even create forums and discussion groups with other members, and is accessible at http://members.atra.com.

Like any new change it takes a little patience to maneuver through the different areas because it’s different than the old site, but you won’t have to do that because this site has a powerful search feature that makes finding what you want a snap. Looking for a certain book? Just type in the transmission type and system does the rest. Looking for information on ATRA’s Golden Rule warranty? Type “golden rule” and whamo, it takes you right to a listing of warranty topics: order forms, procedures etc.

And oh, the ATRA Tech Center is faster than ever and has a far more powerful keyword search capability. Just use it like a search engine; type in the complaint and go! You need information on a 4L60E with no second gear complaint? Just type “460e no second”, the system finds the information for you.

The changing economy has brought on a new set of challenges. But with it come new ways of reaching customers and doing business. ATRA is changing with the times to help keep members in front of the pack. Let’s keep it going!
September 9 - 12 ★ San Antonio, TX
San Antonio Convention Center
Get ’em In The Door!
Management Seminars

Learn and share proven strategies to take your business right to the top from business owners making it work in their shops everyday!

- Creating Visions for sustainable success!
- Setting the Right Goals – and achieving them!
- Developing the Right Plan – and how to apply it!
- Getting the Right People onboard
- Applying What Works and measuring your success!

Get ’em Out The Door!
Technical Seminars

Proven professionals bring you proven fixes and introduction to some new products, stay on top of the changing industry. Using the information as soon as you get back to the shop!

- Learn quick diagnostics to finding the fixes fast!
- Tips and tricks on how to rebuild some of the toughest units!
- What’s coming down the line from the big manufacturers!
- Most importantly, how to Get ’em out the door fast and efficiently!

Hotel Accommodations

$149 single/double
*Mention ATRA to get discounted rate*

San Antonio Marriott Riverwalk
889 East Market Street, San Antonio, TX 78205
Phone: (800) 648-4462
Join us in San Antonio, TX!

“Discover San Antonio” Group Tour
Saturday, September 11

Grab your partner for a night of fun out at Rio Cibolo Ranch!

★ Full Texas style buffet
★ Enjoy the pleasant sounds of the resident country fiddler
★ Feed the resident Texas Longhorn cattle in the big Texas sized RCR Rodeo Arena
★ Listen to stories of the Old West & Texas Revolution while roasting marshmallows by the fire
★ Jump on for a hay wagon ride throughout the ranch or try some Texas linedancing

Look for more information to come in the May/June issue of GEARs!
Complete Conference
Thurs., Sept. 9 - Sun., Sept. 12

As a Complete Conference attendee you will have access to all technical and management seminars Thursday through Sunday, Friday Cocktail Reception, coffee breaks, Friday and Saturday Trade Show Admission, complete speaker handout materials and audio CDs of all seminars at this year’s show!

Technical or Management Conference
Thurs., Sept. 9 - Sun., Sept. 12

Attend either the Technical or Management seminars Thursday through Sunday, Friday Cocktail Reception, coffee breaks, Friday and Saturday Trade Show Admission and Technical or Management speaker handout materials.

“Discover San Antonio” Group Tour
Saturday, September 11

Fun, Food and Excitement! Discover what Texas is all about on this group tour of Rio Cibolo Ranch. Your ticket includes transportation, a full Texas buffet, line dancing, hayrides, and much more! Purchase your tickets when you register for Expo!

Golf Tournament
Thursday, September 9

Arrive early in San Antonio and join your industry peers and colleagues for a great day of golf at the Brackenridge Golf Course. It’s a great way to mix business and pleasure and kick off your Expo experience. This year’s course is the first public course in San Antonio and is home to the 2010 Texas Golf Hall of Fame. Reserve your spot when you sign up for Expo!

Trade Show Only
Friday, September 10
Saturday, September 11

Your Trade Show Only pass will give you access to two full days in the exhibit hall. Come see the only trade show dedicated to transmission repair with the latest tools and equipment. With ATRA’s Powertrain Expo being the largest gathering of automatic transmission repair professionals, you’re sure to find all the newest innovations all in one location!

Registration opens June 1
TRC Extends Spring Jacket Promotion to GEARs Subscribers

TRC is offering their latest promotion to all GEARs subscribers. For a limited time, subscribers will receive a heavy-duty canvas jacket with every third transmission purchase.

TRC has been in business since 1981; they ship transmissions (automatic and standard, foreign and domestic), transfer cases and differentials nationwide.

For more information visit www.TRCtrans.com, or call toll-free 1-800-524-0485.

Sonmax 4L80-E Reverse Servo Spacer Kit

1996-and-later 4L80-E reverse servo pistons often break because they receive more stress than the servo pistons in earlier units.

The Sonmax Reverse Servo Space Kit 34528-01K is a simple, low-cost way to add durability to your 4L80-E rebuilds and eliminate the need to retrofit early design servo pistons for late units.

The kit works by increasing contact area, reducing the pressure between the pin spacer and piston by more than 60%. Durability is further enhanced with the addition of a Belleville spring washer to reduce shock during servo apply.

This kit can be installed as part of the normal assembly procedure and doesn’t require any modifications or special tools.

For more information, visit Sonmax on line at www.sonmax.com.

Valve Body PRO Offers Fix For Worn TF80SC Accumulator Bores

Valve Body PRO is excited to offer remanufactured valve bodies for the Volvo TF-80SC.

Valve Body PRO has researched the valve body issues that affect the shifting characteristics of late model Volvo models, which use the TF80SC transmission. One of the problem areas involves excessive wear in the five accumulator bores. Most of the accumulator bores show signs of surface loss which creates an out-of-round bore. In addition, some of the bores are heavily notched by the constant rubbing of the accumulator piston into the bore wall.

Bob Sanghera, CEO of Valve Body PRO said, “After studying the possible remedies, we came to the conclusion the only way to solve it was to have new high quality aluminum inserts installed.”

In addition to the usual overhaul of the valve body, these inserts bring the accumulator bore diameter back to factory specs.

For more information, visit www.valvebodypros.com or call toll free 1-877-611-7767.

TransTec Introduces New Kit for Ford 6R80

TransTec is pleased to announce the availability of TransTec® overhaul kit 2546.

This kit includes coverage for the 6-speed Ford 6R80 transmission found in 2008-up Ford F-150, 2009–up Ford Expedition and 2009-up Lincoln Navigator models.

The new kit includes:

<table>
<thead>
<tr>
<th>TransTec® Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>B33324</td>
<td>Molded Rubber Pan Gasket</td>
</tr>
<tr>
<td>B37047</td>
<td>Front Seal</td>
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<tr>
<td>B37141</td>
<td>Extension Housing Seal; 2WD</td>
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<tr>
<td>B37142</td>
<td>Extension Housing Seal; 4WD</td>
</tr>
<tr>
<td>3533</td>
<td>Sealing Ring Kit</td>
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For more information, visit them on line at www.TransTec.com

PML Introduces Low Profile 200-4R GM Transmission Pan

PML has just introduced a low profile transmission pan for the GM 200-4R, in response to requests from the performance automatic overdrive transmission market. PML has had a deep extra capacity 200-4R transmission pan since 2003 and designed this low profile version to accommodate applications with little clearance.

This low profile pan features fins and aluminum construction for cooling
and a drain for easy oil changes.

Stock pans are thin stamped steel; this PML transmission pan has thick walls to increase the torsional strength of the transmission case, and a thick, machined gasket flange for a leak-free seal.

The transmission pan has stock capacity and is 3 1/8-inches tall from the gasket surface to the fin top so it’s slightly taller than stock.

The pan kit includes mounting bolts and a magnetic drain plug to collect any metal bits, keeping the oil cleaner. There’s also a cast-in boss that can be machined for a temperature sensor.

PML offers this transmission pan in three finishes: cast aluminum, black powder coat with shaved fins, and polished. The PML part number is 11070. Made in the USA by PML, you’ll find pictures and dimensions online at www.yourcovers.com.

Transtar Promotes Jim Berry to VP of Marketing

Transtar Industries, Inc., the premier provider of world-class driveline solutions, is pleased to announce the promotion of Jim Berry to vice president of marketing for the Domestic Distribution Group.

Berry joined Transtar in July 2005 as director of marketing, and quickly became an integral part of Transtar’s management team. “Jim has proven to be a valuable team member helping to shape our strategic direction,” said Neil Sethi, group vice president, Transtar Distribution Group.

“To me, the responsiveness of a marketing team is a good gauge of the effectiveness of the department,” Berry observed. “I take pride that our department has a reputation of quick response, both to the sales team as well as our customers.”

Most recently, Jim has focused his team on developing new, customer-driven product solutions in support of their mission statement: The premier provider of world class driveline solutions.

“It became apparent several years ago that the transmission repair industry was going through an evolution,” Berry continues. “We knew that we had an opportunity to be the industry leader, and doing so to be a true partner to our customers — to live up to the standard set forth by the Transtar Seal of Quality.”

Jim’s marketing and sales career includes positions with Quaker State Corporation and ICI Paints. During his tenure with ICI, Jim held several marketing and sales positions including director of marketing support.

Transtar would like to congratulate Jim and looks forward to a thriving future with him.

Full Spectrum All-In-One™ Dye Pinpoints All Leaks

Tracer Products has developed a state-of-the-art fluorescent dye — TP-3405CS Dye-Lite® All-In-One™ dye — which greatly improves leak detection in all oil and oil-based fluid systems, including gasoline and diesel engine oil, gasoline, diesel fuel, automatic transmission fluid, power steering fluid, hydraulic and lubrication fluids. This dye has proven to be 100% effective with all UV and blue light lamps.

TP-3405CS Dye-Lite All-In-One dye assures optimum leak detection because it actually contains two fluorescent dyes: One fluoresces best under UV and the other under blue light. Whatever type of inspection lamp is used, All-In-One dye will glow brilliantly and spotlight every leak — even a pinhole in a system.

Dye-Lite All-In-One dye is safe and easy to use. Just one bottle of dye per application is all you need! The dye is circulated through the vehicle’s fluid system, and will escape with the host fluid through the tiniest leak. When you scan the system with a high-intensity Tracerline® UV lamp, the dye will glow brightly, spotlighting the exact location of every leak.

All-In-One is available in standard and concentrated formulas.

For more information about TP-3405CS Dye-Lite® All-In-One™ dye, call toll-free 1-800-641-1133. Outside the United States and Canada, call 516-333-1254. Or visit them online at www.tracerline.com.

Arizona Transmission Machine EZ-DRIVER Set

Arizona Transmission Machine introduced its EZ-DRIVER bearing installation sets. The master set is highly adaptable, with a series of 28 interchangeable force distributors in two styles, to install bearings and other components onto or over a shaft.

Create more than 200 different usable setups. EZ-DRIVER offers versatility for working on components from bearings to seals, gears, hubs and sleeves.

Dan and Tom Tarkus, owners of Tarkus Complete Automotive Services in Milwaukee, were extremely positive about all the EZ-DRIVER press kit was helping them get done.

“We’ve been doing lots of press work and its nice to have press tools that are really press tools instead of what we make... we make a lot of our own tools,” Tom said, who has a tool-and-die background. “It’s compact and out of the way for shops with little room. I like how it fits on the rack. It has nice drivers, mounting and bearing braces. This set is wonderful because it...
comes with so many sizes.”

“Another nice feature was the O-rings to keep the tube extensions together,” Dan said. “This set has proved to be very useful for us. I like that it has all the different-sized couplers. Nice brace tools and a lot of good flat tools too.”

For more information, visit them on line at www.bearinginstaller.com.

Smart Blend Synthetics, a leader in automatic transmission additives, protectants, supplements, cleaners and fully formulated CVT fluid, announces the release of its new 2010 ATF Service Guide and Application Chart.

This comprehensive guide offers easy-to-follow charts that list manufacturer, year, model, and transmission type with total fill and service fill capacities. Also listed are fluid type and Smart Blend low-cost alternative fluid recommendations.

This service guide is an excellence tool for every technician, shop manager/owner, and installer. Smart Blend makes servicing automatic transmissions and CVTs simpler and more profitable.

For more information call 1-888-422-9099 or visit them on line at www.smartblend.com.

Larry Barnes Joins the Sales Team at Smart Blend Synthetics

Smart Blend Synthetics by Life Automotive Products is proud to announce the addition of Larry Barnes as national sales coordinator to the Smart Blend team.

Larry has a lifelong career in the automotive service industry. His automotive career beginning in 1988 with NAPA Auto Parts in distribution center management and sales management throughout areas in the Southeast United States.

In 2003, Larry joined Mighty Auto Parts where he was responsible for the extensive VS7 Chemical program. He was instrumental in all aspects of training and authored over 25 technical articles for numerous trade publications.

“It is a pleasure to represent an industry leader like Life Automotive / Smart Blend Synthetics. The dedication of the entire team to produce innovative and quality driven products to the automotive market is second to none. I look forward to carrying this tradition of excellence out to the field,” Larry said.

Larry, an avid golfer, brings vast automotive and fast lube industry experience to Smart Blend Synthetics and we look forward to his future contributions.

For more information contact Life Automotive Products at 1-888-422-9099 or visit them on line at www.smartblend.com.

Transtar Announces New Line of Complete Automatic Transmissions

Transtar Industries, Inc., the premier provider of world-class driveline solutions, has just introduced its new line of complete automatic transmissions. With the addition of this line, Transtar can now offer new solutions to transmission shops.

“I was talking to a shop owner the other day and his rebuilder was on vaca-
tion for a few days,” says Mark Russell, who was recently chosen as director, complete transmission solutions. “He purchased a unit and was able to do the repair and get his customer back on the road again.”

Before joining Transtar, Mark led the northeast region for Axiom Automotive Technologies Inc. He came to the company with great expertise in the industry and has successfully managed the establishment of the AT Units line. Jim Berry, vice president of marketing, said, “When we hired Mark, we knew we needed a senior manager who knew this industry and our customers—he was the perfect fit.”

Remanufactured in the US and to OE quality, this new line offers applications for all major foreign and domestic vehicles, and their comprehensive inventory enables Transtar to deliver to most markets within a day.

All units are fully tested using state-of-the-art equipment and include the Transtar Seal of Quality. AT Units are also updated with the latest pieces and fittings, and are backed by Transtar’s 18-month/18,000 mile national warranty with extended 36-month/100,000 mile warranty availability.

For further details or purchasing information, customers should contact their Transtar representative.

Profit Boost Builds New Online Home

Profit Boost, the leader in web-based shop management solutions for the automotive industry, has launched its new web site at www.profitboost.com.

With its fresh, new look and easy navigation, the web site coincides with Profit Boost’s commitment to provide leading web-based automotive software systems to automotive professionals. The web site is powered by Autoshop Solutions, an automotive industry partner.

Profit Boost’s PIF Pro, the only web-based software shop management program for the automotive industry, provides secure, protected shop management solutions. PIF Pro streamlines the RO process and provides in-depth customer and vehicle tracking features.

“We are thrilled to be launching our new web site,” said Scott Johnson, CEO. “Profit Boost is committed to
developing leading software solutions that help automotive and transmission shop owners succeed in this ever-changing industry. Our new web site is one piece of that plan. We have many new features that will be announced at this year’s annual ProfitBoost Training Expo in Phoenix, April 21st to the 24th.”

Web-based software is needed now more than ever. Real time information is essential and directly related to bottom line profits. Connectivity with other partners for marketing, credit cards, online parts ordering, consulting, technical information, and real time financial information has made web-based online software an essential tool for automotive business owners and service writers.

Visit Profit Boost’s new site on line at www.profitboost.com.

27 New Products Available from Rostra Transmission

Rostra Transmission announced the addition of 27 new items to its line of over 200 automotive transmission parts. The newly added products include individual solenoids, kits, and harnesses.

Leading the list is an improved governor pressure solenoid for Chrysler transmissions, fitting all years of the Chrysler 46, 47, and 48RE transmissions. The enclosed can assembly provides cleaner operation, improved durability, longer life, quicker response time, and increased fluid flow over the OE unit.

The newly released kits include 15 complete solenoid kits for many late model Toyota automatic transmissions, a four-piece kit for the recently discontinued Ford A4LD solenoid parts, and a solenoid kit for the 2000-07 Hyundai Accent and other models.

Other products now available from Rostra include a new universal external wire harness repair kit and test harness for the General Motors 4L60-E, 4L80-E, 4T80-E, 4T65-E, 4T45-E and Allison LT series transmissions, three linear solenoids for the AW 55-50SN automatic transmission, and two pressure switches for the Honda 5-speed transmission.

Rostra Transmission is the powertrain division of Rostra Precision Controls, Inc. of Laurinburg, NC, and is a leading manufacturer and distributor of OE transmission products for the auto industry.

More information on these and other new products can be found at www.rostratransmission.com.

Rostra Introduces New Products Continued.

Improved governor pressure solenoid for Chrysler transmissions — fits all Chrysler 46, 47 and 48RE (A500/A518) transmission. Rostra part number 52-0275.

Hyundai A4BF3 solenoid kit — fits 2000-07 Hyundai Accent and other models. Rostra part number 52-0433.

Jatco JF506-1, Jatco JF506-3, Jatco JF506-2, Toyota expanded applications from 1999-on; Rostra part numbers 52-0431, 52-0432 and 52-0433.


Ford A4LD solenoid kit and case connector — our four-piece kit includes a 3-4 shift solenoid and valve, the lock-up solenoid, and the three-prong case-through electrical connector; Rostra P/N 52-9005.

GM test harness/universal repair harness — for 4L60-E, 4L80-E, 4T80-E, 4T65-E, 4T45-E and Allison LT series transmissions. Rostra P/N 350-0083 includes 21 lead wires (all white) for repairing GM’s most popular vehicles.

AW 55-50SN linear solenoids — three linear solenoids for the AW 55-50SN automatic transmission; Rostra part number 52-0458 (SLU), 52-0464 (SLT) and 52-0466 (SLT).

Honda pressure switches — two pressure switches for the Honda 5-speed transmissions; Rostra part numbers 50-1028 (38 PSI Green) and 50-1029 (33 PSI Black).

For more information on these and other new products, visit Rostra online at www.rostratransmission.com.

Sonnax TASC Force Meets in Europe

Sonnax Transmission Technical Specialist Gregg Nader (center) and Technical Group Manager Scott Jackson (right) led one afternoon’s TASC Force workshop on valve body reaming procedures, inspection and vacuum testing. Here, Nader demonstrates a Sonnax valve body reaming fixture.

The Sonnax TASC Force met in Europe last month, bringing together experts from 11 countries to tackle industry developments and technical challenges faced by today’s transmis-
Adapt-A-Jack,
Safety is #1

Safety is the #1 priority on the shop floor. Many automatic transmissions have irregularly shaped oil pans. Ford RWD’s are known for this, typically making necessary the use of chunks of wood to level the unit on the jack to ready it for installation. Ask any R&R tech and they’re likely to admit to how awkward this can be. Unfortunately, too often we find this out when we hear an expletive shortly before a crash. Or when the tech is out for a week laid up with a strained back or, worst case, their career is ended.

We decided to put pen to paper to solve this problem. We’ve developed this sturdy solution that has already been hailed as the new “must-have” shop item. Adapt-A-Jack is designed to fit the most popular, air-assisted undercar transmission jacks: Gray, Snap-on/Bluepoint and NAPA.


Corteco Introduces New GM 4T65E Kit

Corteco now offers 4T65E kits with the molded rubber side cover gasket. TransTec® kit number 2549 covers the traditional 1997-up 4T65E found in General Motors models; kit number 2550 covers 1999-up Volvo applications.

Both kits include the molded pan gasket as well as the molded side cover gasket.

Here’s what’s included in these kits:

<table>
<thead>
<tr>
<th>TransTec® Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B29046</td>
<td>Front Seal</td>
</tr>
<tr>
<td>B29047</td>
<td>Left Axle Seal</td>
</tr>
<tr>
<td>B37024</td>
<td>Right Axle Seal</td>
</tr>
<tr>
<td>B36455</td>
<td>Molded Side Cover Gasket</td>
</tr>
<tr>
<td>B33212</td>
<td>Molded Pan Gasket</td>
</tr>
<tr>
<td>3448</td>
<td>Sealing Ring Kit</td>
</tr>
</tbody>
</table>

For more information, visit them on line at www.TransTec.com.

Sonnax’s Green Initiative

On Dec. 30, 2009, Sonnax began generating electricity from the solar photovoltaic power-generation system installed on the roof of its corporate headquarters in Vermont. An impressive array of 424 photovoltaic panels, which can generate up to 100KW of electricity, was put in place by GroSolar® of White River Junction, Vt., on some of the coldest days of the winter.

“This latest step in Sonnax’s Green Initiative is good for our community, good for our company and good for our customers,” stated Sonnax CEO Tommy Harmon. “Lower energy costs are just one way we continue to reduce operating costs and help keep prices in check.”

The company also began participating in a Power Shed Program in cooperation with the electric company. Under this program, Sonnax will operate on its generator when requested to help reduce power consumption in the local grid demand. All of these initiatives complement an ongoing commitment to recycling and minimizing material waste.

Transtar Promotes Nancy Parker to VP of Corporate Human Resources

Transtar Industries, Inc., the premier provider of world-class driveline solutions, is pleased to announce the promotion of Nancy Parker to vice president of corporate human resources.

Parker, with 20-plus years of experience in HR management, joined Transtar in December, 2006, as director of human resources.

“Nancy is a highly experienced HR professional,” said Greg Gyllstrom, president and CEO of Transtar Industries. “Her leadership was instrumental to the successful integration during our merger with Axiom Automotive Technologies, Inc.”

Nancy’s manufacturing and distribution career includes plant, division and corporate level positions with blue chip companies such as Cooper Industries, Cummins Engine, Goodrich Aerospace and Invacare. Nancy has a BS degree in Biology/Psychology, and a MA in labor relations/HR.

Transtar would like to congratulate Nancy and looks forward to a thriving future with her.
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HELP WANTED: Repair facility located in Rancho Cucamonga, California is seeking experienced transmission R&R technician for all makes and models. Knowledge of Honda/Acura Automobiles and diagnostic experience preferred. Medical, Dental and 401K benefits offered. Submit resume to rory@hnatrans.com or fax (909) 941-9460 attention: Rory. (Drug Screen Required) ATRA Mbr

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GEARS April 2010
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### CALENDAR

**ATRA Technical Seminar Schedule**

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