

# AODE Transbrake Instructions

PA45302#



Thank you for purchasing the latest transbrake from Performance Automatic, Inc. This transbrake has been thoroughly tested before being packed and shipped. Proper operation depends on following a few basic instructions. As you may know, the AODE/4R70W transmissions are computer controlled and must retain all wiring connections inside and outside the transmission. The following photos will help with the installation and operation of this transbrake.

This transbrake employs the following features:

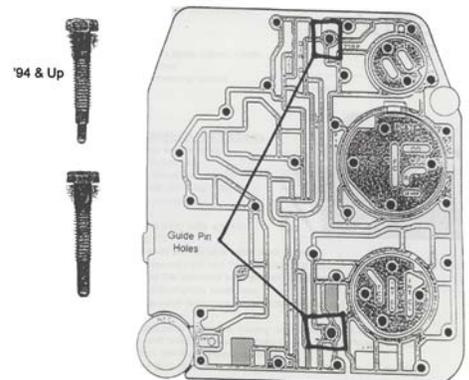
- All automatic shifting functions are retained
- Transbrake will only operate in manual low
- Computer pressure regulation is retained
- Transbrake must be operated in (R) to back up
- Factory OEM filter and pan is retained

Tool List:

- Metric sockets (8mm, 10mm, 13mm)
- Flat screwdriver
- 5mm allen wrench or socket
- 3/8 drill

Installation Instructions:

1. Raise vehicle and secure firmly.
2. Remove transmission pan, filter, and electrical connectors.
3. Remove detent spring and roller.
4. Remove twenty-four (24) valve body bolts and EPC bracket.
5. Remove valve body and lay on a clean work surface.
6. Remove shift solenoid pack and TCC solenoid and reinstall onto new valve body. Wiggle the solenoids back and forth to remove and install.
7. If installing **AODE FULL MANUAL**, look at guidelines at end.
8. Make sure new valve body gasket has remained installed on the transbrake valve body.
9. Place new valve body onto case, making sure manual valve is engaged into shift lever, and loosely start all the bolts making sure the long and short bolts go back into their respective holes.
10. Make sure the EPC bracket is installed to hold the EPC solenoid into the case.
11. Reinstall the wire connectors onto the EPC, TCC and shift solenoids.
12. Reinstall filter.
13. Drill a 3/8" hole into the side of the transmission pan in the approximate location. As long as the wire will reach and not interfere with the linkage or anything else this location is not critical. Apply silicone sealer around the connector and install into pan and snug out. Not too tight, it is only plastic.
14. Install new pan gasket, connect transbrake solenoid wire to pan connectors and install pan.
15. Fill transmission with four (4) quarts of ATF (Mercon V). This level will be finalized after the vehicle is started and brought up to operating temperature.



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16. Connect a switch-able 12V source to the connector. This will come directly from your transbrake switch.

This installation is complete. Finalize fluid level and check your wiring. Remember you must press the transbrake button and have the shift lever in (R) to back up! Make sure your vehicle is stopped before transbrake is engaged.

Some 1994 and later cases and valve bodies used two smaller alignment pins in the valve body. All transbrake valve bodies use the larger valve body alignment pins and will not install into a later case without a simple modification. See the following diagrams and photos to help with this modification.

Locate the (2) guide pinholes in the case. These holes are not threaded. If the drill bit supplied fits into these holes, no modifications are necessary. If they do not, these holes must be drilled larger using the drill bit supplied. Mark the bit so that you will only drill 1/2" deep into the case, this is important and will be enough for the larger pins. You can see the larger pins already installed in the transbrake valve body. This may help you understand why you have to drill the case. You may now proceed with the remaining steps to install the transbrake valve body.

### AODE Full Manual Valve Body

This valve body is a direct bolt in replacement for AODE/4R70W transmissions manufactured from 1992 to 2002.

- The shift pattern is P R N 3 2 1
- There is engine braking in 2 and 1
- This valve body requires no computer hookups. If your vehicle's computer controls this transmission you must disconnect it at the transmission by disconnecting the plug on the rear side of the transmission (photo A).
- There are several options for electrical hookups depending on your applications. The following suggestions will help.
- One electrical connection (12V momentary) is needed for the transbrake/reverse function. If you do not need or want to use the transbrake, it still must be functional to attain reverse.
- Manual 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> do not require any electrical hookups. These 3 forward ranges are full manual.
- If you desire (4<sup>th</sup>) overdrive, you must activate both shift solenoids together while in 3<sup>rd</sup>. Applying a 12V source through a switch will work fine (see diagram B).
- The lockup solenoid can also be activated through a switched 12-volt source. Ground either wire of the solenoid and supply 12 V to the other wire. We suggest you wire both shift solenoids and torque converter solenoids together.
- There are many possibilities for electrical hookups. The use of timers can be used to activate the lockup or O/D function.



Figure A

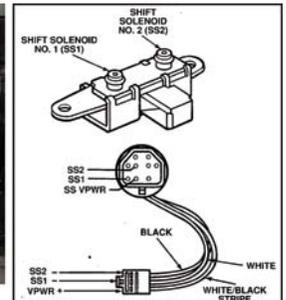


Figure B: Ground SS1 & SS2, supply power to VPWR+



Figure D

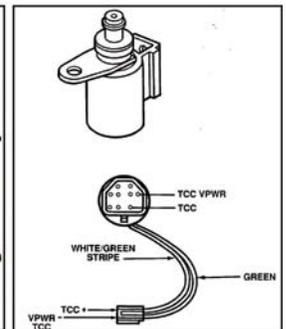


Figure C: Ground TCC, supply power to VPWR/TCC

Late model AODEs with the hard plastic internal harness will have to change to an earlier harness with wires to make installation easier this is Ford Part # F2VY-76276-A or call PA for the same (see photo C).