Welcome back to the final part in our series covering the JATCO RE5R05A transmission. So far, we’ve covered the computer and control systems; now it’s time to discuss external and internal checks, and some need-to-know rebuild steps.

First, let’s start with the basics: external checks. Pressure testing this unit is a pain, especially if it’s a 4X4. Even if you forget about the added mud and caked-on dirt, you could be in for a rough time just to get a pressure gauge connected. But there is an easier route: just above the servo there’s a pressure tap you can use for forward and reverse gears (Figure 1).

At the back of the transmission, just under the crossmember, you’ll find the pressure taps for the low coast brake, direct clutch and forward brake (Figure 2). From there you should be
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GM:
- LCT 1000
- 6L80
- 4L80/85E
- 4L60/65E
- 4T80E
- 4T60/65E
- 4T40/45E
- 4T70/75

Ford:
- Torqshift
- 6R60
- 5R44/55E
- FNR5

Chrysler:
- 545RFE
- 62TE

Hyundai:
- A4AF3
- A4BF2

Mercedes:
- 722.6

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able to match your pressures with all of the gears to aid you in your diagnosis (Figure 3).

The clutch-and-band application is pretty straightforward. But there are a couple of variations, one for the floor shift models and one for the column shift models. These two versions differ only in what’s available for each shifter range. The Apply elements are exactly the same for each year. There are six clutch-and-drum combinations, one band, and three one-way clutch assemblies (Figure 4 and 5).

Recently we took a HotLine call on one of these units that was slipping in reverse and flaring going into third gear after a rebuilt. The pressures were a little low in reverse and while driving forward. During the shift into third the pressure was erratic and low.

Unfortunately, unlike earlier units, we can’t manipulate the shifts. This is a CAN-operated system: We can monitor the shift solenoids, and the inputs and outputs with a scan tool, but manually overriding system isn’t going to happen. But since it had a problem in reverse, we could disconnect the transmission harness — which is also the transmission control unit — and verify operation in reverse. This allowed us to compare the differences in pressure between the clutch circuits. The symptoms were the same: slipping in reverse.

We were now confident the problem was internal, so the technician disassembled the transmission. The high and low reverse clutch (HLR/C) drum was black (Figure 6). The clutches and steels were burnt and badly damaged (Figure 7). Once the clutches were out of the drum the problem was obvious:

### Floor Shift Models

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<tr>
<th>Shifter Position</th>
<th>I/C</th>
<th>HLRC</th>
<th>DIC</th>
<th>R/B</th>
<th>FR/B</th>
<th>LC/B</th>
<th>Fwd/B</th>
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<th>FR/B</th>
<th>LC/B</th>
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A = Applied  
A* = Not affective  
a* = Operates under priming conditions  
a** = Operates under priming conditions  
* = Operates during progressive acceleration  
** = Operates and effects power while coasting
The return spring snap ring had popped off and the piston was cocked to one side (Figure 8). This damaged the seal and piston. It turned out the wrong piston seal had been used and the piston never really seated into the drum.

As if there aren’t enough problems out there, in this case we also have to deal with a seal issue. Turns out the transmission was recently rebuilt by a shade tree mechanic in someone’s home garage.

Since we’re talking about rebuilding procedures, we should go over band installation and adjustment. You should replace the band servo anchor end pin during every rebuild (Figure 9). Once the anchor pin is installed, install the servo assembly into the case (Figure 10). Then install the band assembly into the case (Figure 11). Install the front sun gear assembly to the front carrier assembly (Figure 12). The front sun shell is where the band rides.

Adjusting the band is pretty straightforward:

- Use a brake band clip or equivalent to make sure the band contacts the shell assembly.
- Loosen the anchor locknut and tighten the anchor end pin to 44 in-lbs.
- Mark the anchor pin with a marker.
- Back off the anchor end pin exactly three turns.
- Hold the pin in place and tighten the locknut.
This will be your last and only chance to adjust the band, because once the transmission is in the vehicle, it’s not going to happen. This is a very tight fit, providing almost no access to the band.

Well that’s about it; the rest is pretty much transmissions 101. I plan on having plenty more problems and fixes by the time Expo rolls around and speaking of Expo, make your plans early: This year we’re back in Las Vegas, October 11-14 (See page 45 of this issue). Until then, be safe and take care! See you in Vegas!