2016 - 2019 Corvette: GM TechLink: Active Fuel Management/Dynamic Fuel Management on GM Models

Active Fuel Management/Dynamic Fuel Management on GM Models

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Active Fuel Management (AFM) or Dynamic Fuel Management (DFM) is available on a number of recent GM models to help improve fuel economy, including 2014 - 2019 Corvette, Silverado LD, Sierra Limited; 2015 - 2019 Escalade, Suburban, Tahoe, Yukon; 2016 - 2019 Cadillac CTS-V, Camaro; 2019 Silverado 1500, Sierra 1500; 2020 Silverado 2500/3500 and Sierra 2500/3500 models.

Active Fuel Management

AFM was designed to provide maximum fuel economy under light load driving conditions by deactivating the lifters on specific cylinders. On V8 engines, half of the cylinders are deactivated and on V6 engines, two of the cylinders are deactivated.

Under certain operating conditions, the Engine Control Module (ECM) commands the cylinder deactivation system to deactivate engine cylinders 1, 7, 6, and 4 on V8 engines or to deactivate engine cylinders 3 and 6 on a V6 engine. The engine will operate on all cylinders during engine starting, engine idling and medium-to-heavy throttle applications.

The Lifter Oil Manifold Assembly (LOMA) is only used on AFM

applications.

Dynamic Fuel Management

DFM is the next generation in cylinder deactivation systems. It features AFM technology with the additional ability to deactivate any combination of cylinder valves to optimize fuel consumption. The control of every cylinder event allows peak efficiency to be obtained throughout the range of engine operation. (Fig. 15)

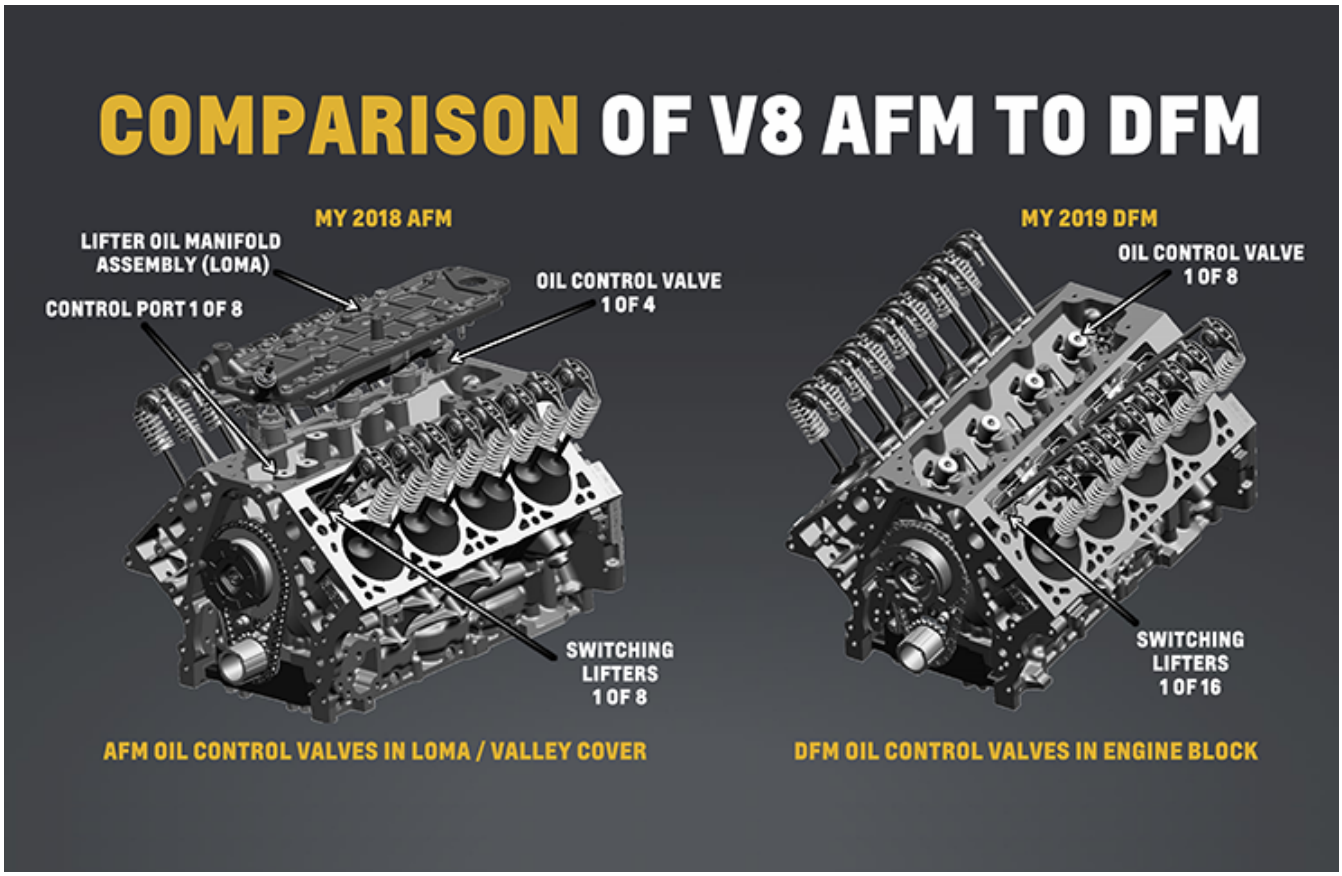

Fig. 15

By extending cylinder deactivation to all cylinders, DFM allows for a large variety of firing sequences. DFM can have rotating cylinder deactivation patterns, such as 1/5, 1/3, 2/5, or 2/3, as well as fixed patterns, such as 1/4, 1/2, or 3/4. For rotating patterns, which are only available on small block engine (L84,L87), the cylinders being deactivated can change with each subsequent engine cycle. Transitions between firing sequences is done in a

continuous fashion, making the transitions seamless and transparent to the driver.

Oil Control Valves (OCV), only used on small block engines, replace the LOMA. OCVs provide faster response times than the LOMA and are required for DFM. OCVs also are used on L82 engines with AFM.

AFM/DFM Usage

Model	AFM VLOM	4 Cylinder Deactivation	DFM OCV	FDFM	None	Notes
CTS-V 6.2L LT4	Yes	Yes	No	No		Always active
Camaro 6.2L LT1	Yes	Yes	No	No		Automatic only. AFM not active with manual trans
Camaro 6.2L LT4	Yes	No	No	No		Has the hardware, not active
Corvette 6.2L LT1, LT4	Yes	Yes	No	No		Auto trans active, manual trans active in ECO only
Corvette 6.2L LT5	No	No	No	No	Yes	No hardware on LT5
Escalade	Yes	Yes	No	No		

6.2L L86					
Suburban/ Tahoe/Yukon 5.3L L83, 6.2L L86	Yes	Yes	No	No	
Silverado LD/Sierra LD 5.3L L83, 6.2L L86	Yes	Yes	No	No	
Silverado/ Sierra 4.3L LV3	Yes	Yes	No	No	
Silverado 1500/Sierra 1500 5.3L L82	No	Yes	Yes	No	
Silverado 1500/Sierra 1500 5.3L L84, 6.2L L87	No	No	Yes	Yes	
Silverado/ Sierra HD 6.6L L8T	No	No	No	No	No hardware on L8T
Express/Savana 4.3L LV1	No	No	No	No	No hardware on LV1
Express/Savana 6.6L L8T	No	No	No	No	No hardware on L8T

For additional information, refer to #PIP5663.

– Thanks to Richard Renshaw