

## Pedal Effort Panic! When There's No Power Assist

The location was at a hydroelectric dam that was popular for fishing and water sports. Turbulent doesn't describe the water conditions created by six generators producing electric power and seventeen flood gates open and spilling excess water from the lake side of the dam. The currents were treacherous and would concern the most experienced boater. However, all the action experienced was on the boat ramp during the process of launching the vessel.

The boat ramp was long and had a steep grade. With a \$40K boat and custom trailer weighing almost as much as the curb weight of the 2017 Silverado 4X4 towing it, you can imagine how the vehicle owner felt when he applied the brakes to slow his descent down the steep ramp and there was a feeling of no brakes. He encountered a firm pedal feel, little if any braking sensation, and a vibration in the brake pedal like he was driving over sticks. As the distance closed between him and the river, he pushed harder on the brake pedal and applied his parking brake trying to stop the vehicle. Fortunately, he was successful in getting the rig stopped just before the boat trailer reached the water's edge. He was concerned the boat and trailer would get into the heavy currents and he would lose the whole rig, including his truck. The puddle in the driver's seat was not from river water.

Back at the dealership he was informed that they couldn't find a problem and they would have to verify the same symptoms before warranty work could be performed. He made it clear he was not receptive to another encounter of the same. This was not the time and place for a brake failure. A little research of his own and some information provided in a GM Service Bulletin sent him back to the dealer requesting the necessary repairs.

### SPECIAL COVERAGE – BRAKE ASSIST DECREASED

GM states that in some circumstances, some 2014-2018 model year Cadillac Escalade, Chevrolet Silverado, Suburban, Tahoe, GMC Sierra and Yukon vehicles may encounter a braking condition whereby the customer may experience increased brake pedal

effort, hard pedal, and potentially an increase in the stopping distance. The number of vehicles affected include 3.4 million SUVs and trucks.

The condition is more pronounced during slow speed stopping during light brake application. These symptoms are the result of the engine mounted vacuum pump output decreasing over a period of time, resulting in the loss of power brake assist. GM has extended the coverage of the vacuum pump and belt for a period of 10 years or 150K miles, regardless of ownership. Factory bulletins/recalls should always be a part of the diagnostic process.

Prior to the vacuum pump extended warranty, the dealers were advised to reprogram the electronic brake control module with a new calibration that would improve how the system utilizes the hydraulic brake boost assist function when vacuum assist is depleted.

The vehicle manufacturer advises that poor maintenance intervals may contribute to failed vacuum pumps. The pump is lubricated with engine oil that flows through a filter screen. Lack of maintenance may contribute to sludge, which can block the oil flow through the filter screen, resulting in pump failure.

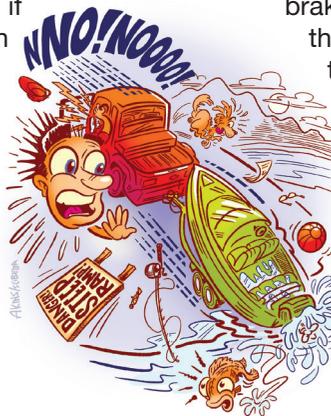
### ADDITIONAL BRAKE PEDAL EFFORT

While it wasn't mentioned in the previous bulletin, GM addressed hard pedal effort concerns in Service Bulletin PIT5361D in September 2018, titled Additional Brake Pedal Effort. The symptoms illustrated were of those previously mentioned except it included an inspection of additional components.

When performing a vacuum source test, if low vacuum is present and determined to be the fault, the technician should inspect the vacuum line to the brake booster and the booster for the presence of engine oil. If no oil is found, then only replace the vacuum pump. If oil was present in the vacuum line and booster, the following parts should be replaced to prevent a recurrence: 1) Vacuum Pump 2) Vacuum line between the booster and the pump 3) Brake Booster 4) Master Cylinder.



By Larry Hammer  
Technical Services



'PEDAL TO THE METAL' TAKES ON A WHOLE NEW MEANING!