

General Service Bulletin (GSB):	Deflation Detection System (DDS)
GSB Overview:	This GSB provides technical information to reduce time diagnosing DDS concerns.
NOTE: This information is not intended to replace or supersede any warranty, parts and service policy, Work Shop Manual (WSM) procedures or technical training or wiring diagram information.	

## **Deflection Detection System (DDS) System Information**

DDS is a subsystem of Electronic Stability Control (ESC). It uses wheel speed sensors and other inputs to detect a difference in tire speed rather than actual sensors like in TPMS. There are many factors that influence the DDS operation including, but not limited to:

- Tire pressure
- Tire temperature
- Tire circumference
- Rough roads
- Cornering
- Different load conditions
- Vehicle dynamics
- Wheel slip
- Tire itself: rolling radius increase of tire with increasing vehicle speed

DDS learns the vehicle specific parameters immediately after a system rest. Once that learning is completed, it does not continue to learn but uses the learned data as the baseline. Changes since the last learning event can greatly affect the function of DDS, such as rotating tires, adding air pressure, and replacing tires.

Faults with the ESC system or any related module can affect DDS operation. If a DDS warning light illuminates and there is no apparent concern with the tires, inspect the rest of the ESC system and any related module such as PSCM, PCM, and IPC.

Initial DDS inspection criteria:

- Check the tire pressure with a manual gauge.
- Check that all tires are the same brand, model, size, and approximate wear.
- Inspect for excessive or improper loads (weight more on one side, front to back weight distribution).
- Ask the customer:
  - When was the last time the tires were rotated or air pressure adjusted?
  - When did they last reset the system through the IPC?
  - Describe the road surface when the light came on.
  - Has the vehicle experienced any aggressive cornering?
- Codes/faults in any of the related ESC modules

Other useful notes on DDS:

- Adjust tire PSI when cold to the placard amount.
- Following a DDS reset, it takes roughly 20 km of normal driving which needs to include all speed ranges for DDS to learn. Once the learning is complete, the system would be capable of providing warnings. It will take longer to complete the learning process if driving is aggressive, driven on rough roads, etc.
- It takes about 5 km of a continuous driving to detect 25-30% psi loss.

Resetting DDS:

- Switch the ignition on
- Using the information display control, navigate to Menu > Vehicle settings > Deflation detection.
- Press and hold the OK button until confirmation appears.

To reduce the time and expense of diagnosing DDS symptoms, remember these points:

- If the DDS warning lamp is illuminated, this indicates a loss of tire pressure was detected.
- If the DDS warning lamp is illuminated and the correct tire pressure is present, it is likely that the DDS reset procedure was not carried out after a previous adjustment of tire pressure.
- If the DDS warning lamp is not illuminated when one or more tire(s) have incorrect tire pressure, the DDS reset procedure may have been carried out under incorrect tire pressure conditions and may need to be performed again.
- If the DDS reset command was not confirmed, the DDS reset procedure was not completed.
- If the DDS failure warning is displayed, the likely source involves the ABS system and may require a scan tool to diagnose.
- A DDS reset is required after any tire pressure adjustment or tire rotation.