

# Air Resources Board

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August 21, 2017

## MANUFACTURERS ADVISORY CORRESPONDENCE (MAC) 2017- 03

TO: ALL MANUFACTURERS OF  
PASSENGER CARS (PC)  
LIGHT-DUTY TRUCKS (LDT)  
MEDIUM-DUTY VEHICLES AND ENGINES USED IN SUCH  
VEHICLES (MDV/E)  
OFF-ROAD LARGE SPARK-IGNITION ENGINES (LSIE)  
OFF-HIGHWAY RECREATIONAL VEHICLES (OHRV)  
ALTERNATIVE FUEL RETROFIT (AFR) SYSTEMS FOR ON-ROAD  
VEHICLES AND ENGINES (ONR VEHICLE/ENGINE) INCLUDING  
PC, LDT, MDV/E, AND HEAVY-DUTY ENGINES AND VEHICLES  
EQUIPPED WITH THESE ENGINES (HDEN)  
ALL OTHER INTERESTED PARTIES

SUBJECT: Cost Limit for High-Priced Warranted Parts for New 2018 Model-Year (MY) Passenger Cars (PC), Light-Duty Trucks (LDT), Medium-Duty Vehicles and Engines Used in These Vehicles (MDV/E), Off-Road Large Spark-Ignition Engines (LSIE), Off-Highway Recreational Vehicles (OHRV), and Alternative Fuel Retrofit (AFR) Systems Certified During Calendar Years (CY) 2017 and 2018 for Installation on In-Use MY 1994 and Subsequent On-Road Vehicles and Engines (ONR Vehicle/Engine) Including PC, LDT, MDV/E and Heavy-Duty Engines and Vehicles Equipped with These Engines (HDEN)

This letter provides a Manufacturers Advisory Correspondence (MAC) that identifies the cost limit for high-priced warranted parts of new MY 2018 PC, LDT, MDV/MDE, LSIE, and OHRV, and AFR systems certified during CY 2017 and CY 2018 for installation on in-use MY 1994 and subsequent ONR Vehicles/Engines. Also included is identification of the highest-cost metropolitan area of California for the purpose of calculating labor cost when determining the total replacement cost of a warranted part.

New in this MAC is the emission warranty requirement applicable to OHRV certified to the new vehicle-based evaporative emission standards. Starting in MY 2018, manufacturers begin phasing in OHRV to the new evaporative emission standards. For those OHRV meeting the new evaporative emissions standards, the evaporative emission control system must be warranted for 30 months, or 2,500 miles, or 250 hours,

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

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whichever comes first, except for "high-priced" warranted parts, which are covered for 60 months, or 5,000 miles, or 500 hours, whichever comes first. Item 2.b. is new in this MAC and identifies the cost limit for high-priced warranted evaporative emission related parts.

Items 2.c. and 2.d. provide the cost limits for high-priced warranted parts of AFR systems certified during CY 2017 and CY 2018 for installation, respectively, on in-use MY 2004 and subsequent (MY 2004+), and in-use MY 1994-2003, ONR Vehicles/Engines including PC, LDT, MDV/MDE, and HDE/V. It should be noted that for AFR systems for MY 1994-2003 ONR vehicles/engines, the baseline consumer price index (CPI) upon which the cost limit is adjusted annually is different than that for the other categories (i.e., new PC, LDT, MDV/MDE, and MY 2004+ AFR systems) and, as a result, the cost limits for MY 1994-2003 AFR systems differ, slightly, from those for the other categories.

Item 7 in this MAC discusses the inapplicability of the cost limit to warranties for vehicles voluntarily certified to the requirements of Title 13, California Code of Regulations, Section 1962.2(c) (13 CCR\$1962.2(c)); that is, vehicles for which the manufacturer has requested transitional zero-emission vehicle (TZEV) credit allowances. Similarly, Item 8 discusses the inapplicability of the cost limit to warranties for PC, LDT and MDV optionally certified to the provisions in 13 CCR \$1961.2(a)(9); that is, vehicles certified to "LEV III" standards that earn additional "NMOG+NOx" Fleet Average Credit. For these vehicles, their emission control systems are covered for the specified extended warranty periods, regardless of the replacement costs.

Item 10, provides guidance on what is considered an emissions related part that must illuminate the Malfunction Indicator Light (MIL) and be covered by the emissions warranty in the event of a malfunction even when the primary function of the part is not emission control.

Tables 1, 2, and 3 at the end of this MAC are a summary of these cost limits for new MY 2018 PC, LDT, MDV/E, LSIE, and OHRV, and AFR systems for in-use MY 1994 and subsequent PC, LDT, MDV/E, and HDV/E.

If you have any questions regarding LSIE warranty matters, please contact Mr. Byron Ng, Air Pollution Specialist, Off-Road Spark-Ignited Engine Certification Section, at (626) 459-4312 or by e-mail at [Byron.Ng@arb.ca.gov](mailto:Byron.Ng@arb.ca.gov). For questions regarding warranty matters for MDE and for MY 2004+ AFR systems for HDENV and MDE (and MDV into which such MDE is installed), please contact Mr. Mel Capistrano, Air Resources Engineer, Compression-Ignition and Heavy-Duty Certification Section, at (626) 350-6568 or by e-mail at [Mel.Capistrano@arb.ca.gov](mailto:Mel.Capistrano@arb.ca.gov). For questions regarding parts that upon failure must illuminate the MIL and be covered by the emissions warranty, please contact Mr. John Ellis, Manager, Gasoline On-Board Diagnostics

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Section, at (626) 350-6516 or by e-mail at John. Ellis@arb.ca.gov, or Mr. Tom Montes, Manager, Diesel On-Board Diagnostics Section, at (626) 575-6777 or by e-mail at Thomas. Montes@arb.ca.gov. For questions regarding warranty matters for MY 1994-2003 AFR systems, please contact Mr. Tony Martino, Manager, Aftermarket Parts Section, at (626) 575-6848 or by e-mail at Tony. Martino@arb.ca.gov. For all other matters in this MAC, please contact Mr. Steven Hada, Air Resources Engineer, On-Road Light-Duty Certification Section, at (626) 575-6641 or by e-mail at Steven.Hada@arb.ca.gov.

FOAnnette Hebert, Chief  
Emissions Compliance, Automotive Regulations and Science Division



MANUFACTURERS ADVISORY CORRESPONDENCE (MAC) 2017-03

State of California  
CALIFORNIA AIR RESOURCES BOARD

MANUFACTURERS ADVISORY CORRESPONDENCE (MAC) 2017-03

**SUBJECT:** Cost Limit for High-Priced Warranted Parts for New 2018 Model-Year (MY) Passenger Cars (PC), Light-Duty Trucks (LDT), Medium-Duty Vehicles and Engines Used in These Vehicles (MDV/E), Off-Road Large Spark-Ignition Engines (LSIE), Off-Highway Recreational Vehicles (OHRV), and Alternative Fuel Retrofit (AFR) Systems Certified During Calendar Years (CY) 2017 and 2018 for Installation on In-Use MY 1994 and Subsequent On-Road Vehicles and Engines (ONR Vehicle/Engine) Including PC, LDT, MDV/E and Heavy-Duty Engines and Vehicles Equipped with These Engines (HDE/V)

**APPLICABILITY:** - New MY 2018 PC, LDT, MDV/E, LSIE, and OHRV  
- AFR Systems Certified During CY 2017 and CY 2018 for Installation on In-Use MY 1994 and Subsequent PC, LDT, MDV/E, and HDV/E

**REFERENCES:**

1. California Health and Safety Code Section 43205 [HSC §43205]
2. Emission Control System Warranty Regulations [Title 13, California Code of Regulations, Sections 2035 et seq. (13 CCR §2035 et seq.)]
3. Zero-Emission Vehicle Standards for 2018 and Subsequent Model Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles [13 CCR§1962.2(c)]
4. Defects Warranty for 2001 and Later Off-Road Large Spark-Ignition Engines [13 CCR §2435]
5. Defects Warranty Requirements for Evaporative Emission Control Systems of 2018 and Later Model Year Off-Highway Recreational Vehicles [13 CCR §2419.1 et seq.]
6. "California Certification And Installation Procedures For Alternative Fuel Retrofit Systems For 1994 Through 2003 Model Years And For 1994 Through 2003 Model Year Motor Vehicle Retrofit Systems Certified For Emission Reduction

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Credit”, as last amended August 8, 2014, (1994-2003 AFR System Certification and Installation Procedures) incorporated by reference in 13 CCR §2030 and §2031.

7. “California Certification And Installation Procedures For Alternative Fuel Retrofit Systems For 2004 And Subsequent Model Year On-Road Motor Vehicles And Engines”, adopted August 8, 2014, (2004+ AFR System Certification and Installation Procedures) incorporated by reference in 13 CCR §2030 and §2031.
8. Manufacturers Advisory Correspondence No. 90-08

### POLICY:

1. Identification of the Highest-Cost Metropolitan Area of California for New MY 2018 PC, LDT, MDV/E, LSIE, and OHRV, and MY 1994 And Subsequent AFR Systems Certified During CY 2017 And CY 2018.

According to HSC §43205(b), and 13 CCR §2037(c), §2435(b), the 1994-2003 AFR System Certification Installation Procedures, or the 2004+ AFR System Certification and Installation Procedures, as applicable, the high-priced warranted parts list is based on a periodically revised cost limit as calculated for the highest-cost metropolitan area of California. For MY 2018, and CY 2017 and CY 2018 as applicable for AFR systems, the highest-cost metropolitan area of California is determined to be San Francisco.

The high-price warranty parts lists should reflect actual part costs to owners at the dealership that include dealer markup. The labor cost, as part of a manufacturer's determination of the total replacement cost of a warranted part, is to be based on the manufacturer's labor rate in the identified highest-cost metropolitan area or, if the manufacturer has no dealerships in this area, a comparable alternative area in California.

2. a. Cost Limit for High-Priced Warranted Parts for New MY 2018 PC, LDT, MDV/E and LSIE.

According to 13 CCR §2037(c) or §2435(b), as applicable, the cost limit for high-priced warranted parts for MY 2018 PC, LDT, MDV/E, and LSIE is calculated using the annual average nationwide urban Consumer Price Index (CPI) for 2016, i.e., the calendar year two years prior to the model-year for which the cost limit is being calculated. This CPI is published by the U.S. Bureau of Labor Statistics. Rounded to the nearest ten dollars, the MY 2018 cost limit is \$610, as calculated below:

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$$\begin{aligned}\text{MY 2018 Cost Limit} &= \$300 \times (\text{calendar 2016 CPI/baseline CPI}) \\ &= \$300 \times (240.0/118.3) \\ &= \$610\end{aligned}$$

- b. Cost Limit for High-Priced Warranted Parts for New MY 2018 OHRV Certified to the New Vehicle-Based Evaporative Emission Standards in 13 CCR Section 2418.

According to 13 CCR §2419.1(c), the cost limit for high-priced warranted parts for MY 2018 OHRV evaporative emission control systems is calculated using the annual average nationwide urban CPI for 2016, i.e., the calendar year two years prior to the model-year for which the cost limit is being calculated. This CPI is published by the U.S. Bureau of Labor Statistics. Rounded to the nearest ten dollars, the MY 2018 cost limit is \$200, as calculated below:

$$\begin{aligned}\text{MY 2018 Cost Limit} &= \$200 \times (\text{calendar 2016 CPI/baseline CPI}) \\ &= \$200 \times (240.0/240.0) \\ &= \$200\end{aligned}$$

- c. Cost Limit for High-Priced Warranted Parts for AFR Systems Certified During CY 2017 and CY 2018 for Installation on In-Use MY 2004 and Subsequent ONR Vehicle/Engine (2004+ AFR Systems).

According to the 2004+ AFR System Certification and Installation Procedures, the cost limits for high-priced warranted parts for 2004+ AFR systems certified during CY 2017 and CY 2018 are calculated using the annual average nationwide urban CPI for 2015 and 2016, respectively, i.e., the calendar year two years prior to the calendar year for which the cost limit is being calculated. This CPI is published by the U.S. Bureau of Labor Statistics. Rounded to the nearest ten dollars, the CY 2017 and CY 2018 cost limits are \$600 and \$610, respectively, as calculated below:

$$\begin{aligned}\text{CY 2017 Cost Limit} &= \$300 \times (\text{calendar 2015 CPI/baseline CPI}) \\ &= \$300 \times (237.0/118.3) \\ &= \$600\end{aligned}$$

$$\begin{aligned}\text{CY 2018 Cost Limit} &= \$300 \times (\text{calendar 2016 CPI/baseline CPI}) \\ &= \$300 \times (240.0/118.3) \\ &= \$610\end{aligned}$$

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- d. Cost Limit for High-Priced Warranted Parts for AFR Systems Certified During CY 2017 and CY 2018 for Installation on In-Use MY 1994-2003 ONR Vehicle/Engine (1994-2003 AFR Systems).

According to the 1994-2003 AFR System Certification and Installation Procedures, the cost limits for high-priced warranted parts for 1994-2003 AFR systems certified during CY 2017 and CY 2018 are calculated using the annual average nationwide urban CPI for 2015 and 2016, i.e., the calendar year two years prior to the certification's calendar year for which the cost limit is being calculated. This CPI is published by the U.S. Bureau of Labor Statistics. Rounded to the nearest ten dollars, the CY 2017 and CY 2018 cost limits are \$580 and \$590, respectively, as calculated below:

$$\begin{aligned}\text{CY 2017 Cost Limit} &= \$300 \times (\text{calendar 2015 CPI/baseline CPI}) \\ &= \$300 \times (237.0/121.9) \\ &= \$580\end{aligned}$$

$$\begin{aligned}\text{CY 2018 Cost Limit} &= \$300 \times (\text{calendar 2016 CPI/baseline CPI}) \\ &= \$300 \times (240.0/121.9) \\ &= \$590\end{aligned}$$

3. High-Priced Warranted Parts Cost Documentation in the Applications for Certification.

Manufacturers must submit in their applications for certification the documentation used to identify the high-priced warranted parts in accordance with 13 CCR §2037(c)(3), §2435(b), §2419.1(c), Sections 3(c)(v), 4(c)(ii) and 9 of the 1994-2003 AFR System Certification and Installation Procedures, or Sections 3(f)(5), 3(g), 7(b)(2) and 9 of the 2004+ AFR System Certification and Installation Procedures, as applicable. Except for OHRV, the documentation shall include all emission-related parts costing more than \$510, \$500, \$490, or \$480, as applicable (i.e., calculated cost limit minus \$100) to replace. For OHRV, the documentation shall include all evaporative emission-related parts costing more than \$150 (i.e., calculated cost limit minus \$50) to replace. This documentation shall substantiate that the list includes all potential high-priced parts. The documentation shall include the estimated retail parts costs, labor rates in dollars per hour, and the labor hours necessary to replace the parts including standard diagnosis. If the labor hours being charged for customer-pay repairs are different from those specified by the manufacturer for warranty repairs, the manufacturer shall substantiate the labor hours specified. ***All applications and required documentation (i.e., high-priced warranted parts list, potential high-priced parts, and cost calculations) must be submitted using the California Air Resources Board's (CARB) Document Management System.***



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### 4. Voluntary Inclusion of Parts on the High-Priced Warranted Parts List.

Manufacturers may include any emission-related parts on the high-priced warranted parts list without having to provide the required cost documentation if the parts are identified by the manufacturer as being consistently above the cost limit. These parts will remain on the high-priced warranted parts list until documentation is submitted by the manufacturer, and approved by the Executive Officer, to show that the total replacement cost of such an item has dropped below the identified cost limit. In this event, the manufacturer may exclude the relevant part in the high-priced warranted parts list at the beginning of the next applicable model year.

### 5. Warranted Parts That Are Integral Parts.

If a warranted part **A** is an integral component of an assembly **B** and can only be repaired by replacing the assembly **B**, then the total replacement cost for the warranted part **A** must be determined as follows. The part's retail price and labor cost are those for the assembly **B**. The diagnostic cost shall be the highest for any diagnostic procedure for any warranted parts that are included in the assembly **B**.

For example, a vehicle's "Check Engine" lamp is a warranted part. A burned-out "Check Engine" lamp may be an integral component of the instrument dash and can only be repaired by replacing the entire instrument dash. The total replacement cost for this "Check Engine" lamp shall include the retail price and labor cost of the instrument dash. The diagnostic cost shall be the highest for the procedure related to the "Check Engine" lamp or any other warranted part(s), if any, that are also integral components of the instrument dash (e.g., "Maintenance Required" lamp, if applicable).

### 6. Cost Limit for High-Priced Warranted Parts for New MY 2019 and Later Vehicles and Engines Certified Before a Newer Cost Limit Is Determined by CARB.

Manufacturers certifying prior to the issuance of a newer cost limit MAC have two options in obtaining a cost limit value for their certification purposes. First, the cost limit may be calculated using the annual average CPI (if available) or the average of the available monthly nationwide urban CPI figures for the most recent twelve (12) months. The calculated cost limit must be submitted for review and approval by the staff. Under the second option, the manufacturer may continue using the cost limit value from the most current cost limit MAC. This cost limit value in either option will be the manufacturer's official cost limit for those vehicles so certified (i.e., certified prior to CARB issuing the newer cost limit MAC). For those vehicles, the manufacturer will not be permitted to delete items from the high-priced warranted parts list if the CARB calculated cost limit is greater.

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### 7. Inapplicability of Cost Limit to Warranty for Transitional Zero-Emission Vehicles (TZEVs).

Any vehicles for which the manufacturer has requested certification to the requirements in 13 CCR §1962.2(c) (i.e., vehicles for which TZEVE credit allowances are requested) are required under 13 CCR §1962.2(c)(2)(D) to have an extended defects and performance warranty period of 15 years (10 years for batteries for traction of hybrid electric TZEVEs) or 150,000 miles, whichever occurs first. Since this warranty is not affected by the cost of a part, Items 1-6 of this MAC are not applicable to vehicles certified as TZEVEs.

### 8. Inapplicability of Cost Limit to Warranty for LEV III Vehicles That Generate Additional NMOG+NOx Fleet Average Credits.

Any vehicles for which the manufacturer has requested optional certification to the requirements in 13 CCR §1961.2(a)(9) (i.e., non-TZEVEs that generate additional NMOG+NOx fleet average credits) are required to have an extended defects and performance warranty period of 15 years (10 years for a zero emission energy storage device, e.g., battery, ultra capacitor, other electric storage device, etc.) or 150,000 miles, whichever occurs first. Since this warranty is not affected by the cost of a part, Items 1-6 of this MAC are not applicable to non-TZEVEs that generate additional NMOG+NOx fleet average credits.

### 9. Cost Limit For AFR Systems Determined By The Calendar Year In Which Certification Is Granted.

The high-priced warranted parts list and associated cost limit for AFR systems is determined by the calendar year in which certification is granted; that is, the date the Executive Order is signed. The cost limit for AFR systems is not determined by the model year of the base vehicle/engine or when the AFR system is actually installed.

AFR system manufacturers use the specified cost limit to identify high-priced parts for extended warranty required under regulation. A list of such high-priced, extended warranty parts are required to be submitted as part of an application for certification for CARB approval. Each vehicle retrofitted with the AFR system must be provided with the list of such parts identified for extended warranty. Upon installation, these parts have the extended warranty coverage, irrespective of when such installation happens. For example, an AFR system for MY 2009 PC is certified in 2014, whose part X is on the high-priced warranted parts list. Whether the AFR system is installed on the MY 2009 PC in the year 2014 or 2019, part X will have extended warranty (7 years/70,000 miles, whichever occurs first) starting from the date of completed installation.

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### 10. Identification of Emission-Related Parts.

Emission-related parts include any components that can or are required to illuminate the Malfunction Indicator Light (MIL) in the event of a malfunction, even if the primary function of the component is not emission control. For example, if a vehicle contains an 'entertainment/HVAC module' whose primary function is control of features such as radio and climate control, but the module also contains the engine off timer utilized by the vehicle for on-board diagnostic monitoring purposes and a failure of the timer is required to illuminate the MIL per 13 CCR §1968.2, then the module is an emissions-related part. It must be included on the high-priced warranted parts list if the cost of the module and labor exceed the specified thresholds. Manufacturers are not obligated to warrant non-emissions-related failures of these components under emission control warranties, but emissions-related failures must be warranted and the components must be included on the high-priced warranted parts list as applicable.

**TABLE 1**  
**Cost Limits For High-Priced Warranted Parts For New**  
**PC, LDT, MDV/E, and LSIE<sup>(3)</sup>**

Model Year <sup>(1)</sup>	Cost Limit
2014	\$580
2015	\$590
2016	\$600
2017	\$600
<b>2018</b>	<b>\$610</b>

**TABLE 2**  
**Cost Limits For High-Priced Warranted Parts For New OHRV**

Model Year <sup>(1)</sup>	Cost Limit
<b>2018</b>	<b>\$200</b>

**TABLE 3**  
**Cost Limits For High-Priced Warranted Parts For AFR Systems**

Calendar Year <sup>(2)</sup>	Cost Limit For 2004+	Cost Limit For 1994-2003
2014	\$580	\$560
2015	\$590	\$570
2016	\$600	\$580
<b>2017</b>	<b>\$600</b>	<b>\$580</b>
<b>2018</b>	<b>\$610</b>	<b>\$590</b>

(1) Model Year means the model year of the test group/engine family, irrespective of the date the Executive Order is signed.

(2) Calendar Year means the calendar year in which certification of the AFR system is granted, i.e., the date (during January 1 – December 31) the Executive Order is signed, irrespective of the model year of the base vehicle/engine.

(3) The high-priced warranted parts cost limit does not apply to new HDE/V.