

**UNITED STATES OF AMERICA ENVIRONMENTAL PROTECTION AGENCY**

**Control of Air Pollution From** )  
**New Motor Vehicles and New Motor** )  
**Vehicle Engines – Heavy-Duty Vehicle** ) **Docket No. EPA-HQ-OAR-2005-0047**  
**And Engine Standards; Onboard** )  
**Diagnostic Requirements; Proposed Rule** )

**COMMENTS OF THE ENGINE MANUFACTURERS ASSOCIATION**

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On January 24, 2007, the U.S. Environmental Protection Agency (“EPA” or the “Agency”) published a Notice of Proposed Rulemaking (“NPRM”) proposing to adopt new regulations requiring on-board diagnostic (“OBD”) systems on 2010 and later on-highway heavy-duty engines (72 Fed. Reg. 3199; the “Proposed Rule”). In the NPRM, EPA also proposed to adopt new service information requirements for the on-highway heavy-duty industry and to revise existing OBD requirements for diesel engines used in heavy-duty vehicles under 14,000 lbs. GVWR. On March 22, 2007, EPA published a notice announcing an extension of the comment period for comments pertaining to the proposed service information availability requirements (72 Fed. Reg. 13458).

The Engine Manufacturers Association submitted comments in response to the OBD aspects of the NPRM on March 26, 2007. EMA now hereby separately submits its comments on the service information aspects of the Proposed Rule.

**I. Background to the Rulemaking**

**A. Differences Between the Light-Duty and Heavy-Duty Service Industries Require a Unique Approach to Heavy-Duty Service Information Regulation**

The heavy-duty service industry is significantly and substantially different from the light-duty vehicle service market. The light-duty service industry operates on a wide scale, with tens of thousands of service facilities across the nation – whether franchised or independent – to meet the needs of millions of vehicles. In marked contrast, the heavy-duty service industry operates on a much smaller and more individualized scale, with far fewer service facilities and, although a limited number of products, an enormous number of variations on how those products may be configured and calibrated. Indeed, the volume of heavy-duty vehicles is approximately 1/40<sup>th</sup> that of light-duty vehicles.

The heavy-duty products themselves are commercial products and are sold and serviced in business-to-business relationships. The end customer for service repair of heavy-duty engines and vehicles is vastly different from consumers of cars, vans, SUVs and other light-duty vehicles used primarily for non-commercial purposes. Because of the commercial nature of heavy-duty products and the wide variations on how those products are configured and calibrated, accessibility to service is much different than for light-duty products. Manufacturers and dealers maintain continuing relationships with customers, and commercial customers require – and

receive – much higher and more individualized access to repair information and tools than in the light-duty market. Commercial customers have had such access for a long time.

The heavy-duty industry has a long history using relationship marketing methods. Engine manufacturers employ direct sales and service staffs that are separate from the vehicle manufacturers'. The performance of the majority of general maintenance and overhaul services by manufacturers and their dealers confirms the relationship structure that is in place across the heavy-duty industry. Customer service after the sale is considered a key factor to win on-going, follow-on business for replacement engines and vehicles. From a practical standpoint, withholding service information from customers, or independent repair facilities acting on their behalf, would be a betrayal and contrary to relationship marketing principles.

Indeed, aftermarket service providers have testified at a California public workshop that there was no need to extend service information availability requirements to the heavy-duty industry. The current service information infrastructure is already established and adequate to meet the needs of the heavy-duty engine and vehicle service industry, and assures that emission-related repairs are carried out.

In the Preamble, EPA cites data which shows a slight increase in general maintenance and overhaul by “the independent sector” (72 Fed. Reg. 3266) as evidence of the need for service information availability. As described above, heavy-duty service information already is widely available. Moreover, the vehicle census data upon which EPA relies is now a decade old, and the increase in third party general maintenance service is not attributed to a specific cause or for a particular purpose. Such increases do not establish a “need” for service information. In fact, increases in third party maintenance could easily be the result of compliance with OSHA regulations, increasing costs of workers’ compensation insurance, storage and disposal costs for hazardous materials like used engine oil and anti-freeze, or increases in direct labor costs, which may have led vehicle owners to decide that it was no longer practical to perform routine preventive maintenance or general maintenance at their own locations during the period from 1992 to 1997.

With regard to the two data points – 1992 and 1997 – that are used to propose an increasing trend for heavy-duty service, in 1992, many heavy-duty engines sold were still mechanically-controlled. By 1998, practically 100% of the engines sold were electronically-controlled. The industry now has over 10 years of experience with a vehicle fleet that is predominantly equipped with electronically-controlled engines. Without follow-up data from 2002 and 2007 that would confirm or deny such a trend, and that would provide a better comparison of the impact of engine electronics on service rates, EPA’s data does little to support the Proposed Rule.

The existence of independent repair facilities for heavy-duty diesel engines does not mean repairs are performed without the benefit of appropriate service information, or that heavy-duty manufacturers withhold key information. The heavy-duty service and repair industry works so well that users and manufacturers cooperate on the design and development of service equipment, service procedures, and vehicle design. The Technology and Maintenance Council (“TMC”) of the American Trucking Association has collaborated with industry on maintenance and design practices for decades. Attached to EMA’s comments is a short list showing some

examples of practices and standards that have been developed to improve service and maintenance of heavy-duty engines and vehicles. These standards provide a great example of agreements with users on methods to be used for service providers, something that is different than exists in the light-duty industry.

Imposing regulatory requirements for service information is like trying to fix something that, in the heavy-duty industry, is not broken. The need is not there. Even EPA must have some sense of the lack of need, because it has requested comment on the need for service information provisions in the heavy-duty industry, as well as the applicability of service information requirements to the heavy-duty service industry. If EPA is going to impose regulatory requirements, then those should be limited to supporting what engine manufacturers already do. Instead, much of EPA's proposal would require significant changes in how engine manufacturers provide information. In fact, the Proposed Rule would require complex, substantial, and time-consuming changes in the current heavy-duty service information infrastructure – changes that will result in increased costs for manufacturers, and in increased costs for providing service information and tools.

#### B. Differences Between Light-Duty and Heavy-Duty Service “Tools” also Call For Differences in Regulation

Service tools for heavy-duty are much different as well. They are much more complex than for light-duty. This complexity is necessary to be able to provide the customization and performance features that are required in a horizontally-integrated market. The recalibration (or re-flashing) and reprogramming (or reconfiguration) of heavy-duty emission-related engine control modules are more complicated than light-duty and require reconfiguration of many engine, vehicle and customer features. The reprogramming and calibration process is time-consuming and requires a higher level of training and more powerful electronic tools compared to light-duty. Current heavy-duty reprogramming and calibration tools (in the form of software) have the power to change the horsepower and torque on an engine, which are some of the very features which engine manufacturers sell. The nearly impossible challenge for manufacturers under the Proposed Rule is how to make such tools and systems secure, yet “open” enough for third parties to be able to use them.

Indeed, in order to assure that manufacturers' proprietary and trade secret information is not divulged to third-party service providers and scan tool makers, heavy-duty engine manufacturers would have to undertake substantial re-designing of current software. For example, with respect to the requirements governing availability of datastream and bi-directional control information, manufacturers first would need sufficient time to undertake the extensive work that would be necessary to organize electronic control module (ECM) software code so that access to proprietary code is adequately secure and cannot be obtained by unauthorized parties. Manufacturers would need time to develop and test whether the new controls and infrastructure are viable with their own service providers. Once that has been accomplished, manufacturers then would need additional time to determine how the information could be extended to the aftermarket service industry.

In other words, with the introduction of OBD requirements in new engine products beginning in 2010, how heavy-duty engine manufacturers would provide service tools to dealers

and authorized service networks while maintaining the necessary security controls is not yet clear, let alone how they would provide such information to the aftermarket industry. The entire infrastructure governing the provision of service information today would need to be re-built so that neither authorized dealers and service networks nor third parties can obtain access to manufacturers' proprietary information.

In fact, even with changes to the way the heavy-duty service tools and infrastructure work now, engine manufacturers have significant concerns with regard to the possibility for tampering that may arise when the service tools and information required by the Proposed Rule are provided to non-authorized service providers. As aftermarket providers are given the tools not just to service, but to calibrate and reconfigure engines, there is a possibility that inadvertent or deliberate mis-configuring may occur.

Within a heavy-duty engine family there may be a number of engine rating configurations. Typically, each rating configuration would have a unique software calibration. Additionally, different configurations may have different hardware variations (e.g., different turbochargers or fuel injectors). Improperly intermixing software and hardware configurations could have implications for engine performance, durability and emission control. In contrast to light-duty, where most light-duty vehicles retain their original configuration throughout their lifetimes (which configuration can be identified through the VIN), heavy-duty engines are often reconfigured during their lifetimes. Referencing the heavy-duty engine serial number may tell service providers the original build configuration of the engine, but may not identify the current configuration of the engine. To properly service a heavy-duty engine, providers will first need to verify the current configuration of the engine. The number of variants within an engine family may be both more numerous and more subtle than for light-duty vehicles.

EMA appreciates the fact that the Proposed Rule includes provisions that would allow heavy-duty engine manufacturers to require training of those using their service tools, and we support such a condition. However, while third party service providers can, in theory, be trained to do the same checks as factory-authorized service facilities, the fact that they typically service several different brands of engines, each with their own idiosyncrasies as far as configuration variations, means that they may be "less specialized" and more likely to make mistakes than factory-authorized outlets that, in many cases, focus on servicing engines from a single manufacturer. As described more fully below, such training is not sufficient to address the concerns raised by the tool availability requirements of the Proposed Rule. EPA must make further significant changes to the Proposed Rule for it to be workable and cost-effective for the heavy-duty industry and to limit manufacturers' liability for third party actions under the Proposed Rule.

### C. The Costs Far Outweigh the Benefits of the Proposed Heavy-Duty Service Information Rule

EPA has not provided any estimate of the costs that engine manufacturers would incur to comply with the requirements of the Proposed Rule. Such a lack of cost information is a significant concern in light of the substantial nature of the changes to the heavy-duty service industry that the Proposed Rule would require.

When California looked at the costs related to its proposed service information rule for the heavy-duty industry, it estimated a heavy-duty engine manufacturer's start-up costs under its rule would be likely to reach as high as \$1.5 million per manufacturer, with yearly maintenance costs of approximately \$70,000 per year per manufacturer (*Rulemaking To Consider Proposed Amendments To Regulations For The Availability Of California Motor Vehicle Service Information (June 22, 2006), Staff Report: Initial Statement of Reasons For Proposed Rulemaking*, p.11). Engine manufacturers believe those estimated costs could well be higher, particularly for yearly maintenance of Web sites and tool availability. ARB Staff at that time suggested that engine manufacturers could recover some of those costs from the sale of tools and information. But considering the sales volumes in the heavy-duty industry, and the number of independent service outlets in the industry, heavy-duty engine manufacturers simply cannot recoup those costs by selling their tools and information.

Based on information available from public industry sources, light- to heavy-duty vehicle sales volume is approximately 40 to 1. As noted above, there are a limited number of heavy-duty engine products, but an enormous number of variations on how those products may be configured and calibrated. Adding together those factors, heavy-duty engine manufacturers have little opportunities to spread out and recover the costs of the Proposed Rule.

Furthermore, engine manufacturers make their tools and information available now to anyone who wishes to purchase them, yet there is no great demand for them. And manufacturers do not anticipate any great increased demand for their tools and information. In fact, for purposes of comparison, we have recently obtained from light-duty manufacturers their experience with requests for service information. One light-duty vehicle manufacturer has received through its Web site over the course of one year only 43 requests for year-long subscriptions to service information and only 55 requests for month-long subscriptions from service providers nationwide. Another light-duty vehicle manufacturer has received only 147 year-long subscription requests and only 27 month-long requests nationwide. Those subscription unit sales are from two of the three primary U.S. manufacturers of light-duty vehicles reporting nationwide data. Using that information, if there existed a heavy-duty engine manufacturer with the same volume of subscription sales as those two light-duty manufacturers combined, then calculating the 40 to 1 light- to heavy-duty volume ratio, that heavy-duty engine manufacturer could be expected to sell just 4-5 year-long and 1-2 month-long subscriptions per year. The costs of the Proposed Rule so outweigh its anticipated benefits that the Rule cannot be justified.

Added to the above very high costs, the recovery of which is not likely, is the fact that the Web site requirements necessitate duplicate channels and maintenance. Some manufacturers have manufacturer Web sites that are not available to the public because of concerns about their ability to protect and keep certain non-emissions information secure. Once information was required under the California rule to be made available to the public, some manufacturers created separate public Web sites to meet those current ARB requirements. Manufacturers would anticipate revising those public sites as necessary to meet EPA requirements. But, both the manufacturer and the public Web sites must be maintained, leading to additional costs.

Even though EPA cites Congress's intent that manufacturers be able to recover "reasonable costs" in connection with the provision of service information, EPA has not provided any data that would demonstrate the extremely high costs manufacturers are anticipated



to incur. EPA has failed to provide any cost information at all, and has failed to establish that the costs of the Proposed Rule are justified by any benefits that may be gained.

#### D. EPA Should Align its Rule with Other Agency and State Requirements

EPA must align its service information requirements with California's in certain respects. ARB has regulations in place requiring heavy-duty engine manufacturers to provide certain service information to the aftermarket through Web sites. ARB also is in the process of adopting additional regulations requiring heavy-duty engine manufacturers to provide service tools and limited tool information to the aftermarket beginning in 2013. EPA's Proposed Rule includes a number of provisions that are more burdensome than ARB's and which should be revised to align with the ARB requirements. EMA worked extensively with ARB on the development of ARB's service information rules. Many, although certainly not all, of the issues that we raised were addressed in the ARB rulemaking. To the extent ARB resolved those to the mutual satisfaction of ARB and industry, EPA should align. In some cases, ARB's rule did not adequately address issues associated with the requirements. In other cases, new regulations have come into play that require significant changes from the approach taken by ARB and similarly proposed by EPA. In those cases, EPA must revise the Proposed Rule, and ARB also will need to make further changes to account for those issues.

As discussed in more detail below, there are adopted or pending regulations in California and other federal agencies that will have an impact on some aspects of servicing heavy-duty engines. In both cases of which engine manufacturers are aware – California idle shut-down requirements and federal vehicle speed limiter requirements – certain aspects of an engine system's electronic controls must be made non-programmable, or programmable only to a limited extent. Because the goal of service information, including service tool availability, requirements is to allow aftermarket service providers to service heavy-duty engines, there are potential areas where the service information requirements and the requirements for non-programmable, or "sometimes" programmable, systems may conflict. EPA must assure that its Proposed Rule does not require manufacturers to meet requirements that would in any way conflict with other regulatory requirements and provisions that are in place or currently under consideration.

## II. Scope of the Rule

### A. Engine-Only Rule §86.010-38(j)(1)

EPA's Proposed Rule would require heavy-duty engine manufacturers to provide service information and tools related to heavy-duty engines used in vehicles over 14,000 pounds. EMA supports the scope of the rule, which does not attempt to cover or require engine manufacturers to provide transmission or other non-engine system information.

Most engine manufacturers produce engines, not transmissions and not vehicles. When an engine is sold to a vehicle manufacturer, the engine manufacturer has no control over what transmission it is paired with or what transmission information is available. That choice is up to the customer and the vehicle manufacturer. Engine manufacturers do not and cannot provide information for components over which they have no control. EPA's proposed heavy-duty OBD

rule, on which service information requirements are based, recognizes that fact. The service information that heavy-duty engine manufacturers are required to provide must be limited to only engine information as well.

#### B. Definition of “Emissions-Related Information” §86.010-38 (j)(3)(ii)(D)

The purpose of service information requirements is to assure that information is available for the purpose of undertaking *emissions-related* service repairs. It follows, then, that EPA’s proposed definition of “emissions-related information” must be revised to assure that engine manufacturers are responsible only for providing information that is truly emissions-related.

EPA’s proposed definition would include “information regarding any system, component or part of an engine that controls emissions and any system, component and/or part *associated with the engine, including, but not limited to: the engine, the fuel system and ignition system;...*” (emphasis added). EMA objects to the italicized language as proposed in that it is far too broad. EPA’s proposed language does not focus on the components that are related to the engine from an emissions standpoint. Rather, it catches every possible component of the engine and reaches far beyond what was intended – and far beyond what is necessary – for emissions-related service purposes. Instead, EPA should adopt the following revised language in place of the italicized language: “and any system, component and/or part *that is part of the diagnostic strategy for an OBD monitor.*”

The need for and requirement to provide service information is based on implementation of diagnostics requirements, particularly emissions-related diagnostics. In connection with certifying OBD systems, each manufacturer must provide to EPA – and must obtain approval for during the certification process – its list of emission-related components on which diagnostics must be performed. That amounts to a limited list of components which are generally similar from manufacturer to manufacturer. Many engine components are not subject to emissions-related regulation, and thus are not properly included within the definition.

EMA’s proposed definition assures that service information is made available for all components that are used for emissions control or emissions-related diagnostics, which is the goal of the service information rule. By tying the definition of emissions-related service information to what is required for emissions control or emissions-control diagnostic purposes, EPA can successfully capture all emissions-related service information and achieve the purposes of the service information rule. EPA must revise the definition of emissions-related information.

#### III. Timing

EPA has proposed that almost all requirements – availability of emission-related information (manuals, OBD system information, service bulletins, etc.) on manufacturer Web sites, availability of recalibration and reprogramming tools to the aftermarket, and tool development information for tool makers – be made available beginning in 2010. Emissions-related training information is not required to be made available until 2011. EMA generally supports requirements for Web site availability of information beginning in 2010 and training information in 2011, but bi-directional control information, software tools with recalibration and

reprogramming capability (if ultimately required; see discussion below) and tool development information should not be required until 2013.

Engine manufacturers already are devoting enormous resources to meeting the 2010 emission standards. They will devote substantial resources to meeting the 2010 and later OBD requirements that have been adopted in California and are being developed by EPA. EPA must take all possible steps to assure that the imposition of any new SIR requirements on heavy-duty engines in 2010 and 2013, in particular, will not impede successful implementation and marketplace acceptance of the 2010 and later heavy-duty exhaust emission standards and OBD requirements.

A. Web Site Requirements §86.010-38(j)(4)

EMA generally supports making certain heavy-duty information available via Web sites in 2010. However, EPA must revise the Proposed Rule to clarify that publicly-available service information Web sites are not required of heavy-duty engine manufacturers until at least one year after the start of commercial production of the engine. This is not a retroactive rule as was the case when the under-14,000-lb. requirements were implemented. In fact, with the extremely longer useful lives of heavy heavy-duty engines – 435,000 miles – there is no need for public information availability any earlier than one year after the start of commercial production. Given the complexities manufacturers will be facing in meeting the underlying emission standards and OBD, and the fact that commercial customers will seek repair and service from manufacturer facilities during the warranty period, manufacturer-specific Web sites should not be required until at least one year after the start of commercial production of an engine product.

Moreover, the Web site information dissemination requirements of paragraph (j)(4) refer back to information to be made available under (j)(3)(i), which includes “bi-directional control information.” Bi-directional control information is part of the heavy-duty OBD information requirements that do not become effective until 2013 (see also discussion below in Section III.B). Any requirements to provide bi-directional control information in the Proposed Rule must be changed to 2013 as there is no OBD requirement until 2013.

B. Recalibration Information § 86.010-38 (j)(13)

As set forth in detail below, EPA should not proceed with finalizing requirements that manufacturers provide recalibration and reprogramming information to third party service providers under the Proposed Rule. If, however, EPA ultimately decides to proceed with that aspect of its Proposal, then any requirements that heavy-duty service tools be made available to third party service technicians (including any and all provisions of (j)(13)) must not be required until at least 2013.

The ARB Service Information Rule (13 CCR 1969), currently in the amendment process to incorporate provisions specific to heavy-duty, would require reprogramming capabilities to be provided for heavy-duty engines beginning in 2013. Although originally proposed for 2010, ARB changed that date to 2013 in recognition of several factors.

One of those factors ties directly in to OBD standardization requirements. The heavy-duty OBD standardization requirements, which direct compliance with certain standards for

OBD and provision of service, do not become effective under either the ARB heavy-duty OBD Rule or the proposed EPA rule until 2013. Thus, there is no requirement that heavy-duty engines use standardized protocols until 2013. The timing of service tool and information requirements, if any, must follow the OBD timing.

Moreover, if EPA proceeds to require the sale of recalibration and reprogramming tools, manufacturers would need time to invent new mechanisms to change the way service and tools are currently provided. Providing reasonable controls to prevent the misuse of service calibrations by the general public needs more lead time than allowed by a 2010 requirement, in part, due to the systems approach that must be taken to 1) modify engine control systems to accept the new calibration file concepts, 2) create new tools to guide the selection of a calibration file and upload it into engine controller; and 3) change existing or create new service support systems that maintain engine (and vehicle) configurations. (See detailed discussion below.)

In current products, data included in reprogramming and recalibration information includes data that selects the power and torque characteristics of the engine, which are revenue drivers for engine and vehicle manufacturers. Manufacturers also need more time to find ways to protect the engine and vehicle manufacturers' revenue streams and warranty exposure before these powerful tools can be placed in the hands of third parties. Creating a duplicate tool system that is powerful and effective for the customer, yet "novice-safe," is extremely burdensome. Novice-safe calibration systems would cost engine manufacturers thousands of dollars per calibration performed. Manufacturers need time to make those systems as cost-effective as practical. Those systems would duplicate existing systems, which must be maintained to service existing engine electronic control systems.

#### C. Generic and Enhanced Information for Scan Tools § 86.010-38 (j)(14)

As with recalibration tools, the requirement to provide the information defined in (j)(14) should be deferred until 2013, due to lack of standardization requirements as well as the time manufacturers need to build in appropriate safeguards to ensure the proper transfer and use of tool development information. From 2010 through 2012, engine manufacturers propose to continue to sell their manufacturers' tools to meet the service industry's needs for diagnostic service tools.

### IV. Access to Information and Tools

#### A. Access to Reprogramming and Calibration Tools §86.010–38 (j)(13)(iv)

EPA proposes to require heavy-duty engine manufacturers to support a publicly-available reprogramming and calibration process as a method of repair for all heavy-duty engines. Manufacturers are to provide this capability by selling a reprogramming and calibration tool that

supports SAE J2534 or TMC RP 1210A, standardized communication interfaces to connect with vehicle diagnostic data link.<sup>1</sup>

Engine manufacturers recommend that EPA exempt heavy-duty engines from reprogramming and calibration tool requirements. Sales of reprogramming and calibration tools place engine manufacturers at greater risk that their proprietary access schemes for secured engine programming will be compromised by increased public exposure. Reprogramming and calibration tool techniques cannot be devised to provide what, as a practical matter, is a nearly “hands off” method for reprogramming and calibrating heavy-duty engines that would ensure that tamperproof features for engine power settings, idle shutdown systems, and vehicle speed limiters will never be compromised. Changing manufacturers’ existing methods for supporting engine control system replacement and reprogramming needs – in order to accommodate a requirement for publicly-available reprogramming and calibration tools – is not cost-effective or justified in terms of the benefits to commercial vehicle owners. Requiring aftermarket availability of reprogramming and calibration tools also creates conflicts with existing regulations for limiting engine idling (specifically, California’s idle shut-down requirements) and a proposed federal regulation for limiting vehicle speeds.

1. It Is Not Appropriate to Extend Control Over Engine Performance to Third Parties

Engine control system software has been designed to operate more than one engine displacement. Software for a given engine displacement has been designed to provide more than one engine performance or sales curve (combination of horsepower, rpm range, and torque designed to provide a specified performance) from the same engine hardware. Such commonization simplifies the service parts inventory. In some cases, a single hardware item is stocked to service a multitude of engine performance/sales curves and multiple engine families of a given engine model year.

Programmable parameters in the engine control system select calibration vector or scalar data values used to obtain the alternate performance/sales curves. In some cases, the selection of an alternate sales curve qualifies as an engine power upgrade. Some engine power upgrades require the turbocharger and fuel injection systems to be replaced to provide the necessary volumes of air and fuel to produce the increased horsepower.

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<sup>1</sup> Proposed § 86.010–38 (j)(13) Recalibration Information requires manufacturers to provide a software application in (j)(13)(iv).

*“For model years 2010 and later, manufacturers shall make available to aftermarket service providers the necessary manufacturer-specific software applications and calibrations needed to initiate pass-through reprogramming. This software shall be able to run on a standard personal computer that utilizes standard operating systems as specified in either J2534 or RP1210A”*

This capability is discussed as reprogramming and calibration tools here to emphasize the software that is proposed to be provided for sale by manufacturers and avoid confusion with the standardized pass-through device and its associated software. The term “reprogramming” includes configuring (re-configuring) or enabling non-emission-related features and parameters. “Calibration” includes flashing or re-flashing the software to the current emissions-related calibration version.

Both engine manufacturers and vehicle manufacturers price engines and vehicles based on the horsepower delivered by the engine, and service fees are charged to collect for the additional horsepower sold in the aftermarket. Both engine manufacturers and vehicle manufacturers have an interest in insuring that the ability to upgrade engine performance does not escape the control of manufacturers. Higher horsepower engines require more cooling, higher torque transmissions and heavier drivelines. The more horsepower that is sold with an engine, the more severe an operating cycle of which the vehicle will be capable. Currently, engine manufacturers control the selection of engine horsepower and other emissions-critical parameters using their proprietary access schemes. These schemes require service technicians to consult with the manufacturer in order to increase engine horsepower or make other changes that might impact emissions.

Some manufacturers only program the engine control modules at the repair site (the point of application), eschewing the technical capability to program an engine control system at a parts warehouse. Programming at the repair site reduces the order cycle time at the parts warehouse by allowing an engine control module, once it is picked off the shelf, to be immediately shipped to the repair location. Immediate availability is crucial for parts to be shipped by air to the repair site. Programming at the repair site also eliminates the need for warehouse personnel to be trained in engine programming methods.

Heavy-duty engines presently require up to 100 parameters to be set in order to complete the customization of the engine.<sup>2</sup> After loading a software set into an engine control module, the repair technician must then adapt it to the vehicle application. A nearly “hands-off” approach to reprogramming and calibration requires that the repair technician be capable of establishing, independently of the engine manufacturer, the proper settings for engine performance and other features (such as the tamperproof idle shutdown system and vehicle speed limiter discussed below). Under the Proposed Rule, vehicle owners would be allowed to purchase such reprogramming and calibration software from engine manufacturers. Vehicle owners could then misuse the reprogramming and calibration tool to change horsepower, disable or otherwise turn off required systems, or effect other changes – whether intentional or unintentional. Indeed, with the power of heavy-duty service tools, third parties without a relationship to a manufacturer are more likely to use such tools for tampering rather than legitimate purposes. Even if misuse or mis-configuration is unintentional, heavy-duty engine systems are extremely complex, and the consequences of making a mistake can be far greater with a commercial, heavy-duty engine and vehicle than a non-commercial, light-duty vehicle.

Engine control systems failures that require the engine ECM to be replaced or reprogrammed are rare. And, because so few heavy-duty engines are sold in comparison to light-duty engines, reprogramming and calibration systems are unlikely to achieve sufficient use to justify industry costs in developing and providing such systems while maintaining the

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<sup>2</sup> For example see “Cat Programming Parameters 2005” at <http://ohe.cat.com/cda/files/363929/7/Programming%20Parameters%202005%20LEXT0023-01.pdf>. Cummins engine programmable parameters are explained at [http://www.powerspec.cummins.com/site/efinfo/efi\\_engine.htm](http://www.powerspec.cummins.com/site/efinfo/efi_engine.htm). Public sources are not available for Detroit Diesel, International MaxxForce, or Volvo engines.

necessary functionality and achieving the increased security necessary to extend such tools into use by any interested person.

Even though recalibration/re-flashing events may occur more frequently than reprogramming/reconfiguration of heavy-duty engines, making recalibration tools available to the aftermarket is not appropriate or justified. Typically, re-flashing of software occurs to address emissions issues and performance complaints arising during the warranty period. When such repairs or service are done during the warranty period, they are usually undertaken by manufacturers or authorized dealers. Moreover, in most cases, even if re-flash could be undertaken to address emissions issues, reconfiguration or reprogramming of the engine (by the manufacturer) also is necessary to make a vehicle driveable. In other words, it is difficult, if not impossible, to separate the tools to flash and calibrate an ECM from the tools to reconfigure or reprogram an ECM. In many cases, an entirely new calibration must be flashed in (not just limited to certain parameters). This is true, in particular, for such parameters as idle shut-down or vehicle speed control, discussed below.

## 2. Further Complications Arise from Tamperproof Idle Shutdown and Vehicle Speed Limiting Requirements

The advent of electronic controls on engines included the integration of customer-selected features to limit vehicle speeds and excess engine idling. Engine idle shutdown systems stopped fuel delivery after a user-specified time, typically 3 to 15 minutes. Vehicle speed limiting systems stopped fuel delivery after a vehicle obtained its maximum speed, preventing the engine from powering the vehicle beyond this operating goal. Both measures were sold to heavy-duty engine buyers as means to control operating costs through fuel savings.

Recent regulatory actions seek to regulate these features by specifying a fixed time that vehicles are allowed to idle or by specifying a maximum vehicle speed limit setting. In 2008, a recently-adopted California regulation (13 CCR 1956.8 (a)(6)) will require heavy-duty engines to stop idling after 5 minutes. This is achieved through a required idle shutdown system on the engine system produced by engine manufacturers. ARB regulations further require manufacturers to prohibit vehicle owners from disabling (i.e., make “tamperproof”) the fixed idle time system by turning it off or by extending the idle time beyond 5 minutes. Further, NHTSA is currently considering a fixed, or maximum, vehicle speed limit of 68 mph. as discussed in docket number NHTSA-2007-26851. Engine manufacturers anticipate that a national vehicle speed limit setting of 68 mph would require manufacturers to prohibit vehicle owners from turning vehicle speed limiting off or increasing the vehicle speed limit setting above 68 mph, in a manner similar to that which is required by the ARB idle shutdown rule.

The ARB regulation exempts many vehicle applications from the fixed idle shutdown limit, including buses, emergency vehicles, and military tactical vehicles. Engine manufacturers must then provide an engine control system that is both capable of shutting down the engine after five minutes and capable of omitting the engine idle shutdown feature on exempt vehicles, because the same engines are sold in both exempt and non-exempt applications. Since duplicate engine control modules are not efficient or cost-effective and cannot be relied upon to control access for non-exempt engines, engine manufacturers have proposed to use existing proprietary access control schemes to address exempt vehicles. These schemes – and ARB’s regulation –

*require* manufacturer participation to authorize or enable the change, and permit manufacturers to exercise control over undesirable changes. Since the same engine is sold in exempt and non-exempt applications, the purchase and installation of an “exempt” replacement part on a non-exempt vehicle would defeat the fixed idle shutdown requirement, if a duplicate engine control system were used. Manufacturers view the existing proprietary access schemes as cost-effective measures that minimize risks that vehicle owners could turn off idle control systems on non-exempt vehicles, without requiring duplicate engine control systems.

In a similar manner, engines that are certified to EPA standards are exported to other markets with different vehicle regulations. Since vehicle speed limiting is proposed as a NHTSA requirement, it may be omitted from export engines to be used in jurisdictions that do not require a fixed, maximum speed limit. Use of separate software sets or engine control systems for export and domestic production to account for vehicle speed limiting would not be cost-effective. With publicly available reprogramming and calibration systems, export calibrations could be misapplied to turn off vehicle speed limiting or modify the fixed, maximum speed limit to a value higher than 68. With the rapid interchange of information over the internet, engine manufacturers cannot be expected to guarantee that an export engine calibration could not be obtained and subsequently used in a domestic engine. This same argument applies to engine idle shutdown systems in “exempt” applications within California and outside the state of California.

### 3. The Proposed Rule Would Force Costly and Unnecessary Changes in the Service Industry

Making available to the aftermarket reprogramming and calibration methods would require engine manufacturers to modify existing business practices and try to find ways to minimize the risk that engine control system software changes could be misapplied to engines.<sup>3</sup> Unlike light duty engine control systems, heavy-duty engines cannot rely upon the vehicle identification number (VIN) to provide the control information for the reprogramming and calibration tool. The VIN would be unknown by the engine manufacturer at the time many engines are produced. Each manufacturer would have to invent a means within their reprogramming and calibration software to minimize the misapplication of pass-through engine calibrations.

For example, hardware part numbers might proliferate to insure that a hardware part can be matched to a given performance specification (engine sales curve) for the life of the engine. This would result in the proliferation of service part numbers, and increased inventory costs. Where manufacturers were able to eliminate hardware part proliferation, they might need to preprogram base engine capabilities (or a suitable codeword or hardware part number that can be

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<sup>3</sup> EPA’s proposed requirements to provide software could leave manufacturers with the likely problem of relying upon a “shrink-wrap” license with the purchaser. Enforcing the “shrink-wrap” license terms with the purchaser would be practically pointless were the manufacturers’ security methods compromised as a result of the purchaser’s actions. Most purchasers would not have sufficient liability insurance to cover the manufacturer’s loss, yet the only contract with the reprogramming and calibration tool purchaser would be the “shrink-wrap” license. Manufacturers have other agreements with their authorized service networks that provide additional assurances that the manufacturer’s proprietary information will not be misused, and that sufficient insurance is maintained to cover the risk of loss.



matched to base engine capabilities) to control the application of suitable data by the reprogramming and calibration tool.

Manufacturers also could be required to reduce the number of parameters that are used to customize the engine to the vehicle, because reprogramming and calibration capability would make the parameters available to persons with less training (even with the proposed training requirements) than the engine manufacturer can currently rely on with existing service channels. Reducing the number of customizable parameters would lead to reductions in customer choice and product availability. EPA must ensure that such a result does not occur.

Under the Proposed Rule, engine manufacturers would have to undertake some or all of the following activities in order to provide the required reprogramming and calibration capabilities.

- Revise access security schemes for engine control system data and programmable parameters.
- Design engine control system hardware and software to be capable of supporting pass-through programming.
- Design and develop a reprogramming and calibration system for use by the aftermarket.
- Maintain the reprogramming and calibration system through changes in PC technology.

The regulatory landscape has changed even in the short time since ARB adopted amendments to its service information provisions requiring manufacturers to provide heavy-duty reprogramming and recalibration service tools to the aftermarket (and, even though adopted, such regulations have not yet been finalized). EMA anticipates further discussions with ARB regarding these very significant concerns raised with ARB during its rulemaking process and now magnified by further changes in other ARB requirements and by other potential federal requirements. EPA should not require heavy-duty manufacturers to provide reprogramming and recalibration tools to the aftermarket but should exempt such tools from the service information requirements for all the reasons discussed above.

#### B. Pass-through Tool Standardization §86.010-38(j)(13)(iii)

EPA has proposed the use of SAE J2534 and TMC RP 1210A for standardization of engine diagnostic tools and engine reprogramming and calibration tools. EMA supports the use of those standardized tools (beginning in 2013), but notes that a new version of TMC RP 1210 (1210B) is completing its approval process within TMC. EMA will inform EPA when the TMC RP 1210B revision is complete and published by the American Trucking Association.

#### C. Persons Entitled to Access §86.010-38(j)(3)(i)

EPA has proposed that engine manufacturers must provide service information and tools to “any person engaged in the repairing or servicing of heavy-duty engines.” There are no limitations or qualifications on who may receive these very powerful tools. If EPA does not exempt heavy-duty reprogramming and calibration tools from the Proposed Rule, then in addition to allowing manufacturers to require training, EPA should add language to the rule that would allow engine manufacturers to require purchasers to demonstrate some level of

qualification to do heavy-duty service repairs prior to selling the information and tools. Heavy-duty engines are commercial products used in commercial service in business-to-business relationships. They are not “do-it-yourself”-type products and should not be treated casually.

Requiring heavy-duty service information to be made available to entities without regard for their qualifications could lead to improper repairs by under-qualified entities. EMA has outlined in these comments the power of heavy-duty tools and the need for training in the use of those tools and liability protection for manufacturers. In that regard, EPA must include some language allowing for threshold qualification of service providers in order to ensure at least some measure of competence in repairing heavy-duty engines. Such threshold qualification could include information such as name, address, business licensing information, and other information necessary to demonstrate minimum capabilities. Manufacturers’ goal is not to be exclusionary or to erect “artificial barriers to access” but to give manufacturers confidence that the persons requesting heavy-duty service tools have the ability to work with these complex tools and systems, and to avoid unintentional mistakes as well as deliberate misuse.

D. Bi-directional Control §86.010-38 (j)(3)(ii)(B)

EPA has proposed a definition of “bi-directional” control that clearly excludes permanent changes to engine and component calibrations. EMA fully supports that definition.

E. Pricing

1. “Fair and Reasonable Price” Requirements § 86.010-38 (j)(8)(i)

EPA has cited Congressional intent that, while Congress did not intend for information access to become a “profit center” for manufacturers, it did intend that manufacturers “be able to recover reasonable costs for making information available” (72 Fed. Reg. 3269). EPA specifically has asked for comment on the heavy-duty information pricing structure.

Current diagnostic service tools are offered at prices that approach automotive prices, and this practice is not expected to change significantly. However, the smaller market size offered by repair services for heavy-duty engines reduces the ability to amortize development costs for tools and tool software. As a result, heavy-duty tools will be more expensive than general automotive service tools.

Moreover, service information fees charged to authorized networks are part of a negotiated franchise arrangement, in which the authorized dealers have had to invest resources and meet other conditions as part of the license for what they do. EPA must take all such factors into consideration when reviewing price information, including the fact that many manufacturers currently subsidize the costs for providing service information to their authorized networks.

Finally, as noted above, EPA has not provided any information regarding expected costs of the proposed requirements to manufacturers. EPA must provide such information within the context of the final rule, in order to have a basis, in part, against which to determine whether manufacturers’ pricing is set at levels at which manufacturers can, in fact, recover their reasonable costs for providing access to the required information.

2. Short-Term, Medium-Term, and Long-Term Access §86.010-38(j)(4)(iv)

EPA has proposed a specific structure of “tiered access” for service information subscriptions over manufacturers’ Web sites. EMA does not support the tiered structure that would require manufacturers to provide subscriptions for certain specified time periods.

For heavy-duty manufacturers, requiring specified periods of time for access would require a change in how manufacturers provide information today. Generally, heavy-duty engine manufacturers’ Web sites have been very reasonably priced, such that a yearly subscription is typical. EPA has again applied a light-duty paradigm to this aspect of the Proposed Rule, and it is not appropriate.

Short periods of access make it more difficult for manufacturers to recoup the costs of providing a service information site. The light-duty industry experience suggests that their existing Web sites are “last resorts” for service problems, and that their sites are in fact underutilized (see discussion in Section I. on costs of the Proposed Rule). Inability to recoup operating and administrative costs for a service information rule site creates a fixed cost that must be spread across a far smaller number of engines compared to light-duty industry volumes.

The inclusion of short-term access periods suggests that persons may perform the repair of heavy-duty diesel engines for only short, infrequent periods of time. Occasional use suggests that the persons involved do not seek to repair heavy-duty diesel engines as a principal line of business, and in fact may not meet industry standard qualifications. On the other hand, persons who have invested in a business to provide heavy-duty service likely are in it for the long term, and need and want access to service information for the long term.

3. Pricing Approval §86.010-38 (j)(8)(ii)

EPA has proposed that manufacturers obtain approval from EPA of the pricing structure of their Web sites 6 months in advance of launching their Web sites. Such a requirement is overly burdensome and unnecessary. Pricing approval should not be needed if EPA eliminates the tiered access approach. At a minimum, EPA should revise the requirement to no more than 60 days’ advance notice.

4. Limitations on Makes and Models §86.010-38 (j)(4)(iv)

EPA has proposed that manufacturers may not limit subscriptions to just one make or one model. Again, this is different than what heavy-duty engine manufacturers do today, and must be revised to reflect current access in the heavy-duty market. In many cases, heavy-duty engine service providers only want or need information on one model. Along with elimination of the tiered pricing structure, EPA should eliminate any requirement to offer service information on all makes and models within a single subscription.

5. Existence of Contractual Arrangements §86.010-38 (j)(14)(i)

In the provision of generic and enhanced information for scan tools to be provided to aftermarket tool makers, EMA supports the qualification “... with whom they have appropriate licensing, contractual, and/or confidentiality arrangements....” It is important for engine

manufacturers to have assurances that confidential information provided in service tool descriptions is not misused or resold indiscriminately, and that other appropriate provisions may be used to govern the sale of such information.

6. Identification of Third-Party Tools §86.010-38(j)(14)(vii)

In addition to allowing for contractual arrangements with tool makers, EMA also supports EPA's proposed language that would allow manufacturers to require compliance with the Component Identifier message specified in SAE J1939-71 as Parameter Group Number (PGN) 65249 and the SAE J1939-81 Address claim PGN. This language provides manufacturers (and users) the important ability to track the origin of tools produced by third parties.

F. Shipment of Training Information §86.010-38(j)(11)(ii)

EPA has proposed that training information be shipped within 24 hours of request, with no consideration for weekends and holidays. This requirement appears to be based on the light-duty paradigm where all manufacturers use third party providers for the provision of service information (which is not true for heavy-duty). Shipment within 24 hours is overly burdensome and would impose unnecessary costs on manufacturers. Orders for training materials are not requested or shipped daily, and engine manufacturers should not be required to expend the resources to dedicate one person to this job for which the expected sales rates will be extremely low. Manufacturers should not need to staff fulfillment centers on weekends and holidays to meet a 24-hour deadline.

Moreover, there is no such thing as "emergency training." Heavy-duty repair facilities are expected to invest substantial resources and are going to be prepared in advance with proper training and information. Shipment of training information within 3 business days is a more appropriate turnaround time. In its service information rule, California recognized that fact and has provided additional time, including not requiring shipment of information on Saturdays, Sundays, and federal or California holidays.

G. Retention for 15 years §86.010-38 (j)(12)(ii)

EPA has proposed that engine manufacturers maintain the required full-text information on their Web sites for a minimum of 15 years after model introduction. EPA also has requested comment on whether it should require information to be retained for a longer period of time due to the longer service life of heavy-duty engines and vehicles. EPA should not lengthen the time required to retain information in full-text format on Web sites for longer than 15 years.

It is true that heavy-duty vehicles have long useful lives – now 435,000 miles for heavy heavy-duty engines. But, the longer service lives of heavy-duty vehicles in terms of hours and miles of service is consumed by the high rates of service these vehicles see. Many heavy-duty vehicles may be putting on 200,000 miles in a year. Thus, any more than a 15-year retention period wastes manufacturers' Web site resources and should not be considered. The provisions to provide access to archived CDs for data older than that to the extent that the same information is provided to a manufacturer's own dealers will be sufficient.

#### H. Training §86.010-38(j)(15)

EMA supports provisions that would allow engine manufacturers to require training as a condition of sale of manufacturer-specific diagnostic tools. Engine manufacturers currently require their own authorized service providers to attend training at manufacturers' training centers. Allowing manufacturers to require training as a condition of sale of their service tools to aftermarket service providers is essential, as it provides some protection against misuse of those tools. Training can provide some assurance that purchasers and users of heavy-duty service tools will be knowledgeable regarding the proper use of the tools. With such knowledge, they can substantially avoid misuse that could result in improper engine configurations, possibly leading to increased emissions, engine damage, or other injury.

#### V. Liability Concerns

EPA must include language in the Proposed Rule that would specifically limit engine manufacturers' liability for use of tools by third parties. As discussed above, engine manufacturers have significant concerns with regard to the possibility for misuse that may arise when the service tools and information required by the Proposed Rule are provided to non-authorized service providers. As aftermarket providers are given the tools to service and repair engines, there is a possibility that inadvertent or deliberate mis-configuring may occur.

Engine manufacturers have control over potential misuse by their authorized dealers, but the proposal does not allow manufacturers to maintain that same control when tools are made available to third parties. Because of the unique and complex nature of the heavy-duty service industry, service tools are very powerful and have complex and extensive capabilities. Allowing manufacturers to require training when those tools are sold to third parties alleviates that concern in part. Even with training, however, independent service providers may service several different brands of engines and may have less "specialized" knowledge and be more likely to make mistakes than factory-authorized dealers that focus on servicing engines from a single manufacturer.

Of even greater concern are heavy-duty service tools sold by aftermarket tool makers to third parties without a training requirement. The Proposed Rule does not require aftermarket tool manufacturers to require training on tools they sell to service heavy-duty engines. As a result, engine manufacturers have no control over the service providers who use such "third party" tools. The Proposed Rule would require engine manufacturers to make available to all equipment and tool companies all information necessary to read and format all emission-related data stream information and to activate all emission-related bi-directional controls. The provision is designed to ensure that independent tool manufacturers have the information necessary to produce and make available for sale to service providers diagnostic tools with bi-directional controls. Although bi-directional controls cannot be used to permanently change an engine calibration, they give a service technician the ability to temporarily control the engine.

If such tools are not designed or used properly, they have the potential to cause engine operation that may result in engine damage and/or personal injury. Typically, the engine manufacturer has no direct relationship with users of tools provided by aftermarket suppliers. As a result, the engine manufacturer has no opportunity to provide training or take other steps to

avoid the occurrence of accidental or deliberate misuse of these tools. Notwithstanding the anti-tampering provisions contained elsewhere within EPA's heavy-duty engine regulations, EPA must include specific language in the regulatory text that confirms engine manufacturers will not have any emissions warranty, in-use compliance, defect reporting or recall liability for service on a heavy-duty engine that is not undertaken by the manufacturer, for any damage caused by their own tools in the hands of independent service providers, or for the use and misuse of third party tools.

## VI. Compliance Flexibility

EPA has proposed in paragraph (j)(2) to allow engine manufacturers of heavy-duty engines subject to the rule to alternatively comply with service information and tool provisions for 1996 and later vehicles under 14,000 pounds GVWR. EMA supports that provision, as it provides needed flexibility to manufacturers in cases where the same engines are used in similarly-sized vehicles.

EPA also should extend that flexibility to engines in the 8,500 to 14,000-pound range. The proposed flexibility would permit manufacturers to provide service information and tools that follow the industry standards and practices that are most familiar to the type of service providers that will work on the vehicles. There is no dis-benefit to providing this flexibility. EPA should adopt the following additional compliance flexibility language (as sub-section (ii) of (j)(2)):

(2)(ii) Upon Administrator approval, manufacturers that produce engines for use in vehicles between 8,500 and 14,000 pounds may, for those engines, alternatively comply with all service information and tool provisions in CFR section 86.010-38(j) that are applicable to 2010 and subsequent model year vehicles over 14,000 pounds. Implementation dates must comply with the service information provision dates applicable to engines in vehicles between 8,500 and 14,000 pounds.

## VII. Other Issues on which EPA Requested Comment

EPA has requested comment on the role that "Tier 1" (third party) suppliers play in the heavy-duty service market over 14,000 pounds. "Third party" suppliers do not play a role in the heavy-duty market. This is another way in which the light-duty and heavy-duty service industries differ. The heavy-duty engine manufacturers to be regulated by the Proposed Rule are Tier 1 suppliers for the vehicle manufacturers. Traditional technology suppliers for engine manufacturers have been fuel system suppliers, turbocharger suppliers, and control system suppliers. More recently, suppliers of EGR components and controls, and of aftertreatment components and controls, have joined traditional technology suppliers. In general, technology suppliers do not provide service information directly to heavy-duty vehicle owners – their recommendations are included in the engine manufacturer's service information.

EPA also has requested comment on the role of third party, consolidated information providers in the heavy-duty market. Third party information providers have not played a large role in the heavy-duty service information segment in the past, except for the limited case of

cross-over models that used light-duty cabs and components. Heavy-duty engine and vehicle manufacturers directly sell service publications to their customers. There is no need for provisions in the rule related to third party information providers.

#### VIII. The Service Information Requirements Must Comply with the CAA and Federal Law

Section 202(m) of the federal Clean Air Act (42 U.S.C. 7521) establishes the framework under which EPA may regulate and require service information availability in connection with emissions-related diagnosis and repair of engines and vehicles. EPA proposes to regulate the cost of service information, requiring that manufacturers make information and tools available “at a fair and reasonable price” and providing for approval of pricing based on a number of factors delineated by the Agency.

EPA has not cited any authority for its proposal to regulate the pricing of service information by manufacturers. EPA cannot cite any authority, for neither the CAA nor other federal law provide any such authority to EPA. According to EPA, the legislative history for the service information provisions in the CAA included Congress’s intent that manufacturers should be able to recover “reasonable costs” for providing service information. But Congress did not take the further step to establish EPA’s authority over costs and pricing issues in the language of the statute. In particular, requiring consideration of “the ability of the average aftermarket technician or shop to afford the information” (§86.010-38(j)(80(i)(E))) in pricing decisions is completely outside the scope of the CAA, as it does not even touch on Congress’s intent to ensure that manufacturers “recover reasonable costs for making information available” (72. Fed. Reg. 3269).

Moreover, EPA must ensure that no provisions of its Proposed Rule lead to or become an unconstitutional taking of property without due process and compensation. The Proposed Rule would require manufacturers’ proprietary and confidential business information – long recognized as property that is protected from being taken without adequate compensation – to be turned over to the aftermarket. To avoid an unconstitutional taking, manufacturers must be able to charge reasonable prices for that property and not be unreasonably restricted by pricing requirements in the rule. EPA must ensure that manufacturers can indeed recover reasonable costs for providing service information to third parties.

#### IX. Conclusion and Recommendations

EMA urges EPA to work further with engine manufacturers to make changes that address the issues raised in these comments. Specifically, EPA must:

- Support the current heavy-duty service information structure and not make changes that will increase costs to manufacturers and the service industry.
- Provide cost information justifying the Proposed Rule.
- Eliminate requirements that are inconsistent with other adopted and pending federal and state rules.
- Impose any service information requirements as an “engine-only” rule.

- Revise the definition of “emissions-related information.”
- Clarify that publicly-available Web sites are not required until at least one year after the commercial introduction of a heavy-duty engine.
- Delay until 2013 any requirements to provide tools, bi-directional control information, or tool development information to service providers and tool makers.
- Eliminate requirements for heavy-duty manufacturers to provide reprogramming and calibration tools to third party service providers.
- Include regulatory language allowing for manufacturers to set threshold qualifications for purchasers of information and tools.
- Finalize the definition of “bi-directional control” as proposed.
- Ensure recovery of reasonable costs by manufacturers is considered in pricing review and make changes in pricing approval timing.
- Eliminate short-term and medium-term subscription access requirements.
- Finalize provisions regarding standard identifiers for third party tools.
- Allow shipment of training requirements within 3 business days, not 24 hours.
- Not extend Web site retention requirements beyond 15 years.
- Allow manufacturers to require training prior to sale of tools.
- Include specific language addressing manufacturers’ liability concerns.
- Add compliance flexibility provisions for engines in the 8,500-14,000 range to comply with heavy-duty service information requirements.

EPA must make the recommended changes, support engine manufacturers in their efforts, and take all steps possible to ensure a timely, cost-effective, and feasible rule.

Respectfully submitted,

ENGINE MANUFACTURERS ASSOCIATION



## Example TMC Maintenance and Design Practices

One significant difference between the LD and HD industry segments is user participation in the design and development of service equipment, service procedures and vehicle design. The Technology and Maintenance Council of the American Trucking Association has collaborated with industry on maintenance and design practices for decades.

The following are example practices and standards that relate to the proposed service information requirements.

RP 1202 Off Board Diagnostic Practices (1/1992 revised 7/1999)

Identifies preferred diagnostic connectors and connector locations.

RP 1204 Mechanic's Electrical Skill Evaluation (2/1991)

Assesses a mechanic's technical skills for basic electrical concepts, interpreting wiring diagrams, making circuit measurements with a DVOM, and applications of Ohm's Law.

RP 1208B PC Selection Guidelines for Service Tool Applications (3/94 revised 12/2000)

Summarizes minimum PC capabilities for use existing manufacturer provided service tool applications

RP 1209 Sensor Diagnostics (4/1997)

Describes general diagnostic methods for common electronic sensor applications including Fan Controls, Coolant Temperature, Coolant Level, Fuel Level, Pressure Sensors, Accelerator Pedal Position, Rotational Velocity (RPM and MPH), and ABS systems.

RP 1210A Windows™ Communication API (4/1997 revised 7/1999 and ??/2007)

Describes a PC communications interface for industry standard diagnostic and telemetry protocols (SAE J1939 and SAE J1587.) The API allows multiple diagnostic software products to use the same interface

RP1202 directs manufacturers to confine diagnostics and other off-board communications (e.g. for trip recorders) to SAE recommended practices J1708/1587 and SAE J1939 and provide an industry standard connector for diagnostics and off-board communications. RP1204 recognizes that the skills needed to service electronically controlled components such as engines require aptitude and training beyond those traditionally used to service brakes, axles, hubs, tires, and FMVSS 108 lighting. RP1208 shows the initial trend in the last decade to provide service tools by hosting them on PCs instead of hand held units. RP1209 provides tutorial information on the operation and diagnosis of common sensing technologies used in engines and instrumentation. RP1210A minimizes the number of communications adaptors that a vehicle owner may need to purchase to use manufacturer provided diagnostic software.