

**Vehicles Affected:** 2003—2012 Ford F150, Expedition, & Lincoln Navigator 4WD models.

**Customer Complaint:** Four Wheel drive will not engage, may be intermittent at 1st but becomes more frequent, may also notice grinding noise from front tire area when vehicle is in 4WD.

**Technician will find:** Front vacuum actuator not fully engaging or not engaging at all. Upon disassembly will notice teeth stripped/worn on actuator and on wheel bearing hub assembly because actuator was not fully seating and teeth were slipping.

**How it works:** This is a vacuum operated set up. A vacuum command switch (MTC CX2117 2004-2009 picture 1) controls the vacuum flow. Vacuum to the front actuator (Dorman 600-105 picture 2 & 3) pulls the gear so it locks with the gear on the hub bearing (Timken SP550207 for 2004-2008 picture 4 & 5). When the gears are locked to each other the vehicle is in 4WD.

**Tech Tip:** It is important to make sure all components are working correctly and that all vacuum lines hold vacuum. If just the actuator is replaced and other parts of the system are not working properly this will result in a comeback. If the gears on the hub bearing are worn they will cause premature failure of the actuator. If the vacuum switch is not holding properly it will cause gears on actuator to slip on hub bearing gears and over time strip them out.

Picture 2



Picture 1



Picture 3



Picture 5



Picture 4

