

## Active Air Dam (AAD) - Overview



### Overview

The AAD is a mechatronic system consisting of an AAD blade (plastic spoiler plate), dual electrical motors working together, and associated driving linkage, all integrated into the front bumper. It improves fuel economy by reducing aerodynamic drag on the vehicle while it is in motion.

The AAD blade moves up and down, primarily based on vehicle speed. It is extended for aerodynamic drag reduction and fuel economy savings and retracted during some driving conditions to protect the part from physical damage due to debris and/or rough terrain. It should be fully retracted when vehicle is stationary. The AAD system receives its position commands from the PCM, via the LIN.

The AAD system performs a self-calibration every power-up, in order to correctly interpret position commands and achieve the desired position. It initiates this self-calibration sequence whenever the engine is started, fully retracting while the vehicle is stopped. It does not complete the self-calibration sequence until the AAD blade is fully extended, which only occurs when the vehicle is moving at 72 km/h (45 mph) or greater for 15 seconds, before being positioned to the desired opening position, as requested by the PCM.

Depending on vehicle type, target market, front end packaging and underhood/powertrain hardware components installed, the vehicle may not include the AAD system.