

2016 - 2020 Cadillac CTS-V and CT6-V: Service Bulletin: #20-NA-038: Information on Active Fuel Management (AFM) and Dynamic Fuel Management (DFM) Usage - (Apr 8, 2021)

#20-NA-038: Information on Active Fuel Management (AFM) and Dynamic Fuel Management (DFM) Usage - (Apr 8, 2021)

Subject: Information on Active Fuel Management (AFM) and Dynamic Fuel Management (DFM) Usage

This bulletin replaces PIP5663. Please discard PIP5663.

| Brand: | Model: | Model Year: | | VIN: | | Engine: | Transmission: |
|-----------|---------------------|-------------|------|------|----|---------------|---------------|
| | | from | to | from | to | | |
| Cadillac | CTS | 2016 | 2019 | — | — | 6.2L (LT4) | — |
| | CT6 | 2016 | 2020 | | | 6.2L (LTA) | |
| | Escalade | 2015 | 2021 | | | 5.3L (L83) | |
| | | | | | | 6.2L (L86) | |
| Chevrolet | 3500/4500 Medium | 2020 | 2020 | | | 6.6L (L8T) | |

| Duty (LCF) | | | |
|-------------------------------|------|------|---------------------------------|
| Camaro | 2016 | 2021 | 6.2L (LT1, LT4) |
| Corvette | 2014 | 2019 | 6.2L (LT1, LT4, LT5) |
| | 2020 | 2021 | 6.2L (LT2) |
| Express | 2018 | 2021 | 4.3L (LV1), 6.6L (L8T) |
| Silverado | 2014 | 2018 | 4.3L (LV1, LV3) |
| | | | 5.3L (L83) |
| Silverado 1500 (New Model) | 2019 | 2019 | 6.2L (L86) |
| | | | 4.3L (LV3) |
| | | | 5.3L (L82, L84) |
| | | | 6.2L |

| | | | | |
|------------|-------------------------|------|------|------------------------|
| | | | | (L87) |
| | Silverado LD | 2019 | 2019 | 5.3L (L83) |
| | Silverado 1500 | 2020 | 2021 | 4.3L (LV3) |
| | | | | 5.3L (L82, L84) |
| | | | | 6.2L (L87) |
| | Silverado 2500/ 3500 | 2020 | 2021 | 6.6L (L8T) |
| | Suburban | 2015 | 2021 | 5.3L (L83, L84) |
| | | | | 6.2L (L86, L87) |
| | Tahoe | 2015 | 2021 | 5.3L (L83, L84) |
| | | | | 6.2L (L86, L87) |
| GMC | Savana | 2018 | 2021 | 4.3L (LV1), 6.6L |

| | | | |
|----------------------------------|------|------|-----------------------|
| | | | (L8T) |
| Sierra | 2014 | 2018 | 4.3L (LV1, LV3) |
| | | | 5.3L (L83) |
| | | | 6.2L (L86) |
| Sierra 1500 (New Model) | 2019 | 2019 | 4.3L (LV3) |
| | | | 5.3L (L82, L84) |
| | | | 6.2L (L87) |
| Sierra Limited | 2019 | 2019 | 4.3L (LV3) |
| | | | 5.3L (L83) |
| | | | 6.2L (L86) |
| Sierra 1500 | 2020 | 2021 | 4.3L (LV3) |
| | | | 5.3L (L82, L84) |

| | | | |
|--------------------------|------|------|-----------------------|
| | | | 6.2L (L87) |
| Sierra 2 500/350 0 | 2020 | 2021 | 6.6L (L8T) |
| Yukon Models | 2015 | 2021 | 5.3L (L83, L84) |
| | | | 6.2L (L86, L87) |

Involved Region or Country

North America, Europe, Uzbekistan, Russia, Middle East, Iraq, Israel, Palestine, Argentina, Brazil, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela, Japan, Cadillac Korea (South Korea), GM Korea Company, China, Taiwan, Thailand, Singapore, Philippines, Egypt, Other Africa, South Africa

Information

AFM (Active Fuel Management)

To provide maximum fuel economy under light load driving conditions, the engine control module (ECM) will command the cylinder deactivation system ON to deactivate engine cylinders 1, 7, 6, and 4, switching to a V4 mode. The engine will operate on 8 cylinders, or V8

mode, during engine starting, engine idling, and medium to heavy throttle applications.

AFM – active fuel management strategy which deactivates the lifters on specific cylinders. On V8 engines, it deactivates half of the cylinders (1,7,6 and 4) and on V6 engines, it deactivates only 2 of the cylinders (3 and 6). For LTA and LT2 engines, the deactivation occurs on cylinders 2, 3, 5 and 8.

LOMA – lifter oil manifold assembly is only used on legacy AFM applications

DFM (Dynamic Fuel Management)

Dynamic Fuel Management (DFM) is recognized as active fuel management technology with the additional ability to deactivate any combination of cylinder valves for an internal combustion engine. This technology combines millisecond-accurate torque control with cylinder deactivation to optimize fuel consumption of spark ignited engines. The control of every cylinder event optimizes engine operation such that peak efficiency is obtained throughout the range of engine operation. DFM extends

cylinder deactivation to all cylinders, which allows for a large variety of firing sequences. DFM can have rotating cylinder deactivation patterns as well as fixed patterns. For rotating patterns, which cylinders are 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 vehicle operator.

DFM – dynamic fuel management which can deactivate the lifter on any cylinder at any time. Unlike AFM, this can result any many different types of firing patterns, some of which are fixed patterns (like $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$) and others which are rotating (like $\frac{1}{5}$, $\frac{1}{3}$, $\frac{2}{5}$, $\frac{2}{3}$). This is only available on small block engines (L84 and L87).

OCV – oil controlled valve is only used on small block engines. These provide faster response times than LOMA and are required for DFM (on L84 and L87). OCVs are also used on L82 for AFM.

Refer to the AFM/DFM Usage Chart below.

AFM/DFM Usage Chart

| Vehicles | AFM VLOM | 4 Cylinder Deactiva tion | DFM. OCV's | FDFM | None | Notes |
|-----------------|-------------|-----------------------------------|---------------|------|------|---|
| CTS LT4 | Yes | Yes | No | No | — | Always active |
| CT6 LTA | No | Yes | No | No | — | — |
| Camaro LT1 | Yes | Yes | No | No | — | Automat ic only. AFM not active with Manual trans |
| Camaro LT4 | Yes | No | No | No | — | Has the hardwar e, Not active |
| Corvette LT1 | Yes | Yes | No | No | — | Auto Trans active, Manual Trans active in ECO only |
| Corvette LT2 | No | Yes | No | No | — | — |
| Corvette | Yes | Yes | No | No | — | Auto |

| | | | | | | | |
|-------------------------------|-----|-----|-----|-----|-----|--|---|
| LT4 | | | | | | | Trans active, Manual Trans active in ECO only |
| Corvette LT5 | No | No | No | No | Yes | | No hardware on LT5 |
| Escalade L83, L86 | Yes | Yes | No | No | — | | — |
| Escalade L87 | No | No | Yes | Yes | — | | — |
| Express/Savana LV1 | No | No | No | No | — | | No hardware on LV1 |
| Silverado/Sierra L83, L86 | Yes | Yes | No | No | — | | — |
| Suburban/Tahoe/Yukon L83, L86 | Yes | Yes | No | No | — | | — |
| Suburban/Tahoe | No | No | Yes | Yes | — | | — |

| | | | | | | | |
|---|-----|-----|-----|-----|---|---|---|
| /Yukon L84, L87 | | | | | | | |
| Silverad o/Sierra L82 | No | Yes | Yes | No | — | — | |
| Silverad o/Sierra L84 | No | No | Yes | Yes | — | — | |
| Silverad o/Sierra L87 | No | No | Yes | Yes | — | — | |
| Silverad o/Sierra L82, L84 with RPO YK9 Only | Yes | No | Yes | No | — | — | Hardwar e is there ECM and Softwar e not capable |
| Silverad o/Sierra HD L8T | No | No | No | No | — | — | No hardwar e on L8T |
| Silverad o/Sierra LV1 | No | No | No | No | — | — | |
| Silverad o/Sierra LV3 | Yes | Yes | No | No | — | — | |
| 3500/45 | No | No | No | No | — | — | No |

00
Medium
Duty
(LCF)

hardware
on
L8T

Information

Note: Beginning in March 2021, most 2021 Silverado 1500 and 2021 Sierra 1500 pickups equipped with L82 MYC 6-speed and L84 MQE 8-Speed will be produced without Active Fuel Management/AFM (L82), or Dynamic Fuel Management/DFM (L84). The engines will still be equipped with the hardware, but the ECM and software will not be capable of activating this technology.

Pickups equipped with L82 MYC or L84 MQE, which are produced without AFM or DFM function, will be identified with New RPO YK9 (Not Equipped with Cylinder Deactivation). Internal components related to AFM or DFM function will be present in engines; wiring, connectors, and fuses will be present in vehicles with RPO YK9. The ECM will not be capable of activating the cylinder deactivation technology.

Parts Information

No parts are required for this repair.

Version

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Modified

Released February 26, 2020

April 08, 2021 – Added 2021 Model Year to certain models, added

additional vehicles to AFM/DFM
Usage Chart and added the
Information section.

Online URL:

<https://www.cadillacvnet.com/knowledge-base/article/2016-2020-cadillac-cts-v-and-ct6-v-service-bulletin-20-na-038-information-on-active-fuel-management-afm-and-dynamic-fuel-management-dfm-usage-apr-8-2021-61.html>