

Chronology of Defect / Noncompliance Determination 2008-2010 Elantra; 2009-2010 Elantra Touring Electronic Power Steering

Hyundai began production for the US market of Elantra sedan in July, 2006 and Elantra Touring in November, 2008. The vehicles incorporated an electronic power steering (EPS) system to provide steering assist. The system utilizes an optical torque sensing device in the steering column as an input to the EPS control unit, and the control unit determines the level of steering assist required.

In 2010, an analysis of electronic steering column warranty claims indicated the most prevalent diagnostic code was related to the system's torque sensor signal. It was determined that in some cases, the torque sensor diagnostic logic within the EPS system may have been susceptible to electronic "noise" during vehicle startup, resulting in a diagnostic code being set and the system defaulting to its manual steering mode. In April, 2010 a vendor incorporated a "guide" into the system's torque sensor to reduce electronic "noise" during startup. In February, 2011, the cumulative claim rate for loss of assist claims was approximately 0.25% for the Elantra sedan, and 0.36% for the Elantra Touring, and Hyundai published a Technical Service Bulletin with a software update to revise the EPS diagnostic logic.

As of October, 2014, the cumulative claim rate for assist-related claims had increased to 1.3% for the HD Elantra sedan, and 1.9% for the Elantra Touring. An analysis of warranty data by production month indicates the majority of claim activity for the Elantra has been from June, 2008 production though the time the vendor applied the revision to the torque sensor in April, 2010. For the Elantra Touring, the majority of claim activity occurred from the beginning of production until the revision to the torque sensor in April, 2010.

Throughout this period, Hyundai monitored the incoming data related to loss of power assist. Hyundai initially determined that the level of force necessary to steer a vehicle without EPS-assist remained within acceptable levels. This belief was centered on Hyundai's compliance with European Standard ECE R-79, Uniform Provisions Concerning the Approval of Vehicles with Regard to Steering Equipment. ECE R-79 specifies the measurement of steering effort in the case of a power steering failure. Hyundai's understanding has been that the loss of power steering assist has not, in the past, been considered as a safety related defect in the United States. This understanding was based on the fact that manual steering control is maintained. More recently, however, the industry has increasingly handled similar issues through safety recalls due to the greater driver effort at low vehicle speeds. To remain consistent with that industry trend, Hyundai has decided to conduct this campaign as a safety recall.