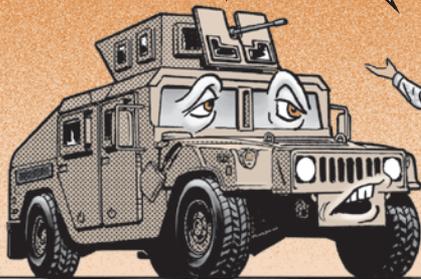


HMMWVs...

I'M NOT FEELIN' SO GOOD. CAN'T YOU TROUBLE-SHOOT MY TRANSMISSION?

I'LL TRY... BUT IT DOESN'T LOOK EASY!

TROUBLESHOOTING THE 4L80E TRANSMISSION ISN'T SO BAD IF YOU KNOW WHAT TO LOOK FOR!



Ending the 4L80E Tranny Confusion



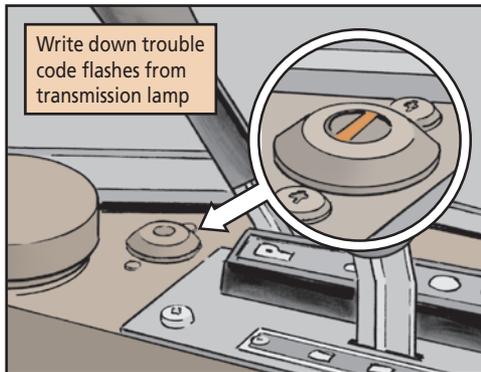
Mechanics, if you're confused by all those codes when it's time to troubleshoot the 4L80E electronic transmission in a HMMWV, read on. We've got a few tips that'll cut through the confusion and save you a lot of troubleshooting time.

Before You Start

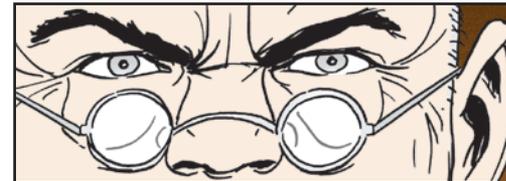
Before you get started, remember these tips:

- Write down the trouble codes from the vehicle's transmission control module (TCM) as they flash over the transmission lamp located next to the shift lever. Remember, codes 12 and 63 will always appear and should be disregarded. Next, clear the codes and road test the vehicle. Then check to see which trouble codes still show up. That eliminates false codes and saves troubleshooting time.
- Check all transmission sensor connections. Most problems are caused by loose or corroded wiring connections. After checking the connections, clear the trouble codes and road test the vehicle to see if that clears up the trouble.
- When multiple codes are reported by the computer, always troubleshoot the lowest code first and then work your way up. The higher-numbered codes are sometimes the result of the lower-numbered codes. So if you fix the lower codes first, you'll often find some of the higher codes will disappear.

Write down trouble code flashes from transmission lamp



Before Changing the Transmission



BEFORE YOU GO TO THE EFFORT OF CHANGING OUT AN "INOPERABLE" 4L80E TRANSMISSION, DO THE FOLLOWING...

- Make sure you have all of the proper diagnostic test equipment needed. That includes a multimeter, the throttle positioning sensor (TPS) block gauge, NSN 4820-01-179-4869, and the special purpose tool kit, NSN 5180-01-410-8467. This kit includes the following:

Item	NSN
Diagnostic switch cable	6150-01-410-8215
TPS cable	6150-01-412-7774
Seal installer*	5120-01-414-1849
Seal installer*	5120-01-437-0480
Drive handle*	5120-01-026-1666

*These items are not required for diagnostic testing.

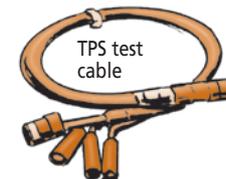
Get special tools for testing

Diagnostic switch cable



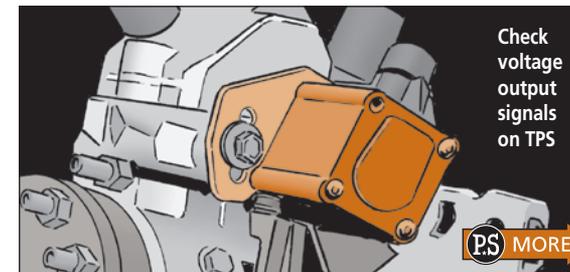
Multimeter

TPS block gauge



TPS test cable

- If you've never worked with this type of transmission, consult with your maintenance supervisor or TACOM LAR to get the help you need.
- If the truck's batteries have been serviced or replaced, it's important to properly reconnect the two power wires for the transmission control module (TCM). Do it wrong and the TCM gets 24 volts instead of the required 12. That burns up the TCM.
- Eyeball the transmission relay harness, which is located next to the batteries. If this harness ends up on top of the panel that separates the batteries and the relays, it may get cut when the passenger's seat is taken out and put back in. This will result in a no-shift mode and the transmission will be unable to change gears.
- Check the TPS voltage output signals. The TPS is used to send a signal to the TCM letting it know when to shift. The TPS may need to be adjusted or replaced.



Check voltage output signals on TPS

PS MORE

A training video, *HMMWV A2 Electronic 4-speed Transmission*, is also available. The video focuses on the transmission's electronic component locations, functions and interactions and includes a section on common problems for diagnostic test codes.

You can order the video from the Defense Imagery website at:

<http://www.defenseimagery.mil/index.jsp>

If this is your first visit, you'll need to register your CAC card by clicking on REGISTER at the top of the page. Once that's completed, click LOGIN and confirm your certificate.

In the Search block, enter **711363** and deselect all of the result types except **A/V and IMI Products**. Click SEARCH.

On the next screen, click on the video's title. Then click Add Production to Cart. At the top of the screen, click on the SHOPPING CART, and follow the instructions. Once ordered, you'll receive an email confirmation and the DVD will be mailed to you within a week or so.

IT ONLY TAKES A FEW CLICKS... AND THEN YOU'RE ALL SET!

