

INSTALL/REMOVAL INSTRUCTIONS: TRANSFER CASE MOTOR

ATTENTION: Refer to the appropriate shop manual for your vehicle to obtain specific service procedures for this part. If you do not have a service manual or lack the skill to install this part, it is recommended that you seek the services of a qualified technician. Pay special attention to all cautions and warnings included in the shop manual. Read and follow all instructions carefully.

REMOVAL/INSTALL OF TRANSFER CASE MOTOR (600-800, 600-801, 600-802, 600-803, 600-804, 600-806, 600-807) 2005–1987 Ford Various Models

General Tech Tips:

- Check that the vehicle 4WD and Automatic Transfer Case (ATC) fuses have not blown.
- Road test vehicle and document any noises and symptoms of unusual operation.
- Attach scan tool to diagnostic data link connector and retrieve any stored trouble codes including pending codes and freeze frame data.
- Check for any related Technical Service bulletins.
- Check for proper transfer case I.D. by referencing the tag that is attached to the transfer case extension housing. This tag is bolted on and may include the model number, serial number, build date and range reduction ratio.

Transfer Case Motor Diagnostics

- Test drive vehicle—engaging 4WD system—and make note of any unusual noises or occurrences.
- Raise vehicle on a lift or on jack stands, making sure that vehicle is properly and safely supported.
- Back probe the transfer case motor connector, attaching a voltmeter between the large solid yellow and solid orange wires.
- Have someone in the vehicle activate the 4WD system and look for a very brief spike in voltage on the meter. At the same time, listen for the relay to click on and then off.
- If there is no spike in voltage and no audible relay click is heard, the motor is not being powered. The fault lies elsewhere in the system. Check the circuits coming from the shift control module as well as inputs to the shift control module including the sensors. Make sure to consult a shop manual and follow the associated procedures and diagrams.
- If there is a spike in voltage, then power is getting through to the motor. Unbolt the motor from the transfer case and have someone activate the 4WD system again. If the motor does not spin, then it is faulty and needs to be replaced.
- If the motor now spins, there is a mechanical fault in the transfer case that needs to be addressed.

Disclaimer:

Even though every attempt is made to ensure this information is complete and accurate, it is impossible to account for all possible circumstances or situations. Please consult with a qualified auto technician before attempting to perform any work you are not qualified to do. Automobiles can be hazardous to work on; be sure to take all necessary safety precautions. Failure to do so may result in property damage or personal injury. Certain motor vehicle standards and performance requirements may apply to your motor vehicle (such as Federal Motor Vehicle Safety Standards by the National Highway Traffic Safety Administration). Be sure that your work is performed in accordance with such standards and that you do not disable any motor vehicle safety feature.

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Removal Instructions

STEP 1: Raise vehicle on a lift or jack stands, making sure the vehicle is properly and safely supported.

STEP 2: Remove transfer case shield if vehicle is equipped with one.

STEP 3: Disconnect shift motor electrical connector(s) by lifting up the plastic retaining tab and pulling apart.

STEP 4: Remove the 3 or 4 bolts that attach the motor to the transfer case.

STEP 5: Support the motor, as it will still be attached to the vehicle by the speed sensor wires. There are usually three wires and they will need to be transferred to the new motor.

STEP 6: Carefully remove these wires from the old motor by gently spreading open the plastic tab that holds each pin in place and pushing on the pin so that it disengages from the connector. Pay attention to the position in the connector that each pin is located. They will need to be reinstalled in the same position on the new motor.

STEP 7: Remove the motor from the transfer case.

Installation Instructions

STEP 1: Clean mounting surface on the transfer case, making sure that there is no gasket material or residue left from the motor removal.

STEP 2: Connect the motor connector to the vehicle wire harness connector. Install the speed sensor wires in the new motor connector by gently pushing each pin through back of the connector in the appropriate hole. Make sure that each pin is secured tightly by the plastic tab.

STEP 3: Once the motor is indexed properly to the transfer case, install the motor by holding it flat against the transfer case and thread in the mounting bolts. Start the mounting bolts by hand to avoid cross threading. Snug the bolts up evenly. If any binding occurs while tightening the bolts, remove them and make sure that the motor is fully seated on the shaft and laying flat against the transfer case.

STEP 4: Torque the mounting bolts to approximately **15 FT LBS** or **20 NM**. Consult service manual for exact specification.

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STEP 5: Connect the electrical connectors ensuring a tight fit. Make sure the wires are routed correctly and secured to the transfer case or vehicle where required.

STEP 6: Install the transfer case shield.

STEP 7: Check the transfer case oil level and add oil if necessary.

STEP 8: Lower vehicle and test for proper 4WD operation.

STEP 9: Clear any stored diagnostic trouble codes that were related to the repair.