

A Guide to TMC Recommended Practices

TMC's *Recommended Practices Manual* has been recognized throughout the heavy-duty commercial vehicle maintenance arena for more than 30 years as being one of the leading maintenance guides for commercial vehicles and contains the best equipment maintenance and maintenance shop management information available.

This comprehensive manual contains more than 350 Recommended Practices (RPs). A Recommended Practice is a specification or practice—the adoption of which is voluntary—that is used to assist fleets and equipment manufacturers in the purchase, design, maintenance and performance of their equipment. TMC issues two types of RPs: Recommended Maintenance Practices, and Recommended Engineering Practices.

Recommended Maintenance Practices are voluntary practices that assist equipment users, vehicle/component manufacturers, and other industry suppliers in the maintenance of commercial vehicle equipment. They also include informational documents that cover technical aspects of maintenance, equipment and supporting technologies.

Recommended Engineering Practices are voluntary practices that assist equipment users, vehicle/component manufacturers, and other industry suppliers in the design, specification, construction and performance of commercial vehicle equipment.

What follows is a description of each RP that appear in the current edition of TMC's *Recommended Practices Manual*.

* Featured in TMC's 2018-2019 *Recommended Practices Manual*.

ELECTRICAL- S.1

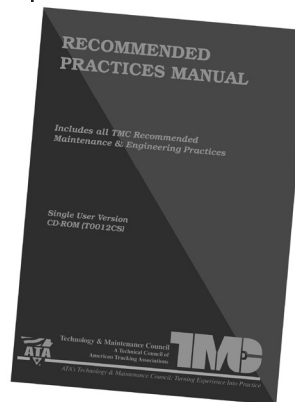
RP 101C Heavy-Duty Truck Alternator Mounting — Discusses location and installation procedures and mounting material selection for maximum charging system life. Procedure covers mounting bracket, adjusting strap, pulleys, bushings, and associated hardware. Also describes alternator mounting maintenance procedures.

RP 105D Battery Cable Assemblies — Gives recommendations for proper selection and installation of battery cables to obtain maximum cranking circuit performance. This RP covers battery cables, terminals, heat shielding, grounding techniques, wire gauge, and replacement wire selection.

RP 106 6-Volt vs. 12-Volt Battery Study — Discusses the relative merits of 6-volt vs. 12-volt batteries for linehaul trucks. Covers battery life, hook-up, installation configurations, effects of electrical problems, and gives usage statistics for both types of battery systems.

Ordering Information

TMC's *Recommended Practices Manual*



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- RP 107C Seven Conductor Truck-Trailer and Converter Dolly Jumper Cable and Connector Selection — Covers the minimum requirements for heavy-duty tractor-trailer and converter dolly jumper cables and connectors.
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- RP 109A Battery Ratings and Engine Cranking Requirements — Defines cold cranking ampere and reserve capacity ratings and gives recommendations to achieve adequate engine cranking performance and long-term cranking system reliability.
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- RP 110C Low-Tension Cable for Heavy-duty Truck-Tractor Wiring Systems — This RP provides guidelines for spec'ing low-tension cables for heavy-duty truck/tractor wiring systems.
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- RP 111B Circuit Protection — Covers guidelines for circuit protection of heavy-duty truck-tractor D.C. wiring systems.
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- RP 112A Terminals for Heavy-duty Truck-Tractor Primary Wiring Systems — Covers design criteria, performance specifications, and application guidelines for primary wiring terminals.
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- RP 113B Electrical System Connectors- Covers minimum general guidelines for the design, performance, and application of connectors and insulators for heavy-duty motor vehicles.
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- RP 114B Wiring Harness Protection- Covers minimum guidelines for protection of wiring harnesses from the operating and environmental conditions encountered on heavy-duty-truck tractors.
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- RP 115 Speedometer and Tachometer Cable Requirements — Discusses application, installation, testing, and lubrication of light-and heavy-duty speedometer and tachometer cables.
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- RP 116 Installing Instruments, Gauges & Speedometers — Discusses proper mounting, wiring, and reliability determination for electrical and mechanical gauges and transducers.
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- RP 118A Turn Signal Switches — Covers design criteria, minimum performance, and test specifications for heavy-duty truck turn signal switches.
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- RP 120B Wiring System Identification — Covers the minimum requirements for wiring system identification on heavy-duty trucks and tractor-trailers.
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- RP 123A Standardization of Speedometer and Tachometer Signals — Establishes a standard vehicle and engine speed signal and frequency that can be used by any electronic device on a heavy-duty vehicle requiring knowledge of speed/distance or engine revolution information.
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- RP 124A Heavy-duty Headlamp Design Specifications — Provides specifications for heavy-duty headlamps for use both by lamp users and lamp manufacturers.
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- RP 125A Battery Vibration Standards — Replaces existing battery mounting guidelines with one to offer both truck manufacturers and fleets an alternative to mounting batteries between the frame rails to increase battery life.
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- RP 127B Fleet Service Light Bulb Specifications — Identifies heavy-duty lamps and includes a specifications chart for most light bulbs used in heavy-duty vehicle applications.
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- RP 128B Turn Signal and Warning Hazard Flashers. — Covers the design and application of motor vehicle turn signal and hazard warning flashers for heavy-duty vehicle applications.
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- RP 129A Heavy-Duty Vehicle Cranking And Charging Troubleshooting: 12-Volt Systems — Provides preventive maintenance and troubleshooting procedures for heavy-duty vehicle starting and charging systems.
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- RP 130 Guidelines to Determine Requirements of Charging Systems — Aids in fleet specification of charging system components by recommending the best charging system for a given vehicle designed for a specific use.
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- RP 131B High-CCA Battery Applications for Commercial Vehicles. Offers spec'ing guidelines for selecting commercial vehicle batteries for applications requiring high cold-cranking amperage (CCA).
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- RP 132B Battery Charging, Testing, and Handling. This updated RP covers proper procedures for heavy truck battery charging, testing and handling.
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- RP 133 High CCA Battery Applications for Class 2 to 6 Commercial Vehicles — Points out potential application problems for the entire cranking system when utilizing high CCA batteries in place of standard batteries in Class 2 to 6 commercial vehicles. Covers effects on the starter, battery cables, and effects on battery cycling and life.
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- RP 135 Multi-Pin Connector Repairs — Provides fleet maintenance organizations with an effective guide for obtaining the proper multi-pin connector repair products and services. The Recommended Practice is not intended to define repair procedures because of the vast number of different connector systems on the market. Instead, the RP defines what products and services fleets should expect to receive from connector suppliers. This product definition is

	necessary to simply the repair of a wide range of types of multi-pin connectors used in today's wiring systems.		
RP 136A	Isolated Battery Systems — Provides guidelines for the design of isolated/split battery systems to enable cab accessory units to be electrically powered without drawing on the primary/starting system of the vehicle or retrofitting an existing vehicle to an isolated system.	RP 147	SAE J560 Plug and Receptacle Wire-to-Terminal Interface Performance Guidelines — This RP establishes new equipment-user driven performance guidelines for the SAE J560 plug and receptacle wire-to-terminal interface.
RP 137D	Antilock Electrical Supply From Tractors Through the SAE J560 Seven Pin Connector — Specifies the power that is to be made available at end of the seven-conductor electrical cord from the tractor (or front of the trailer) for the trailer's anti-lock braking system (ABS) through both the stop lamp and dedicated power circuit.	RP 148	Exterior Lighting Systems for Signaling, Marker, Clearance and Identification Lamps — This RP offers guidelines for exterior lighting systems.
RP 138A	Auxiliary Forward Lighting — Provides fleets, truck manufacturers, and component manufacturers with guidelines for the proper installation of auxiliary forward lighting devices to help conform to various state regulations.	RP 149	Alternator Drive Standardization — Offers guidelines for alternator drive standardization.
*RP 139C	Battery Selection Criteria — Offers guidelines on selecting batteries for commercial vehicles.	RP 150	Alternator Terminal Standardization — This RP offers guidelines for alternator terminal standardization.
RP 141A	Trailer ABS Power Supply Requirements — Specifies performance recommendations for trailer electrical systems to ensure adequate power is available for trailer antilock braking system (ABS) needs.	RP 151	Guidelines for Extending Headlamp Life — This RP offers guidelines for extending headlamp life.
RP 142	High-Speed Data Link Cable Repair Guidelines — Identifies recommended materials and methods to repair or add a device to high-speed data link cables.	RP 152	Performance Guidelines for Cab and Sleeper Interior Lighting — This RP offers guidelines for cab and sleeper interior lighting.
RP 143	Light Emitting Diode (LED) Technology — Describes benefits and features of LEDs when spec'ing heavy-duty signaling and marking devices. Offers spec'ing recommendations on connectors and wiring for LEDs and offers return on investment formula for making purchasing decisions.	RP 153	Lamp-to-Connector Interface Guidelines — Offers guidelines on lamp-to-connector interfaces.
RP 144	Minimum Performance Requirements for In-Cab Trailer ABS Malfunction Lamps — Identifies minimum performance requirements for ABS warning lamps.	*RP 154A	Guidelines for Wiring Harness, Routing, Clamping and Protection — Offers guidelines on wiring harness, routing clamping and protection.
RP 145	Symbols for Electrical Circuit Protection — This RP endorses an SAE Recommended Practice that standardizes electrical circuit symbology.	RP 155	Selection and Application of Corrosion Preventive Materials for Electrical Terminals and Connectors — This RP covers selection and application of corrosion prevention materials.
RP 146	Identification of Standardized Electrical Circuits for Class 8 Vehicles — This RP endorses an SAE Recommended Practice that standardizes electrical circuit identification.	RP 156A	Electrical Circuit Protection Components — Covers electrical circuit protection components.
		RP 157	Service And Installation Guidelines For Citizen Band Radio Antenna Systems — This RP covers service and installation guidelines for CB radio antenna systems.
		RP 158	Wiring And Circuit Protection Guidelines For 12-Volt Cab And Sleeper Power Outlets-This RP covers wiring and circuit protection guidelines for cab and sleeper power outlets.
		RP 159	Installation and Inspection Guidelines for Seven Conductor Truck-Trailer/Converter Dolly Jumper Cable and Connector — Covers installation and inspection guidelines for combination vehicle electrical connectors and cables.
		RP 160	Wiring And Circuit Protection Guidelines For 12-Volt DC to 120-Volt AC In-Cab Inverter Systems — Covers wiring and circuit protection guidelines for in cab inverter systems commonly used on tractors.

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- RP 161 Forward Lighting Aiming Methods — Offers guidelines for forward lighting aiming methods.
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- RP 162A Design Guidelines For Electrochemical Capacitors Used In Starting Applications — Offers background information and specification guidelines for electrochemical capacitors used in starting applications.
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- RP 163 Power Inverter Selection Recommendations — Offers guidelines for selecting power inverters for Class 7-8 vehicle applications.
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- RP 164 Proper Jump Start Procedures — This RP offers safe and effective procedures for jump starting commercial vehicles equipped with a 12-volt starting system. It also categorizes jump starting devices by type and function, and addresses what impact jump starting devices and procedures can have on modern vehicle electrical systems.
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- RP 165 Proper Electric Arc Welding Procedures For Vehicles With Sensitive Electronics. — Offers guidelines for proper electric arc welding procedures in order to protect vehicle electronics.
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- RP 166 Low-Voltage Primary Electrical Cable Specification for Heavy-Duty Electrical Repair. — Defines the proper terminology and specifications for a universal, low-voltage (maximum 60 volts) primary wiring cable that meets the performance requirements needed for servicing heavy-duty truck, tractor or trailer electrical systems.
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- RP 167 Vehicle Electrical Fires: Causes and Preventive Solutions. This RP provides insight into the causes of in-service vehicle electrical fires. It also offers preventive solutions based on maintenance and operational practices, covering Class 7-8 heavy-duty vehicles.
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- RP 168 Design Recommendations for Preventing Vehicle Fires. Provides design recommendations for preventing vehicle electrical fires. It covers Class 7-8 heavy-duty commercial vehicles.
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- RP 169 Road Service Diagnostic Evaluation Process.— Offers safe and effective procedures for systematically conducting a proper diagnostic evaluation of the primary electrical system — batteries, starter, alternator, and cabling — during a road service call.
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- RP 170A Chassis-To-Body Electrical Interface Guidelines For Vocational/Refuse Trucks — Provides the vocational/refuse industry a common electrical interface connection that is environmentally sealed, contains all required electrical circuits and is located in a standardized location.
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- RP 171 High-Performance Coatings for Forward Lighting On Commercial Trucks. — Provides guidelines for specifying forward lighting coating systems for plastic headlamps that not only meet applicable federal requirements but also provide the basis for more robust coating performance in on-highway applications.
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- RP 172 Recommended Cleaning and Maintenance of Headlamps for Commercial Vehicles. — Provides guidelines for the cleaning, maintenance and restoration of headlamp systems used on commercial vehicles. It defines the expected performance requirements and augments, with specific requirements, the standards depicted in the SAE and TMC RP covering the general maintenance of forward lighting coating systems.
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- RP 173 Design Guidelines for ECM Harness and Connectors — Offers design guidelines for ECM harnesses and connectors. (Formerly RP 349.)
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- RP 175 Electric Truck and Bus Conductive Charge Interface Guidelines — The purpose of this RP is to offer design guidelines for the vehicle-to-power-grid interface connector used to charge powertrain batteries on electric trucks and buses in commercial service. It covers the general physical, electrical, communication protocol, and performance requirements for the electric vehicle conductive charge system and coupler.
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- RP 177 Solar Power For Commercial Vehicles — This RP offers general information on solar power components used in 12- and 24-volt systems for commercial vehicles.
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- RP 178 Battery Management and Cable Guidelines For Meeting Hotel Load Requirements — This RP offers general guidelines for alternator and cable sizing when adding batteries to a commercial vehicle for the purpose of meeting driver comfort or “hotel load” requirements.
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- RP 179 Liftgate Charging and Pump Motor Diagnostic and Maintenance Guidelines — This RP offers guidelines for the maintenance and troubleshooting of liftgate battery charging and pump motor systems used on commercial combination vehicles.
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- TIRE & WHEEL — S.2**
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- RP 201E Tire Flap & Rim Dimensions — Relates tire width and diameter with recommended rim and flap widths.
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- RP 203D Truck Tire Regrooving — Summarizes two crucial federal regulations that must be followed when regrooving tires.
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- RP 205B Use of Tire Bead Lubricants — Outlines proper selection and use of tire bead lubricants.
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- RP 206C Radial and Bias Tire Puncture (Nail Hole) Repair Procedures — This RP offers guidelines for performing puncture (nail hole) and reinforced shoulder repairs in medium-duty (Class 6-8) truck and bus radial and bias tires.
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- RP 208E Total Tire Cost Analysis. This RP is designed to help fleet managers track and analyze annual heavy-duty vehicle tire costs, durability and fuel efficiency through the use of the worksheets described in the RP.
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- RP 209F Tire and Rim Safety Procedures — This RP offers safety guidelines for tire and wheel servicing, installation and demounting.
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- RP 210D Radial Tire Construction Terminology — This RP describes radial tire construction terminology.
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- RP 211D Rim and Wheel Selection and Maintenance — Acquaints the user of highway tractors and trailers with rim/wheel nomenclature, types available, load inflation restrictions, potential dangers of mismatched multi-piece rim components, dual spacings, and proper maintenance practices.
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- RP 212E Industry Recommended Practice For Retreading Truck and Bus Tires — This RP offers guidelines for the retreading of medium- and heavy-duty truck and bus tires used for on-highway service.
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- RP 213E RMA Truck Tire and Wheel Related Publications. —Provides a list of Rubber Manufacturers Association (RMA) publications for care and service of truck tires and wheels.
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- RP 214D Tire/Wheel End Balance and Runout. — Offers equipment users suggestions that can help reduce the vibration, irregular tread wear, resulting maintenance costs and driver discomfort that accompany serious out-of-balance or out-of-round tire/wheel end assemblies.
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- RP 215E Sources of Tire & Wheel Information — Gives sources of information on tire retreading, wheels and rims, and tire rubber.
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- RP 216C Radial Tire Conditions Analysis Guide. — A reference source and a training aid to assist users in tire grading. It advises users when it may be necessary to consult with a specialist (original manufacturer or retreader) for final determination of a tire's cause of failure.
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- *RP 217E Attaching Hardware for Aluminum Disc Wheels — Provides information to enable proper selection of compatible wheels, studs, and nuts for use with various types of disc wheel mountings.
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- RP 218E DOT Tire Identification Codes — Defines DOT tire codes thus simplifying fleet tire record keeping and tire identifying procedures.
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- RP 219C Radial Tire Wear Conditions and Causes: A Guide To Wear Pattern Analysis. This RP provides a reference source and training aid which will assist the user in identifying radial tire wear patterns and determining causes which can then be corrected to minimize irregular wear.
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- RP 220D Tire Tread Design Selection. The purpose of this RP is to help fleet managers select the proper tread design for an intended application to maximize tire service life and minimize tire cost per mile. These guidelines apply to tread design selection for heavy-truck tires.
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- RP 221E Retread Plant Inspection Guidelines — Provides guidelines for the evaluation and selection of a tire retread supplier.
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- RP 222C User's Guide to Wheels and Rims — Covers all aspects of wheel and rim damage, probable cause, and recommended actions. Contains numerous photographs and is available as a separate publication.
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- RP 223D Tire Selection Process. — This RP is intended to make the tire purchaser, fleet operator, or maintenance manager aware of major items for consideration, and to provide a step-by-step thought process for selecting the best type of tire for the application.
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- RP 224D Tire Retread Process — Assists the retread user in understanding the differences and characteristics of the various retread processes.
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- RP 226D Radial Tire Repair Identifier (Blue Triangle) — Explains how to properly apply tire repair identification patches to repaired heavy-duty vehicle tires. These patches can prevent the possibility of the tire (and vehicle) from mistakenly being placed out of service due to what a safety inspector or mechanic perceives as a dangerous tire defect and not a normal tire section repair bulge.
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- *RP 228C Guidelines For Wireless Tire Pressure Monitoring Systems (TPMS) for Medium- and Heavy-Duty Truck Tires. — Offers guidelines for tire pressure monitoring systems (TPMS) that utilize wireless transponders and readers or processing modules to measure the actual tire inflation condition.
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- *RP 229C Computerized Tire Recordkeeping — Provides guidance to fleets trying to establish a computerized tire recordkeeping system.

RP 230B	Tire Test Procedures for Tread Wear, Serviceability and Fuel Economy. — Provides fleets guidelines on tire testing procedures.	and processes of steel wheel and rim refinishing systems used today for commercial vehicle applications.
RP 231	Wheel System Maintenance Labeling Guidelines — Establishes a standard format for wheel system maintenance labels.	*RP 241B Tubeless Disc Wheel Inspection for Undersized Bead Seats — Covers inspection guidelines for undersized bead seats on tubeless disc wheels.
RP 232A	Zipper Rupture Inspection Procedures for Light- and Medium-Duty Truck Tires — This RP establishes procedures for identifying “zipper” ruptures failures in tires.	RP 242 Guidelines for Evaluating Tire and Wheel Related Products and Systems — Offers guidelines for evaluating tire and wheel related products.
RP 233C	Radial Tire Nail Hole Repair Training Guidelines — This RP establishes minimum training guidelines for radial tire nail hole repair.	RP 243 Tire and Wheel Match Mounting Markings — Covers identification of tire and wheel match mounting markings.
RP 234B	Valve Hardware Selection Guidelines — This RP establishes tire valve, core and cap selection guidelines for fleet managers and provides information on additional accessories used with these components that facilitate tire inflation and are attached to the tire/wheel assembly.	*RP 244C Bias Tire Conditions Analysis Guide — A detailed guide covering all aspects of bias tire damage and defects and includes multiple photographs. This guide is an invaluable tool for the determination of tire failure.
RP 235B	Guidelines For Tire Inflation Pressure Maintenance — This RP addresses the relationship between inflation pressure and tires, and provides a practical guide for better understanding the issues that stem from failing to address this issue properly in everyday fleet operations.	RP 245A Tire Assembly Balancing With Wheel Weights — This RP provides fleets with guidelines for selecting and installing balance weights that may or may not contain lead in accordance with the U.S. Environmental Protection Agency’s National Lead-Free Wheel Weight Initiative.
RP 236A	Outsourcing Guidelines for Tire and Wheel Maintenance. — Helps fleet managers make decisions regarding outsourcing of tire and/or wheel maintenance. It offers guidelines for identifying appropriate roles, responsibilities, expectations, and exchange of information, as well as a method for measuring the benefit of outsourcing tire/wheel maintenance.	*RP 246A Consideration for Products Intended for Use Inside Tires. This RP offers guidelines regarding consideration of products intended for use inside of the tire/wheel assembly.
RP 237A	Retorquing Guidelines for Disc Wheels. — Offers guidelines regarding the need to retorque disc wheels following installation on a vehicle.	RP 247 Tire Radio Frequency Identification (RFID) Device Guidelines (Passive Tags) for Medium- and Heavy-Duty Truck Tires. — Provides guidelines for the use of passive radio frequency identification (RFID) tags attached to medium- and heavy-duty tubeless truck tires.
*RP 238B	Troubleshooting Disc Wheel Looseness. — Provides fleets with a logical approach to troubleshooting loose stud-piloted and hub-piloted disc wheels used on Class 6-8 commercial vehicles.	*RP 248A Guidelines for Tire Casing Data Marking in the Retread and/or Repair Process. — Offers tire casing marking guidelines for improving the availability of information on medium- and heavy-duty truck casing condition and/or history.
RP 239A	Commercial Vehicle Tire Inflation and/or Monitoring Systems Guidelines. — Covers current capabilities and basic operation of tire inflation and pressure monitoring systems. It is designed to help fleets select tire inflation and monitoring systems for commercial truck tires.	*RP 249A Safety Issues Related to the Use of Flammable Fluids During Tire Demounting. — Covers maintenance guidelines regarding the use of flammable fluids for the tire demounting process and how it impacts tire retreadability.
RP 240A	Steel Wheel and Rim Refinishing Guidelines. — Provides guidelines and inspection criteria for steel wheel and rim refinishing and for evaluating refinishing suppliers. It describes various types	RP 250 Effects of Extreme Temperatures on Wheel Torque and Clamp Load. — Provides fleet managers and tire technicians information about the effects of extreme ambient and wheel end temperature changes on wheel nut torque and clamping force. This RP applies to hub-piloted disc wheels in applications using 22 mm phosphate/oil-coated studs and organic-coated nuts.

RP 251 Irregular Wear In Low-Profile Metric Widebase Radial Tires Used In Trailer Service. — Describes the most likely causes of irregular tire wear for 50 and 55 series low-profile metric widebase radial tires used in trailer service—specifically, tire sizes 445/50R22.5 and 455/55R22.5.

RP 252 Troubleshooting Radial Tire Irregular Wear. — Offers guidelines and a diagnostic process to identify the root cause or causes of radial tire irregular wear patterns that may develop during the useful life of the tire. It also provides guidelines to correct these conditions and prevent future occurrences. This RP applies to radial tires used on Class 6-8 commercial vehicles.

RP 253 Usage Guidelines for Retreaded Steer Axle Tires. — Offers fleets guidelines for the appropriate use of retreaded tires on steer axles of medium- and heavy-duty trucks and tractors.

RP 254 Usage Guidelines for Repaired Steer Axle Tires. — Offers fleets and service providers basic repair guidelines and minimum repair specifications for steer axle tires used on medium- and heavy-duty trucks, buses and tractors.

RP 256 Inspection Criteria For Steel and Aluminum Wheel Corrosion and Pitting — Provides inspection criteria for steel and aluminum wheel corrosion or pitting on wheels used on Class 6-8 commercial vehicles. It describes various locations of wheel corrosion/pitting and when a wheel should be removed from service.

RP 257 Measuring Wheel End Assembly Runout — Provide fleets and service providers with a procedure and list of tools needed to check wheel end assembly runout at a service location. This procedure applies to steel or aluminum wheels used on Class 7-8 commercial vehicles.

RP 258 Tire and Wheel Maintenance Guidelines For Covered Farm Vehicles & Low Use/Special Mobile Equipment Highway Vehicles — Offers guidelines for maintaining tires and wheels used on covered farm vehicles and low-use/special mobile equipment highway vehicles.

RP 259 Maintenance Considerations For 6x2 Tractor Tires — Offers equipment users maintenance and operation guidelines for heavy-duty (Class 8) tractors equipped with a 6x2 configuration.

RP 260 Specification Considerations For 6x2 Tractor Tires — This RP offers guidelines for spec'ing heavy-duty (Class 8) 6x2 tractors so as to minimize the effect this configuration may have on tire service life, performance and operation.

*RP 261 Considerations for Aerodynamic Wheel Covers — Describes important operational, inspection and maintenance considerations associated with the use of aerodynamic wheel covers in linehaul operations. It does not address the use of cosmetic hub cover caps.

*RP 262 Guidelines for Jacking and Lifting Tractors and Trailers — Provides technicians with guidelines for properly lifting, jacking and supporting tractors and trailers with hydraulic jacks and jack stands. Addresses the general lifting procedures for Class 8 tractors and trailers, covering the basic guidelines for using jacks and jack stands using generally accepted lifting points.

*RP 263 Use of Scalloped/Star-Shaped Hubs for Disc Wheels — Provides OEMs and fleets guidelines when spec'ing disc brakes and inboard mounted drum brakes with hubs designed and manufactured with non-continuous, non-circular (e.g., scalloped, star-shaped, dented, or other) outer back-up diameter.

*RP 264 Lean Practices for Tire and Wheel Management — Provides fleet managers a basic introduction to Lean principles to use for lowering tire and wheel costs. This RP applies to Class 7-8 commercial vehicles.

ENGINE — S.3

RP 301D Maintaining Air Intake Systems — Covers maintenance and service procedures and discusses intake restriction for oil bath and dry element air cleaners and intake systems.

RP 302C Fleet Purchasing Specification for Low — Silicate, Ethylene Glycol — Base Antifreeze Engine Coolant Requiring SCAs — Lists minimum specifications for ethylene glycol coolant.

*RP 303D Silicone Coolant Hoses and Hose Assemblies — Covers straight or pre-formed hose or hose assemblies of a superior quality polysiloxane (silicone) type used in diesel or gasoline engine coolant systems between engines, radiators, and heaters. Hose and/or hose assemblies are to be used where ultra — long life is required or extreme temperature conditions are prevalent.

RP 304C Minimum Specifications for On-Highway No. 2-D Diesel Fuel — Lists minimum diesel fuel specifications for over — the road, heavy-duty, diesel-fueled vehicles.

RP 309B Preferred Fuel Specification — 2D and Glossary of Fuel Terms — Contains suggested and recommended guidelines describing better quality diesel fuel.

- RP 310A Water Ingestion Prevention — Discusses the consequences of water and salt (from rain and road deicing chemicals) entering heavy-duty vehicle air intake systems and gives methods to minimize the ingestion of water and road salt.
- RP 311A Cold Weather Operation — Discusses the proper methods to use to prepare a heavy-duty truck for cold weather operation (+40 to - 40°F). Topics covered include readying the following for cold weather operation: engine coolant; engine, transmission, and differential lubricants; hoses and clamps; air starters; batteries and cables; diesel fuel; coolant, intake manifold, and oil heaters; fuel heaters; and winterfronts and radiator shutters.
- RP 312B Qualifying Questions for Evaluating Aftermarket Diesel Fuel Additive Packages. — Provides a list of questions fleet maintenance managers should keep in mind when considering the use of diesel fuel additives.
- RP 313C Checklist for Cooling System Maintenance — This RP provides guidelines for cooling system maintenance.
- RP 317B Fuel/Water Separating Devices — Guides the fleet operator on how to best specify a fuel/water separating device.
- RP 318C Used Engine Oil Analysis — Discusses reasons for oil analysis, oil analysis laboratory selection, sampling procedures, and test results. An oil analysis glossary is included.
- RP 319B General Guidelines and Precautions On Supplemental Coolant Additives — Offers guidelines for the selection and use of supplemental coolant additives used to protect heavy-duty vehicles filled with conventional inorganic acid technology coolant.
- *RP 320D Inspection, Maintenance and Tension of Accessory Belt Drive Systems. — Provides fleet maintenance personnel with correct procedures for inspecting and maintaining accessory belt drive systems.
- RP 321 Fuel Crossover Line Protection and Configuration Guidelines — Designed to reduce the possibility of crossover line ruptures which may result in fuel spills which pose safety problems and contaminate road/right-of-way-surfaces leading to environmental clean-up and fines.
- RP 322B Coolant Pump Failure Modes and Life Extension — Contains information from a TMC fleet survey conducted by the Coolant Pump Failure Task Force, presentations made during Task Force meetings, and current Service Bulletins from various original equipment manufacturers (OEMs) and suppliers. This RP does not make suggestions about coolant pump design changes.
- RP 323A Aqueous Propylene Glycol Coolant Guidelines — Presents a general guideline for the comparison of propylene glycol-based coolants to ethylene glycol-based coolants in heavy-duty truck systems. Identifies some of the precautions and application considerations when switching to an aqueous propylene glycol-based coolant.
- RP 325 Radiator Integrity for On-Highway Trucks — Establishes time and mileage parameters, as well as service and maintenance characteristics for radiators in medium- and heavy-duty trucks used in on-highway service. It can serve as a guideline for OEM truck assembly and radiator manufacturers when designing cooling products for specific applications and help the end-user when purchasing new vehicles.
- RP 326 Recycling Engine Coolant — Describes the reasons why changing coolant is necessary and discusses the various processes used in on-site recycling equipment. Some considerations in deciding whether or not to recycle coolant on-site are given and a table is included for reference concerning various operational parameters and costs associated with the listed processes.
- *RP 327A Fan Drive Control Systems — Describes the control system for fan drives requiring the use of remote temperature sensing controls and override switches, and addresses maintenance and troubleshooting for such systems.
- RP 328A Fleet Purchasing Specification for Nitrite-Containing Supplemental Coolant Additives — Covers general, physical, chemical, and performance requirements for SCAs that are used for precharging and periodic servicing of coolants for use in heavy-duty engines. This includes SCA concentrates in liquid, solid, or slurry form.
- RP 329B Fleet Purchasing Specification for Nitrite-Containing Ethylene Glycol Base Coolant — Specifies requirements for concentrated and prediluted forms of fully-formulated ethylene glycol base antifreeze/coolant which does not require a precharge of supplemental coolant additives.
- RP 330A Fleet Purchasing Specification for Nitrite-Containing Propylene Glycol Base Coolant — Specifies requirements for fully-formulated propylene glycol base antifreeze/coolant which does not require a precharge of supplemental coolant additives.

RP 331A	Charge Air Cooler Design Guidelines — Designed to improve the design, maintenance, safety and performance of charge air coolers (CAC) while reducing CAC costs to equipment users.	*RP 343B	Charge Air Cooler Winterfront Application and Design Guidelines — Offers guidelines for design and selection of CAC winterfronts.
RP 332B	Guidelines For Hoses, Clamps, and Fittings For Cooling And Charge Air Cooler Systems — Offers guidelines for hoses clamps and fittings used on engine cooling and charge air cooler systems.	RP 344	Understanding Engine ECM Data — Offers information on interpreting and using engine data collected on-board vehicles.
RP 333A	Heat Exchanger Maintenance and Cleaning — Provides guidance concerning the exterior maintenance and cleaning of heat exchangers/cooling modules used in Class 6-8 vehicles. Heat exchangers/cooling modules are defined as the radiator, charge air cooler, condenser, oil-to-air cooler, recirculation shields, and associated mounting brackets and hardware.	RP 345B	Diesel Fuel Housekeeping Guidelines — This RP offers guidelines for maintaining diesel fuel storage and delivery infrastructure so as to ensure quality fuel.
*RP 334C	Determining Extended Oil Drain Intervals for Heavy-duty Diesel Engines — Helps equipment users determine extended oil drain intervals for diesel engines over 8.0L displacement.	*RP 346B	Accessory Belt Drive Pulley Standardization. — This proposed RP offers guidelines for standardizing accessory belt drive pulleys.
RP 335	Simplified Snap-Idle Acceleration Smoke Testing — Offers simplified, easy-to-understand instructions for conducting J1667 Snap-Idle Smoke Test Procedures.	RP 347	Fan Drive Maintenance and Troubleshooting — This RP offers guidelines on fan drive maintenance and diagnostics.
RP 336A	Aluminum Radiator Maintenance — Offers interior and exterior maintenance recommendations for aluminum radiators.	RP 348A	Coolant Hose Rating Factors — This RP covers guidelines for coolant hose ratings.
RP 337B	Determining the Validity of Low-Power Complaints. — Offers technicians and equipment users useful tips for determining the validity of low-power complaints for Class 7 & 8 vehicles.	RP 351	Guidelines for Color Standardization of Engine/Coolant Antifreeze — This RP offers guidelines for standardizing engine coolant color schemes.
RP 338A	Extended Service Interval Coolants — Describes new extended service interval (ESI) coolant technologies and addresses common technician concerns regarding ESI and traditional coolants.	RP 352	Fan Drive Design and Application Guidelines — Offers guidelines for fan drive design and application.
*RP 339A	Maintaining Fuel/Water Separators — Offers recommendations for maintaining fuel/water separators.	RP 353	Standard Fitting for Engine Coolant Handling — Offers standard fitting recommendations for engine coolant handling.
RP 341A	Diesel Fuel Additive Functionality Groups and Winter Operability Guidelines — Educates equipment users on the basic types and functions of diesel fuel additives. Also provides information on diesel fuel winter operability and how to perform a cost analysis of kerosene blending versus additive treatments.	RP 354	Fuel Economy Tracking Guidelines-This RP offers guidelines for tracking fuel economy in Class 7-8 vehicles.
RP 342	Guidelines for Recording Electronic Engine Parameter Changes — Offers security guidelines for keeping track of parameter changes for electronic engines.	RP 355A	Maintenance and Inspection Guidelines For OEM-Installed Exhaust Particulate Filters For Diesel-Powered Vehicles. — Describes the various types of original equipment diesel particulate filter (DPF) technology used on heavy-duty diesel-powered vehicles. Offers guidelines and information on DPF function, performance, diagnostics, maintenance, handling and cleaning.
		RP 356	Cold Flow Operability Of Diesel Fuel — Addresses cold flow operability issues pertaining to diesel fuel.
		RP 357	Biodiesel Blended Fuels — This RP provides fleets and suppliers with guidelines on the use of biodiesel blends B2 through B20. This RP offers definitions and terminology for biodiesel blends, as well as address biodiesel blend performance, industry standards, engine manufacturer warranties, tax incentives and existing position statements on the use of such fuels.

RP 358A	Charge Air Cooler Maintenance and Testing Guidelines — This RP offers maintenance and testing guidelines to maximize durability, maintainability, safety and performance of charge air coolers while reducing costs to the end user.	accurately determine what clutch engagement torque value is needed for satisfactory vehicle startability. This metric also can help vehicle manufacturers properly design drivelines that satisfy customer expectations for a given vehicle vocation.
RP 359	Qualifying Questions For Evaluation of Supplemental Engine Oil Filtration Systems—This RP is intended to provide a list of questions that fleet managers should consider when evaluating the use of supplemental engine oil filtration systems—commonly referred to as bypass or secondary filtration devices. This RP applies to supplemental filtration systems used on Class 7-8 commercial vehicles.	RP 367 Fuel Filters: Complaint, Cause & Correction. The purpose of this RP is to explore the various potential causes of short fuel filter life and offer fleet managers recommendations for troubleshooting and solving these problems. This RP applies to commercial vehicles with diesel engines.
RP 360	Diesel Exhaust Fluid Guidelines—The purpose of this RP is to educate equipment users on selective catalytic reduction (SCR) technology and its use of diesel exhaust fluid (DEF). This RP will provide definitions and terminology of SCR systems, and offer guidelines on DEF storage and handling.	RP 370 Natural Gas Vehicle Specification and Implementation Guidelines — This RP offers guidelines for specifying and implementing engines using either compressed or liquefied natural gas as its primary fuel.
*RP 361A	EGR Cooler Diagnosis and Cleaning. This RP offers guidelines for the cleaning and troubleshooting of exhaust gas recirculation (EGR) coolers used on Class 6-8 diesel-powered commercial vehicles.	*RP 371 Natural Gas Vehicle Inspection and Maintenance Guidelines — This Recommended Practice (RP) offers guidelines for maintaining vehicles with engines using either compressed or liquefied natural gas as its primary fuel. For guidelines on specifying and implementing natural gas vehicles, see TMC RP 370, Natural Gas Vehicle Specification and Implementation Guidelines.
RP 362	Guidelines for Used Coolant Analysis of Heavy-Duty Vehicles. This RP provides guidelines for cooling system sampling procedures, commonly run field and laboratory tests, and warning/condemnation limits for used engine coolants. It applies to Class 7-8 commercial vehicles.	*RP 372 Diesel Exhaust Fluid Tank Design Guidelines — This RP provides performance guidelines for the design of diesel exhaust fluid (DEF) tanks, caps, filters, heaters and vents used onboard medium- and heavy-duty commercial vehicles.
RP 363	Underhood Thermal Event Prevention. This RP addresses recommendations for preventing underhood vehicle fires.	CAB & CONTROLS — S.4
RP 364	Fleet Purchasing Specification for Organic Acid Technology Extended Life Coolant. This RP provides a fleet purchasing specification for organic acid technology (OAT) extended life coolants for heavy-duty vehicles.	RP 401B Location and Operation of Instruments and Controls in Motor Truck Cabs — A recommendation to help avoid confusion when drivers shift from one truck to another; to promote safety and convenience; and to simplify design, production, and servicing.
RP 365	Coolant Maintenance Guidelines. This RP offers guidelines for identifying various types of heavy-duty aqueous coolants and ensuring proper quality of each type of aqueous coolant to protect the entire cooling system.	*RP 402A Windshield Washer Anti-Freeze and Cleaner Specification — Covers the general characteristics and performance requirements of windshield washer antifreeze products used for cleaning automotive windshields.
RP 366	Standardized Clutch Engagement Torque Requirements. This RP provides a test procedure for measuring clutch engagement torque of commercial medium- and heavy-duty diesel engines in a test cell environment. It helps the user	RP 403A Placement of Safety Equipment — Establishes guidelines for vehicle manufacturers to determine proper locations for the placement of safety equipment in their model truck cabs.
		RP 404B Truck and Truck-Tractor Access Systems — Gives recommendations allowing anyone entering or exiting a cab to have three limbs in contact with the truck or tractor at any time.

RP 405B Windshield Washer System Performance Recommendations. This RP establishes minimum performance requirements and test procedure for windshield washers used in heavier gross weight vehicles with a service life potential of 500,000 miles (804,500 km).

RP 406C Windshield Wiper System Performance Recommendations. This Recommended Practice covers minimum performance requirements and test procedures for windshield wiper systems used on heavy-duty vehicles that have a potential service life of 500,000 miles.

*RP 407B Defrosting, Defogging, And Heating Performance Requirements For Truck Cabs With And Without Sleepers. — Lists minimum requirements for defrosting, defogging, and heating of truck cabs for improved driver environment and visibility.

RP 408A Dash and Sleeper Heater and/or Air Conditioner Blower Motor Accessibility. This RP covers the minimum accessibility requirements for dash and sleeper heater and/or air conditioner blower motors. It should be considered by vehicle original equipment manufacturers (OEMs) and heater and air conditioner component suppliers on any new or revised designs.

RP 409A Maintenance of Wiping Quality of Wiper Blades. This RP covers steps to be taken to maintain an acceptable quality of wiping by the wiper blade.

RP 410B Seat Belt Assembly, Inspection, and Maintenance Procedures — Provides a formal procedure and checklist for inspecting and maintaining heavy-duty vehicle seat belt assemblies.

RP 411A Vehicle Surface Preparation for Painting — Provides information to help commercial vehicle operators properly prepare vehicles for painting. This Recommended Practice may be used to ensure that painting service suppliers also properly prepare vehicles prior to painting.

RP 412A Air Pressure Wiper System Recommendations for Consideration in Future Designs — Addresses wipe area, wiper motor interchangeability, unitized wiper set, wiper component accessibility, motor oiler, and minimum pressure for the design of air-operated wiper systems.

RP 413A Heavy-duty In-Cab Air Conditioners, Refrigerant-12 Systems — Establishes recommendations on the maintenance of air conditioning equipment which are intended to specify equipment capable of meeting the durability requirements of over-the-highway vehicles and

to minimize maintenance costs. Provides unit descriptions, and installation and preventive maintenance procedures for heavy-duty in-cab air conditioning systems.

RP 414B Truck Cab Air Conditioner Specification Guidelines. This RP is designed to help industry professionals reduce heavy-duty truck air conditioner problems through better specifications when purchasing and designing new vehicles.

RP 415A Selecting Painting Systems for Commercial Vehicles — Provides information to help commercial vehicle operators select among the various paint systems available, both as originally specified on new vehicles and for refinishing used vehicles.

RP 416A Questions to Ask When Selecting a Commercial Vehicle Refinisher — The complexity of new paint systems, as well as environmental and health concerns, makes the selection of a commercial vehicle refinishing vendor more difficult than ever. This Recommended Practice provides the commercial vehicle operator with a list of questions to consider to aid in proper selection of a vehicle refinisher.

RP 417A Supporting Pneumatic/Electrical Lines Between Cab and Trailer — This Recommended Practice serves as an industry guide to performance requirements, applicable regulations, and proper means of support for pneumatic/electrical service hoses between the tractor cab and trailer.

RP 418A Heavy-Duty In-Cab R-134A Air Conditioning Systems. This RP offers guidelines for specifying cab air conditioning systems for commercial vehicles.

RP 419 Heater Performance Requirements for Truck Cabs — This Recommended Practice provides heater system performance parameters that will achieve driver comfort in cold weather driving conditions. This Recommended Practice covers all Class 6, 7, and 8 powered vehicles. It shall apply at an ambient temperature of 0°F.

RP 420B Minimum Service Life Requirements for Heavy-duty HVAC Cab Controls — Establishes minimum service life requirements for heating, ventilation, and air conditioning (HVAC) systems in heavy-duty commercial vehicles that are acceptable to equipment users.

RP 421 In-Cab Air Conditioning Retrofit Procedure — Establishes a retrofitting procedure for fleets wishing to retrofit R-12 A/C systems to R-134a or other alternative refrigerants.

*RP 422B	Cab Insulation Testing Methodology — Establishes test procedures for determining heat or thermal transmission rates of heavy-duty vehicle driver and sleeper cabins. Also establishes rating method for heat/thermal transmission.	RP 436B	Air Conditioning System Performance Requirements for Truck Cabs With and Without Sleepers. — This RP offers recommendations for HVAC performance and testing criteria for Class 7-8 commercial vehicles.
RP 423	Color Coding of Air Brake Systems — Establishes recommendations for standardized color-coding of air brake systems.	RP 437	Guidelines for Truck Stop Electrification Interface—This RP offers guidelines for the interface between vehicle and truckstop electrification systems.
RP 424	Door Hardware Performance Requirements — This RP establishes minimum performance standards for tractor door hardware.	RP 438A	Engine Off HVAC Performance Requirements For Truck Cabs Without Sleepers — This RP establishes performance requirements for engine-off HVAC systems in order to achieve driver thermal comfort in both winter or summer rest periods.
RP 425	Mirror Positioning and Aiming — This RP offers guidelines on cab mirror positioning and aiming.	*RP 439A	Minimum Performance Criteria for Auxiliary Power Units (APUs) and Gensets — This RP establishes minimum performance criteria for auxiliary power units (APUs) and generator sets (gensets) used on Class 6-8 day-cab and sleeper-equipped tractors operated within an ambient temperature range of -10°F to 120°F (-23 °C to 43°C).
RP 426A	Service Guidelines for Occupant Restraints — This RP offers recommendations on servicing and maintaining heavy-duty vehicle occupant restraints.	RP 440	Seat Base Installation Standardization. — Establishes a common seat mounting interface zone for commercial vehicle cabs. Defines a minimum spacing for fastener locations in the truck floor within that zone, as well as separate zones for seatbelt anchorages. Also recommends air supply and electrical connection locations to avoid interference with mechanical interfaces. This RP is applicable to all Class 7 and 8 vehicles.
RP 428A	Guidelines For Vision Devices. The purpose of this RP is to specify minimum driver vision requirements, and suggest various means of achieving these requirements. Although this document was developed specifically for tractor-trailer combination vehicles, it applies to all commercial vehicles.	RP 441A	Electrified A/C System Performance Specifications, Requirements, and Testing Criteria For Hybrid/Electric, All-Electric and Conventional Trucks — Offers guidelines for selecting an electrified A/C system by means of a standardized test used to compare factory-installed systems.
RP 429	Windshield Replacement and Repair — This RP offers guidelines on windshield replacement and repair.	RP 443	In-Cab Cleaning and Deodorizing Guidelines. The purpose of this RP is to offer guidelines for the in-cab cleaning and deodorizing of commercial vehicles. It is meant to provide information on the benefits of establishing a proper vehicle interior cleaning program. It is not intended to endorse any single method or chemistry. This document applies to all commercial vehicles.
RP 430A	Guidelines for Collision Warning Devices. This RP offers guidelines for specifying collision warning devices.	RP 444	Standardization of Speedometer and Tachometer Signals — Establishes a standard vehicle and engine speed signal and frequency that can be used by any electronic device on a heavy-duty vehicle requiring knowledge of speed/distance or engine revolution information. (Formerly RP 123A)
RP 431A	Guidelines for Electrical Cab Power Points — This RP offers guidelines for specifying electrical cab power points.		
RP 432B	Engine Off HVAC Performance Requirements For Truck Cabs With Sleepers — This RP establishes performance requirements for engine-off heating, ventilation, and air conditioning (HVAC) systems in order to achieve driver thermal comfort in both winter or summer rest periods.		
RP 433	Truck Washing and Cleaning Guidelines — This RP offers guidelines for truck washing and cleaning.		
RP 434	Cab And Sleeper Insulation Efficiency Guidelines—This RP offers recommendations for cab and sleeper insulation.		
RP 435	Installation and Inspection Guidelines for Pneumatic and Electrical Tractor-Trailer Hookup Lines—This RP offers installation and inspection guidelines for tractor-trailer connectors.		

FLEET MAINTENANCE MANAGEMENT — S.5

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- RP 503B Standardization of Training Aid Materials — Provides a training aid format guideline for automotive manufacturers to adhere to when producing audiovisual training aids.
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- RP 510A New Facility Development — Designed to help fleet managers plan for future maintenance facility requirements that adequately support their business plans.
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- RP 511 Refrigerant Recovery — Establishes recommendations for the use of mobile air conditioning refrigerant recovery and recycling equipment, and for certification of technicians who use the equipment when servicing these systems.
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- RP 512A Mechanic Staffing Determination — Provides a basic formula to calculate the number of mechanics required to adequately staff a heavy-vehicle maintenance shop. The formula can be utilized with manual (paper) records or computerized data. If no history is available, maintenance information can be obtained from vehicle manufacturers.
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- RP 513 Estimating Number of Service Bays — Intended to assist fleets that are planning new maintenance shop facilities by giving an analytical methodology for estimating the number of service bays required in the new facility. Covers general maintenance shop facilities for all classes of vehicles.
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- RP 515 Maintenance Shop Design Considerations — Intended to assist fleets who are planning new maintenance shop facilities. It provides a list of critical elements that should be considered in the design.
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- RP 516A Technician Training: A Model for Training Program Planners — Presents a guideline for the maintenance shop manager to use in preparing a training program for service technicians. It explains factors for consideration in developing a performance-based training program — whether the program is developed internally or provided by outside suppliers.
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- RP 517 Managing Environmental Compliance — Designed to provide guidance in a program for managing environmental compliance. Compliance involves satisfying regulatory bodies at the federal, state, and local levels. This RP is limited to providing guidance on compliance education/training, self-audits, and recordkeeping. It does not cover regulatory requirements of the U.S. Department of Transportation (DOT).
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- RP 518A Fuel Station Planning. — Provides fleet managers guidelines when working with design professionals in designing fueling stations.
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- RP 519 Recommendations for an Employee Performance Evaluation Program — Provides fleet managers with a basic set of forms and instructions for the assessment and evaluation of maintenance and support personnel. The reader must realize this RP offers general guidelines only. A complete evaluation system must be structured to each operation.
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- RP 520 A/C System Refrigerant Flushing — Covers flushing material, equipment and procedures for flushing both CFC (R-12) and HFC (R-134a) charged vehicle cab A/C systems in service, repair or retrofit operations.
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- RP 521 Cost Items Needed to Determine a Fully Burdened Technician Labor Rate — Identifies items that should be used to determine fully burdened labor rates.
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- RP 522 Survey Development Guidelines — This RP offers recommendations for developing and administering surveys.
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- RP 524 Advisory Annotation Guidelines — This RP offers recommendations for standardizing definitions for advisory annotation terms, such as “danger,” “warning,” etc.
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- RP 525 ISO 9002 Certification Considerations — This RP offers guidelines for fleets considering ISO 9002 certification.
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- RP 526 Guidelines for Shop Review Practices — This RP offers guidelines for shop review procedures.
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- RP 527A Vendor Selection Guidelines for Towing and Recovery — This RP offers guidelines for selecting towing and recovery vendors.
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- RP 528 Technician Certification Program Guidelines — This RP offers guidelines for establishing an in-house fleet technician certification program.
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- *RP 529 Key Performance Indicators For a Maintenance Cost-Per-Mile Metric — Offers fleet executives key performance indicators (KPIs) for developing and implementing a maintenance cost-per-mile (CPM) metric for its use in calculating total fleet operational costs.
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- RP 530 Fleet Guidelines for Parts Purchasing-This RP offers guidelines on parts purchasing.
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- RP 531 Parts Inventory Management Guidelines-This RP offers guidelines for parts inventory management.

RP 532	Model Year Introduction Guidelines — Offers guidelines for standardizing model year introductions of vehicles.
RP 534	Guidelines For Determining Vehicle Lift Productivity Efficiencies — Offers guidelines for determining the productivity efficiencies of vehicle lifts in a maintenance shop.
RP 536	Guidelines for Technician Exposure to Road Deicing Chemicals. — Offers protective guidelines to technicians who may come in contact with road deicing chemicals during the course of vehicle maintenance.
RP 537	Disaster Recovery Guidelines for Vehicle Maintenance Operations. — Offers guidelines for developing a disaster recovery plan covering pre-evaluation, planning, and duty assignment of assets, property and personnel.
RP 538	Quality Shop Process Improvement. — Provides basic guidelines for implementing a process by which shop efficiency and productivity can be continuously improved.
RP 539	Workflow Practices and Metrics For Unscheduled Repair Events — Establishes standard workflow procedures and practices for addressing unscheduled repair events involving commercial vehicles.
RP 540	Proper Pilot Review Guidelines — This RP offers guidelines for conducting a proper pilot review tractors, straight trucks, trailers, and a variety of other trucking industry equipment.
RP 541	Heavy-duty Vehicle Chassis Dynamometer Test Procedure — Provides a standard procedure for chassis dynamometer testing of heavy-duty vehicles for the purpose of determining power delivered through the drive tires. It also provides a method for correcting observed power to reference test conditions and explains how to analyze test data. (Formerly RP 1205.)
RP 542	Maintenance Facility Development Guidelines For Natural Gas Vehicles — Offers design and retrofit guidelines for new or existing maintenance facilities used to service natural gas vehicles fueled by compressed natural gas (CNG) or liquefied natural gas (LNG).
*RP 543	Guidelines for Lockout/Tagout Procedures — Offers guidelines for developing lockout/tagout (LOTO) practices to help maintenance personnel meet/comply with safety regulations issued by the U.S. Occupational Safety and Health Administration (OSHA). Applies to Class 2-8 commercial vehicles.

CHASSIS AND BRAKE SYSTEMS — S.6

RP 602B	Recovery Attachment Points for Trucks, Tractors, and Combination Vehicles — Helps recovery professionals reduce the time necessary to recover vehicles from their immediate location of disablement, and avoid further damaging the vehicle during the recovery process. Establishes the performance objectives of recovery attachment points. It is directed at Class 6-8 on- and on-off highway trucks, truck tractors, and tractor-trailer combinations (both conventional and cab-over configurations). For recommendations on long-term towing of disabled or wrecked vehicles see TMC RP 626, “Heavy-duty Truck Towing Procedures.”
RP 603C	Fifth Wheel Mounting — Aftermarket — Provides information to assist in the safe installation of heavy-duty vehicle aftermarket stationary and sliding fifth wheels.
RP 604C	Brake Chambers for Air-Braked Vehicles. This RP is intended to familiarize users with the installation, maintenance, and safety procedures associated with diaphragm and spring brake chambers for air braked vehicles. It covers all on-highway trucks, tractors, or trailers using air brakes and equipped with service chambers or spring parking brakes.
RP 605B	Reconditioning Brake Shoes. — This RP sets recommendations for brake shoe reconditioning specifications that will ensure consistent performance required for a balanced brake system. It covers drum brake stamped steel shoes used on Class 7-8 commercial vehicles.
RP 606B	Brake Relining Procedures.— This RP covers legal marking requirements for drum brake linings air disc brake pads, and explains these markings. It also covers shoe/lining assembly and related procedures as they apply to heavy-duty commercial vehicles.
*RP 607C	Service and Inspection of S-Cam Brake Systems — Serves as a thorough guide for the inspection and servicing of all heavy-duty S-cam air brake system components. Identifies all appropriate brake system nomenclature and explains how each component interacts to ensure maximum braking performance. RP 608B Brake Drums and Rotors.— This RP covers installation, maintenance, and safety procedures associated with spoke wheel and hub-mounted drums and rotors used on heavy-duty vehicles.
RP 609C	Self-Adjusting and Manual Brake Adjuster Removal, Installation and Maintenance. — Provides

	information regarding the removal, installation, operation, maintenance, and selection of heavy-duty vehicle manual and self-adjusting brake adjusters.		
RP 610B	Driveline Design Criteria. The purpose of this RP is to provide workable guidelines for the evaluation of driveline designs and installations on Class 7-8 commercial vehicles. Adherence to these recommendations should provide satisfactory truck driveline performance.	RP 621	Specifications/Communications — Tries to identify and clarify specification communication among component suppliers, equipment users, and manufacturers by providing step-by-step guidelines for improving communications and establishing the necessary procedures to ensure that equipment users will get the options they specify.
RP 611	Driveline Maintenance Guidelines — Provides maintenance guidelines for drivelines. Adherence to these guidelines should provide satisfactory truck driveline performance.	RP 622A	Wheel Seal and Bearing Removal, Installation, and Maintenance — Defines practices and procedures to perform a wheel seal replacement that meets fleet performance requirements. Also includes procedures and standards for storage, handling, and installation of wheel seals and wheel bearings for heavy-duty vehicles.
RP 612B	Pneumatic Brake Balance — Provides general guidelines for brake balance on tractors, trailers, and combination vehicles.	RP 623A	Uniform Diagnostics Guide for Heavy-duty Vehicle Power Steering Systems — Provides a uniform method of diagnosing heavy-duty truck and truck tractor power steering complaints and gives the maintenance technician general advice concerning the diagnosis and correction of commercial vehicle steering related problems.
RP 613	Brake System Torque Balance Test Procedure — Provides a method to determine the brake system torque balance for commercial vehicles.	RP 624A	Lubricant Fundamentals. — Offers general information on the fundamentals of chassis-related lubricants.
RP 614	Air Brake (Nylon Reinforced) Tubing & Fittings — Covers minimum requirements for fleet maintenance of air brake connections utilizing fractional inch nonmetallic tubing. Included are dimensional, performance, and identification requirements and specifications.	RP 625A	Brake Drum and Lining Compatibility — Offers maintenance and inspection guidelines to promote brake drum and lining compatibility on Class 7-8 vehicles equipped with S-cam air brakes.
RP 615	Hose Fitting Standard — Lists complete standards for SAE 45° flare seat fittings in sizes -4 through -12 and SAE 37° flare seat fittings in sizes -16 and above.	RP 626A	Heavy-duty Truck Towing Procedures — Provides guidelines for equipment usage and to acquaint the tow truck operator with the general phases involved in heavy-duty truck towing. This should not be considered as a comprehensive guide to truck towing and recovery, but rather as a brief introduction to some of the problems involved.
RP 616A	Uniform Labeling of Air Brake Valves. — Provides a means of identifying vehicle air brake system components with performance (input-output) characteristics. Applies to air brake system valves used to control the vehicle service brakes on heavy-duty commercial vehicles.	RP 627A	Brake Lining Structural Defects. This RP helps equipment users identify structural defects in brake linings and classify them into either an “out-of-service” category-as defined by the CVSA North American Uniform Out-of-Service Criteria-or an “in-service” category which permits continued vehicle operation.
RP 617A	Contaminant Elimination Procedure for Tractor, Trailer or Dolly Air Brake Systems — Offers a procedure for eliminating contaminants from air brake systems.	RP 628B	Aftermarket Brake Lining Classification — This Recommended Practice provides information on judging the performance of aftermarket brake linings on 16.5 x 7-inch brakes when tested to the federally mandated, original equipment dynamometer test procedure contained in Federal Motor Vehicle Safety Standard 121.
RP 618B	Wheel Bearing Adjustment Procedure — This RP offers a procedure to achieve a verifiable wheel bearing end play of 0.001-0.005 inch (0.025-0.127 mm) for steer, drive, and trailer axle assemblies using conventional double-nut or single-nut systems.		
RP 619B	Air System Inspection Procedure. This RP provides guidelines for inspecting air systems used on air-braked commercial vehicles.		

RP 629A	Brake Lining Contamination — This RP identifies grease- and oil-contaminated lining conditions and provide guidelines for lining evaluation caused by such contamination.	recommendations for maintaining proper adjustment of air ride suspensions. It also describes procedures for adjusting air ride suspension ride height and recommends that manufacturers clearly label correct ride height settings on the vehicle.
RP 630A	Air Compressor Diagnosing For Excessive Oil Consumption — This RP offers guidelines for troubleshooting excessive oil consumption in air compressors.	
RP 631B	Recommendations for Wheel End Lubrication. This RP offers recommendations and operational considerations for selecting, inspecting and using lubricants in wheel end applications in Class 3-8 trucks, buses, tractors and trailers.	
RP 632	Matching Air Brake Systems — Addresses vehicles with braking systems manufactured in accordance with Federal Motor Vehicle Safety Standard (FMVSS) 121 Docket 90-3. Specifically, it outlines some of the issues that could be encountered in vehicle combinations, where both pre- and post-Docket 90-3 vehicles are operated. It recommends maintenance practices for existing vehicles and specification details for new vehicles that will enhance the brake performance of combination vehicles. Identifies and addresses potential problems in mixing vehicles and brake systems manufactured pre- and post-Docket 90-3. It also advises fleet operators of the maintenance practices to be adopted for existing vehicles and to inform them regarding the specification and installation of braking equipment for new vehicles, so as to minimize any negative impacts of FMVSS 121 Docket 90-3 on vehicle operation.	
RP 633	Effects of Drivetrain Torsionals — Informs fleet managers of a number of drivetrain torsional issues that must be considered when specifying drivetrains. Presents a hierarchy of high risk vehicle configurations and usages, lists the specific failure modes that are attributable to drivetrain torsionals, and suggests specific corrective actions that will result in enhanced durability and driver comfort levels. This RP is designed to supplement the information contained in TMC RP 610A, “Driveline Design Criteria.” The first two sections of this RP alert users of the potential problems associated with some of today’s vehicle configurations. The third section offers solutions to the identified problems.	
RP 634A	Ride Height Concerns and Adjustment Procedures for Truck/Tractor Air Ride Suspensions.— This RP points out the potential problems caused by improper ride height and provides	
RP 635A	Long Stroke Brake Chambers — Provides fleets information on the use of long stroke brake chambers.	
RP 636A	Specifying Auxiliary Retarders. — This RP offers spec’ing recommendations for auxiliary retarders used on Class 7-8 tractor-trailers and trucks.	
RP 637	Tractor Air Dryer Guidelines — Offers recommendations for spec’ing, installing and maintaining tractor air dryers.	
RP 638A	Heavy-Duty Clutch Maintenance Guidelines.— Provides information for the proper maintenance of heavy-duty clutches, including troubleshooting, installation and removal guidelines.	
RP 639A	Spec’ing Heavy-Duty Clutches. — The purpose of this RP is to provide information for the proper spec’ing of heavy-duty clutches.	
*RP 640C	Alternate Wheel Bearing Adjustment Systems — This RP offers information on alternate wheel bearing adjustment systems.	
RP 641A	Maintenance Guidelines for Hydraulically Actuated Clutches. — This RP offers guidelines for maintaining hydraulically activated clutches.	
RP 642B	Total Vehicle Alignment: Recommendations for Maximizing Tire and Alignment-Related Component Life — Offers comprehensive alignment guidelines for medium- and heavy-duty vehicles.	
RP 643A	Air-Ride Suspension Maintenance Guidelines — This RP offers maintenance guidelines for air-ride suspension systems used on tractor chassis.	
RP 644A	Wheel End Conditions Analysis Guide — This RP offers guideline on wheel end conditions and how to identify them.	
RP 645	Tie Rod Inspection and Maintenance Procedure — This RP offers guidelines on tie rod inspection and maintenance.	
RP 646	Driveline Fastener Preventive Maintenance — This RP offers guidelines on driveline fastener preventive maintenance.	
RP 647	Guidelines for Care and Use of Onboard Lubrication Systems — This RP offers guidelines for care and use of onboard lubrication systems.	

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- RP 648 Troubleshooting Ride Complaints — Offers a comprehensive guideline to diagnosing ride complaints in heavy-duty tractors and trucks.
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- RP 649 Diagnostic Guidelines for Performance-Based Brake Testing — Offers troubleshooting guidelines for vehicles following unsuccessful testing using a performance-based brake tester.
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- RP 650 Guidelines for Fifth Wheel Pre-Delivery Inspection, Preventive Maintenance and Troubleshooting — This RP offers guidelines for fifth wheel pre-delivery, inspection, PM and troubleshooting.
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- RP 651A Steer Axle Maintenance Guidelines — This RP establishes guidelines for the maintenance and inspection of non-driven, steer axle systems and suspensions and associated components.
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- RP 652 Service and Inspection of Air Disc Brakes — This RP offers guidelines on service and inspection of air disc brakes.
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- RP 653 Fifth Wheel Coupling And Uncoupling Guidelines — This RP offers guidelines on fifth wheel coupling and uncoupling.
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- RP 654 Torque Rod Selection and OEM Installation Guidelines for On-Highway Vehicles — This RP offers guidelines for torque rod selection and OEM installation.
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- RP 655A Drive Axle Maintenance Guidelines — This RP offers guidelines for drive axle nomenclature, maintenance practices and procedures.
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- RP 656 Hub and Spoke Wheel Fastener Maintenance — Offers guidelines on hub and spoke wheel fastener maintenance.
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- RP 657 Heavy-Duty Drivetrain Specification Guidelines — Helps fleet managers effectively and accurately specify an entire drivetrain used on a Class 6-8 on-highway vehicle. Provides the definitions and formulas necessary to specify a truck-tractor drivetrain that will meet the equipment user's performance expectations for the vocation and conditions desired. This RP is intended to supplement truck and component manufacturers' procedures and guidelines for designing and specifying drivetrains.
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- RP 658 Target Deceleration Value Guidelines for Performance-Based Brake Testers — Provides target deceleration value guidelines for performance-based brake testers (PBBTs) used in fleet maintenance programs. It also provides information about the type of tests that can be performed and the differences that exist among the various types of PBBTs.

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- RP 659 Air Release Fifth Wheel Function Guidelines — Provides a standard guideline for the installation and operation of in-cab, air-release fifth wheels to ensure maximum safety and optimum performance. Covers all on-highway commercial vehicles equipped with in-cab, air-release fifth wheels in both new and aftermarket applications.
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- RP 660 Tractor Crossmember Specifications for Pintle Hook Applications — Offers specification guidelines that standardize tractor rear crossmembers for the purposes of installing pintle hook connections. Provides recommended specifications for the rear crossmember itself, crossmember bracing, attachment locations for safety chains and air/electrical connection locations. This RP applies to Class 7-8 tractors used for on-highway towing of converter dollies.
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- RP 661 Considerations for Use of Outset Wide-Base Wheels on Drive, Trailer, and Auxiliary Axles. — Provides guidelines for selecting, specifying and inspecting wide-base tires/wheels for drive, trailer, and auxiliary axles. The scope of this RP is limited to wide-base outset wheels on drive, trailer, and auxiliary (e.g. dolly, tag, or pusher) axle applications. This RP does not cover singled inset (dual-type) wheels.

TRAILERS, BODIES AND MATERIAL HANDLING — S.7

- RP 701 Mud Flap Mounting Brackets and Drilling Pattern — Diagrams mud flap mounting brackets and mud flap drilling pattern for mud flap installation.
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- RP 702C Trailer Lamp and Reflector Placement — Covers lamp and reflector replacement on all van, open top, reefer, platform, pole, convertible side, grain and dump trailers, and tankers.
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- RP 703C Electrical and Gladhand Connector Placement. — This RP offers guidelines for electrical and gladhand connector placement and is intended to serve as a means of increasing efficiency and personnel safety.
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- RP 704C Heavy-Duty Lighting Systems for Trailers. — Helps equipment purchasers specify a safe and effective heavy-duty trailer lighting system that is low-maintenance, durable, and corrosion-free for a minimum service life of 12 years. This service life interval should apply to the integrity of all system connectors, wiring and support components.
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- RP 705A Standard Trailer Landing Gear Mounting Pattern — Provides a template to produce a standard trailer-mounting bracket to which all models of landing gear can be applied, using a standard 5/8-inch hole for mounting.

RP 707A	Rear Bumper Dimensions — Standardizes ICC bumper dimensions.	RP 721A	Practices for Safe Maneuvering of Converter Dollies. This RP offers guidelines for safe maneuvering of converter dollies.
RP 708C	Trailer Axle Alignment. This RP provides equipment users with guidance on performing trailer axle alignment.	RP 722	Large Vehicle Conspicuity Markings — Establishes the minimum design, configuration, and dimensional criteria for reflective marking systems to improve the night conspicuity of large vehicles.
RP 709	Hubcap Standardization: Bolt-on Type-Diagrams the Type I and Type II bolt-on hubcap, two types recommended for use on trailer axle hubs.	RP 723A	12-Year Life Domestic Laminated Hardwood Flooring For Dry Freight Van Trailers — Designed to assist in the writing of specifications for domestic laminated hardwood flooring which will provide 12 years of useful service. Addresses preparation, construction, and finishing of the wood component only, and does not address the floor as a structural system within the dry freight van.
RP 710A	Overhead Door Selection, Installation, and Maintenance for a Dry-Van or Body. This RP offers guidelines for selection, installation and maintenance of overhead doors used on dry-van trailers or bodies.	RP 724	Fiberglass Reinforced Plywood (FRP) Construction Specifications — Intended to provide minimum standards for fleet operators purchasing fiberglass reinforced plywood (FRP) trailers and van bodies. It is also intended to inform fleet operators of the availability of various FRP options. It considers the structural components of FRP trailers and van bodies as a total system. Specifications considered include plywood core and fiberglass thickness and construction, fiberglass finish coats, scuff liners, bottom side rails, fasteners, and moisture protection.
RP 711	12-Year Life Swing-Type Dry Freight Van Trailer Doors — Gives manufacturing specifications for dry freight van trailer swing (hinged) doors, which will provide 12 years of useful service with routine maintenance that includes repair or replacement of door gaskets.	RP 725	FRP Panel Maintenance and Repair — Designed to serve as a guide for the proper care, maintenance and repair of fiberglass reinforced plastic (FRP) panels used in the trucking industry.
RP 713B	Procedure for Hooking Double Trailers — Gives steps to properly hitch doubles with one person.	RP 727	Liftgate Specifications and Installation — Designed to assist equipment users in specifying rear- or side-mounted, hydraulic liftgates. It covers liftgates used on straight trucks and combination vehicles. It addresses proper equipment identification, proper vehicle specification and liftgate installation, and proper identification of liftgate operating specifications (i.e., number of performance cycles, driving [recharge] time, proper power supply, etc.)
RP 714	Piggy-Back Trailers — Gives names of four Truck Trailer Manufacturers Association Recommended Practices that assist in specifying piggy-back options for trailers.	RP 728	Trailer Axle Maintenance — Offers guidance on improving the efficiency and performance of trailer axle equipment and its maintenance. It specifically covers welding hardware to axles, installing axles and associated components, inspecting axles and associated components, and lubricating axle components.
RP 716	Kingpin and Upper Coupler Requirements for Trailers — Gives kingpin and upper coupler requirements for trailers when specified for TOFC service.	RP 729	Trailer Fastener Specification — Offers fleets guidance on trailer fastener specification.
RP 717B	Guidelines For Infrared Thermographic Testing Of Refrigerated Trailers — The purpose of infrared thermography is to scan or inspect insulated trailers or truck bodies for localized insulation abnormalities and/or voids in wall cavities and air infiltration/exfiltration at the doors or other openings. This RP offers guidelines on the use of this technology as it applies to insulated trailers and truck bodies.		
RP 718B	Method for Classification of Controlled Temperature Vehicles. — Establishes a method for classifying controlled temperature vehicles and domestic containers (hereafter referred to as vehicles). Applies to vehicles equipped with temperature control devices and covers only new vehicles.		
RP 720	Emergency Contaminant Removal From a Refrigeration Unit — Establishes a process for cleaning trailer reefer systems that have become contaminated internally, i.e., loss of refrigerant coupled with system contamination from dirt and moisture.		

RP 730	Air Line Antifreeze Recommendations for Trailer Air Brake Systems — Offers fleets guidance on the use of air line antifreeze for trailer air brake systems.	RP 744	Pintle Hook Maintenance Guidelines — This RP offers maintenance guidelines for pintle hooks.
RP 731A	Lube Free Coupling Guidelines — Offers guidelines for lube-free tractor-trailer coupling systems.	RP 745A	Inspection And Maintenance Guidelines For Cargo Securement Systems Used With Van-Type Trailers And Truck Bodies — This RP offers inspection and maintenance guidelines for cargo securement systems used on van-type trailers and bodies.
RP 732	Trailer Rear Impact Guard Repair Guidelines — This RP offers repair guidelines for trailer rear impact guards.	RP 746	Drawbar Length Considerations-This RP offers guidelines for drawbar length.
RP 733	Liftgate Preventive Maintenance Inspection — This RP offers guidelines for liftgate preventive maintenance and inspection.	RP 747	Drawbar Eye Maintenance Guidelines-This RP offers guidelines on drawbar eye maintenance.
RP 734A	Spec'ing Guidelines for Minimizing Van Moisture Contamination. — This RP addresses moisture contamination in van trailers caused by external sources and internal condensation.	RP 748	Trailer Refrigeration Unit Preventive Maintenance Inspection Guidelines — This RP offers preventive maintenance inspection guidelines for trailer refrigeration units.
RP 735	Battery Recommendations for Engine Powered Material Handling Vehicles — Provides nine recommendations and standards to minimize battery problems in material handling vehicles.	RP 749	Composite Van Trailer Repairs — This RP offers guidelines for repairing composite van trailers.
RP 736	Repair, Section, and Replacement of Longitudinal Van Rails — This RP offers guidelines for repair, section and replacement of longitudinal van rails.	RP 750	Upper Coupler Inspection Guidelines — This RP offers guidelines for inspecting upper couplers.
RP 737	Recommendations for a Universal Replacement Horizontal Rear Impact Guard — This RP offers recommendations for a universal replacement impact guard.	RP 751	Safety Chains and Attachments — This RP offers guidelines on safety chains and attachments.
RP 738	Spec'ing Guidelines for Cargo Securement Systems Used on Flatbed Vehicles — This RP offers guidelines for spec'ing cargo securement systems used on flatbeds.	RP 752	Forklift Preventive Maintenance Inspection Guidelines — This RP offers guidelines on forklift preventive maintenance inspection.
RP 739	Maintenance, Inspection, and Operating Guidelines for Cargo Securement Systems Used on Flatbed Vehicles-Description is self-explanatory.	RP 753	Guidelines for Liftgate Decals. — This RP offers guidelines for designing liftgate advisory decals.
RP 740	Corrosion Protection From Dissimilar Metals — This RP offers guidelines for corrosion prevention related to contact between dissimilar metals.	RP 754A	Liftgate Charging and Power Circuits — This RP provides specification and general operating guidelines for liftgate charging and power circuits to improve efficiency, uptime, profitability and user satisfaction.
RP 741	Guidelines for Flatbed, Van Trailer, and Truck Body Entry and Egress — This RP offers guidelines on trailer entry and egress.	RP 755	Alternative Liftgate and Material Handling Charging Methods — The purpose of this RP is to help equipment users identify supplementary or alternative charging methods for recharging batteries used on Class 6-8 combination vehicles equipped with power liftgates and/or material handling equipment. This RP defines alternative charging methods as those not already defined within TMC RP 754, "Liftgate Charging and Power Circuits."
RP 742	Minimal Specifications for Van Trailers Shipped on Railcars — Offers recommendations for spec'ing van trailers to be shipped on railcars.	RP 756	Ergonomic Design Parameters for Safe Maneuvering of Converter Dollies.— This RP offers ergonomic design guidelines for facilitating the safe handling of heavy-duty, single-axle converter dollies (also known as converter gear) used in Class 7-8 tractor-trailer applications.
RP 743	Cargo Securement Systems For Van-Type Trailers And Truck Bodies — This RP offers recommendations for cargo securement systems for van-type trailers and bodies.		

- RP 757 Proper Forklift Specifications. — Helps fleets determine operational needs for spec'ing a forklift, and what forklift type is needed for a particular application, such as regional, longhaul, or temporary storage of freight. Applies to forklifts with a carrying capacity range of 3000-8000 lbs. and the options available on such units.
- RP 758 Van Moisture Contamination Maintenance and Repair Guidelines. — Offers maintenance and repair guidelines for moisture contamination in van trailers caused by external sources and internal condensation. This RP applies to van trailers used in Class 7-8 combination vehicles.
- RP 759 Splash and Spray Suppression Guidelines. — Identifies fleet equipment specifications, driver training issues, and evaluation methods for reducing road spray at highway speeds in inclement weather, thereby improving highway safety for all motorists traveling in those conditions. This RP applies to Class 8 combination vehicles.
- RP 760 Dock Equipment/Trailer Interface Guidelines — Offers guidelines for the proper design of loading docks and the interface between dock equipment and trailers used in combination vehicle applications. Not intended to endorse any single design, method or equipment manufacturer.
- RP 761 Overhead Door Maintenance Guidelines for a Dry Van or Body — This RP provides maintenance and inspection guidelines for overhead doors installed in the rear of trailers and truck bodies.

COST CONTROL METHODS — S.8

- RP 801C Bar Coding Guidelines — Provides guidelines and minimum performance criteria for the use of bar code technology for parts identification and inventory tracking in the trucking industry. The use of Symbology 3 of 9 and UPC Symbology are discussed.
- RP 802E TMC/ATA Vehicle Maintenance Reporting Standards (VMRS) — Provides an outline of TMC/ATA VMRS, its advantages to the fleet operator, and guidance on the basic requirements for implementation of the VMRS System.
- RP 803A Pre-Service Vehicle Inspection. — Provides a form which contains most of the standard items to be inspected prior to a truck or tractor being put into service. Enables users to have a basic format to which they can add high-frequency repair items and special equipment needs.
- RP 804 Labor Productivity Measurement — Provides a basic set of forms and instructions to aid measurement of maintenance shop productivity.

- RP 805 Parts Vendor Performance Evaluation — Designed to help fleet maintenance managers choose vehicle parts vendors that provide efficient service in a fair and impartial manner. Also provides information to help measure the quality of service provided parts vendors.
- RP 806A Service Vendor Performance Evaluation. — Guides the fleet maintenance department in rating the quality of service provided by outside service vendors and to assist fleets in making objective decisions when choosing among competing vendors.
- RP 807A Universal Equipment Claim Process — Offers guidelines for standardizing claim processing.
- RP 808 EDI Guidelines for Aftermarket Parts Purchasing — This RP offers guidelines for aftermarket parts purchasing transactions using electronic data interchange.
- RP 809 Guidelines for Electronic Repair Orders. — Provides guidelines for standardizing the transmission and capture of electronic repair order transactions. Establishes the basic data elements that an electronic repair order should contain.

SUSTAINABILITY AND ENVIRONMENTAL TECHNOLOGIES — S.11

- RP 1102A TMC In-Service Fuel Consumption Test Procedure—Type II. — This RP provides a standardized test procedure for comparing the fuel consumption of two conditions of a single test vehicle or of one test vehicle to another when it is not possible to run the two or more test vehicles simultaneously.
- RP 1103A TMC In-Service Fuel Consumption Test Procedure—Type III. — This RP provides a standard test procedure for comparing the fuel economy of components or systems of the type which cannot be switched from one vehicle to another in a short period of time. This test procedure is also ideally suited for comparing the fuel consumption of one vehicle to another, and one component of a combination vehicle to the other vehicle without the component in another. This procedure is specifically designed to be completed in one day.
- RP 1104 Computer Application Technology — Offers suggestions for parameters to consider when running truck and engine manufacturers' computer simulations to assist in vehicle spec'ing.
- RP 1105A Idling Limiting Systems — Offers guidelines on spec'ing idle limiting systems.

RP 1106A Guidelines For Recording Comparative Fuel Usage For In-Service Vehicles — Provides a consistent and repeatable method of recording fuel usage data for vehicles that yields accurate comparisons of fuel used by vehicles with differences in specifications that the fleet is interested in comparing.

RP 1107A Computer Application Technology Related To Drivetrain Specifications — Can be used as a general guideline of the type of input that is required when developing driveline specifications for heavy-duty commercial vehicles.

RP 1108 Analysis of Costs from Idling and Parasitic Devices for Heavy Duty Trucks — This Recommended Practice identifies sources of cost associated with engine idling and provides methods for estimating these costs, including a simple method for determining the horsepower demand of optional accessories for truck/tractor trailer combinations.

RP 1109B Type IV Fuel Economy Test Procedure. — This RP provides a test procedure for comparing the fuel consumption of two vehicles of similar capabilities, or one unit of a combination vehicle to the same unit of another combination vehicle. This procedure also provides for evaluation of the effects of certain components or systems on fuel economy. This version permits valid comparison of vehicles using both particulate trap aftertreatment and diesel exhaust fluid (DEF).

RP 1110 Aerodynamic Devices: Inspection and Maintenance Procedures — The purpose of this Recommended Practice is to describe the effects that aerodynamic drag reduction devices can have on truck and combination vehicle operation and maintenance.

RP 1111B Relationships Between Truck Components and Fuel Economy. — Provides equipment operators with a basic awareness of the relationships between truck components and fuel economy—along with an understanding of how other variables also affect fuel consumption. The scope of this RP is limited to Class 8 tractors coupled to 48-53 ft. single and double trailers with maximum gross weights of 80,000 lbs.; in dry or refrigerated van applications with maximum vehicle speeds of 65-70 mph.

RP 1112 Lightweight Components Effect on Fuel Economy — Describes the effect of lightweight components on fuel economy. Useful aid in vehicle specification.

RP 1113 Guidelines for Driver Incentive Programs — Offers guidelines for the successful implementation of driver incentive programs.

RP 1114 Driver's Effect on Fuel Economy — Describes driver's effect on vehicle fuel economy and offers recommendations on improving driver performance.

RP 1115 Guidelines for Qualifying Products Claiming a Fuel Economy Benefit — Offers guidelines for qualifying products claiming a fuel economy benefits.

RP 1116 Diesel Fuel Additive Functional Groups and Winter Operability — Offers information when considering spec'ing and using diesel fuel additives for improving winter operability.

RP 1117 Guidelines for Shop Sustainability Efforts. — Offers guidelines for transitioning traditional fleet maintenance shop processes to more sustainable efforts that reduce the energy and consumables waste typically associated with shop operation.

RP 1118 Fuel Savings Calculator for Aerodynamic Devices — Provides equipment operators with an interactive mathematical tool to evaluate the potential fuel and economic savings of an aerodynamic device that has been tested using one of TMC's fuel economy testing procedures. (The tool may also be compatible with rolling road wind tunnel testing conducted over a variety of drive cycles.) The scope is limited to Class 6-8 tractors coupled to commercial trailers of all types. The speed range covered is 40-75 mph.

ONBOARD VEHICLE ELECTRONICS — S.12

RP 1201 Joint TMC/SAE Recommended Practice for Serial Data Communications Between Microcomputer Systems in Heavy-duty Vehicle Applications — Defines a general-purpose serial data communication link that may be utilized in heavy-duty vehicle applications. It is intended to serve as a guide toward a standard practice to promote serial communication compatibility among microcomputer-based modules.

RP 1202C Off-Board Diagnostic Standards. — This RP has been prepared to standardize the hardware and systems used for off-board diagnostics of heavy-vehicle electronic and related systems. Not intended to define the diagnostic and repair procedures, but rather to define a common environment to allow for the widest possible use of cost effective standardized tools and procedures to simplify the diagnostics of heavy trucks.

RP 1203A	Electronic Term Standardization — Provides definitions for the numerous electronic terms and acronyms used throughout the trucking industry by vehicle manufacturers and others.	electronic messages to and from a dash-mounted display device.
RP 1204	Mechanic's Electrical Skill Evaluation — Prepared as an aid to fleets in evaluating the electrical skill level of their mechanics. The Evaluation results are intended to be used to determine the required training programs needed for the mechanic to properly maintain truck electronic control systems.	
RP 1206	Placement and Structural Requirements For Heavy-duty Navigation/Communication Devices — Provides guidelines to original equipment manufacturers for provision of power and ground connections in the vehicle cab to support end-user installed trip recorders, mobile communication equipment, etc. Designed to cover connection of such devices to 12-volt negative ground electrical systems requiring 20 amps or less of unswitched power or 15 amps of switched power, the in-cab accessory power interface is intended to simplify end-user installation, maintenance, and transfer of user-installed electronic and electrical equipment by providing power and ground connection access.	
RP 1207A	Cab Electronic Accessory Power Interface — This Recommended Practice established general guidelines for OEM vehicle electrical power wiring design to support the proper installation of quote "add-on" equipment by end-users.	
RP 1208B	PC Selection Guidelines for Service Tool Applications. This RP addresses the acquisition and use of off-board personal computers (PCs) for vehicle diagnosis, repair, and maintenance management. It is intended to help equipment users understand how various PC-based service application programs can influence PC selection.	
RP 1209	Sensor Diagnostics — Covers troubleshooting, maintenance and installation issues regarding many types of vehicle sensors.	
RP 1210C	Windows Application Program Interface (API). This document describes a standardized application program interface (API) for personal computer (PC) to onboard vehicle ECU communications under the Microsoft Windows(tm) family of operating systems. It establishes a standard API interface between the physical datalink (i.e., CAN/J1939), a VDA, and Windows(tm)-based software applications running on a PC.	
RP 1211	Electronic Dash Display Guidelines — Establishes a standard protocol for transmission of	
RP 1212A	PC-to-User Interface Recommendations for Electronic Engines — This RP offers guidelines for developing user interfaces for engine-related software packages to minimize technician training requirements.	
RP 1213A	Vehicle to Off-Board Computing Devices Component User Interface Guidelines — This RP offers guidelines for component user interface between the vehicle and off-board technology.	
RP 1214A	Guidelines for Event Recording: Collection, Storage & Retrieval — This RP offers guidelines for event data recording, storage and retrieval.	
RP 1215	Software Compatibility Guidelines — This RP offers guidelines for software compatibility between service programs.	
RP 1216	Vehicle to Office Data Communications — This RP offers design and specification recommendations for establishing industry voluntary practices for vehicle to office data communications as it applies to on-board technologies.	
RP 1217A	Tractor Trailer Interface Guidelines — This document defines the minimum requirements for a new and optional replacement / supplemental connector for the J560 connector. The new connector will allow for increased power between the tractor and trailer and facilitate data communications. This connector will be used in the short term to allow for growth of new technical advancements, and long term as a possible replacement for the existing J560 connector. The document defines the minimum requirements as seen by the industry and will be provided to SAE to facilitate the development/specification for a new connector. It is assumed that every effort will be made to keep this new solution cost effective. This intention and sole purpose of this RP to provide a recommendation for SAE in their selection criteria and in no way endorses, recommends, approves, promotes, or favors the preferential treatment of one vendor over another.	
RP 1218	Guidelines for Remote Disablement of Commercial Vehicles-This RP offers guidelines for remote disablement of commercial vehicles.	
RP 1220A	Guidelines For Forward Collision Warning and Collision Mitigation Systems For Class 5-8 Vehicles — This RP provides guidelines for selection and specification of forward collision warning systems and collision mitigation systems used on Class 5-8 commercial vehicles.	

RP 1221 Guidelines For Lane Departure Warning Systems — This RP offers guidelines for lane departure warning systems.

*RP 1222A Guidelines For Heavy-Duty Vehicle Stability Systems — This RP offers guidelines for heavy-duty vehicle stability systems.

RP 1224 Driver Communications Interface. — Offers minimum requirements for a common driver communications interface — also referred to in this document as a human-machine interface (HMI) — which should facilitate a standard look and feel among various HMI units in different makes and models of vehicles. Applies to all commercial vehicles equipped with onboard vehicle communications equipment that utilize an electronic driver display for wireless communications.

RP 1225 General Guidelines for Security Risk Analysis of Electronic Driver Log Systems. This RP document defines a guideline for identifying security risks associated with an electronic driver log system. The suggested risk analysis approach serves to identify potential vulnerabilities for which to consider whether appropriate security controls have been effectively implemented.

RP 1226 Vehicle Accessory Connector Guidelines — This RP offers specifications for a standardized, non-OEM specific vehicle accessory connector to interface aftermarket vendor electronics with a vehicle. The intended purpose of the vehicle accessory connector is to make it easier for an aftermarket vendor to connect a device to the vehicle, while at the same time ensuring the integrity of the vehicle's electrical or network/communication systems and following appropriate industry specifications.

LIGHT- & MEDIUM-DUTY TRUCKS — S.14

RP 1401 Cab and Body Preventive Maintenance Inspection Procedures — This Recommended Practice offers a standardized, effective preventive maintenance (PM) procedure for truck bodies using a checklist worksheet that covers all popular types of light- and medium-duty cabs and bodies. This RP is one section of a comprehensive PM manual for light- and medium-duty vehicles (Class 2-6 vehicles).

RP 1402 Tire Selection for Commercial Light Trucks — This RP is designed to assist fleets in the selection of tires for Class 2-5 vehicles used in commercial applications. The RP explains tire size designations; tire speed and load index designations, and tire construction options.

RP 1403 Determining Engine Oil Drain Intervals for Light- and Medium-Duty Trucks — This RP is designed to help fleets establish optimum oil change intervals for light- and medium-duty vehicles used in short-haul, pickup and delivery, and/or “peddle-type” applications. This Recommended Practice applies to gasoline, diesel, and other alternatively fueled internal combustion engines used in Class 2-6 vehicles.

RP 1404A Wiring System Standards For the Light-and Medium-Truck Chassis/Body Interface — This RP is designed to help light- and-medium duty truck chassis and body manufacturers standardize the truck chassis-to-body wiring interface on commercial vehicles.

RP 1405 Minimizing Dirt and Water Intrusion in Cargo Areas — Offers fleets guidance on how to minimize dirt and water intrusion in light/medium vehicle cargo areas.

RP 1406 Basic Electric/Electronic Diagnostic Procedures — Offers recommendations for basic electrical/electronic troubleshooting procedures for Class 2-6 vehicles.

RP 1407 Hydraulic Brake Maintenance Guidelines — Offers technicians guidelines in the proper inspection, diagnosis, and repair of hydraulic brake systems used in light- and medium-duty vehicles.

RP 1408 Cab Interior Noise Standard for Light- and Medium-Duty Walk-in Vans — This RP establishes equipment user-driven performance guidelines for cab interior noise for light- and medium-duty walk-in vans.

RP 1409A Light- and Medium-Duty Automatic Transmission Operation, Design and Specifications — This RP offers spec'ing and operation guidelines for LMV automatic transmissions.

RP 1410A Maintenance Guidelines For Automatic Transmissions in Light/Medium/Specialty Trucks — This RP offers general guidance on preventive maintenance and repair for automatic transmissions (having a torque converter) used in light- and medium-duty and specialty trucks.

RP 1411 Light- and Medium-Duty Automatic Transmission Fluid Guidelines — This RP offers spec'ing and usage guidelines for LMV automatic transmission fluid.

RP 1412 Walk-in Van Electrical System Routing and Load Requirements — This RP offers design guidelines for electrical system routing and load requirements for walk-in van applications.

RP 1413	Dry Freight Body Components — Offers guidelines for maintaining/spec'ing dry freight bodies.	2-4 van-based chassis cab (also referred to as cut-away or chop vans).
RP 1414	Guidelines for Evaluating Preventive Maintenance Programs for Light- & Medium-Duty Vehicles — Offers guidelines for evaluating preventive maintenance programs for Class 2-6 vehicles.	RP 1427 Standard Body-To-Chassis Connector. This RP is intended to assist truck body manufacturers, truck chassis manufacturers and equipment users with the design and installation of the end-of-frame (EOF) chassis connector. Successful implementation of this RP will not only help ensure long service life and reduced maintenance, it will also simplify the troubleshooting process should maintenance be required.
RP 1415	Hydraulic Brake Rotor Durability and Diagnostic Guidelines — This RP offers guidelines for durability and troubleshooting of hydraulic brake system rotors.	RP 1428 Entry And Egress Guidelines for Vehicles With Fold-Under Type Liftgates. The purpose of this RP is to provide practical location guidelines for steps and handhold/grab handles used for entering and exiting the rear and side doors of a truck body equipped with a fold-under style liftgate. These guidelines should help provide both improved entry and egress and a more uniform placement of steps and handles that is ergonomically friendly for the operator. This RP applies to Class 3-6 truck bodies equipped with side/rear fold-under style liftgates.
RP 1416	Guidelines for Used Engine Coolant Analysis —This RP offers guidelines for used engine coolant analysis.	RP 1429 Understanding Automatic Transmission Fluid Diversity. This RP describes differences among automatic transmission fluids (ATFs) currently used in Class 2-6 light- and medium-duty vehicles. It is designed to help fleet managers make informed decisions when selecting ATF and describe factors that have led to the industry's current ATF diversity.
RP 1417	Lubricant and Fluid Sampling Guidelines —This RP offers guidelines for lube and fluid sampling.	RP 1430 Lamp and Reflector Placement For Light- and Medium-Duty Vehicles With Liftgates. — Provides placement guidelines for lamps and reflectors on Class 2-6 vehicles equipped with various styles of liftgates (e.g., rail-type, fold-under, slide-under, etc). Identifies specific areas for locating the required reflectors and lamps that must be used to supplement or replace the required vehicle lighting when liftgates have been installed.
RP 1418	Effects of Drivetrain Torsionals on Light- and Medium-Duty Vehicles — This RP offers guidelines on the effects of drivetrain torsionals on Class 2-6 vehicles.	RP 1432 Service and Utility Truck Body Safety Features — Provides guidelines for safety- and ergonomic-related features used on service and utility truck bodies.
RP 1419	Trailer Towing With Light- and Medium-Duty Vehicles-This RP offers guidelines on trailer towing with Class 2-6 vehicles.	RP 1433 Backup Alarm Specification and Installation Guidelines — Offers guidelines on specifying and installing backup alarm systems on light- and medium-duty commercial vehicles.
RP 1420	Fluid Analysis For Class 2-6 Vehicles. — This proposed RP offers guidelines for fluid analysis pertaining to Class 2-6 commercial vehicles.	RP 1434 Backup Alarm Maintenance and Inspection Guidelines — Offers guidelines on maintaining and inspecting backup alarm systems on light- and medium- duty commercial vehicles.
*RP 1421A	Truck Body Wiring Harness Design Guidelines — This RP offers truck body manufacturers and end-users guidelines for truck body wiring design and installation. Successful implementation of this RP will help increase service life, reduce maintenance, and simplify troubleshooting. This RP standardizes the overall design of the truck body harness. In doing so, it addresses chassis interface, circuit requirements, color code, routing, clipping and other protective measures. This RP applies to dry freight truck bodies mounted on Class 3-7 vehicles. It is not intended to be all-inclusive.	
RP 1425	Guidelines for Mounting Fixed Second Unit Bodies. A variety of body-to-chassis interface variables can complicate the mounting of a second unit body (SUB) onto a Class 3-6 truck chassis frame. This RP offers truck body manufacturers system performance guidelines for mounting a fixed SUB to a Class 3-6 truck chassis cab.	
RP 1426	Guidelines for Mounting Fixed Second Unit Bodies on Van Based Chassis. This RP offers truck body manufacturers system performance guidelines for mounting a fixed SUB to a Class	

RP 1435 Guidelines For Contracting Maintenance Of Light- & Medium-Duty Vehicles — This RP offers guidelines for fleet management to consider when determining the feasibility of outsourcing vehicle maintenance to a third-party service provider.

*RP 1436 Aftertreatment Serviceability Guidelines — This RP offers vehicle manufacturers design recommendations to facilitate the serviceability of diesel particulate filters (DPFs), diesel oxidation catalysts (DOCs) and other aftertreatment system components used on EPA 2007 generation and newer Class 3-5 trucks.

SPECIALTY TRUCKS — S.15

RP 1501 Preventive Maintenance Guidelines for Specialty Vehicle Hydraulic Systems — This RP offers preventive maintenance guidelines for hydraulic systems used on specialty vehicles.

RP 1502 Spec'ing Guidelines for Hydraulic System Fluids, Hoses, and Filters — This RP offers spec'ing guidelines for hydraulic system fluids, hoses and filters used on specialty vehicles.

RP 1503 Brake Maintenance Guidelines for Severe Vocational Applications — This RP offers maintenance guidelines for braking systems used in severe-service vocational applications, such as refuse operations.

RP 1504 Refuse Chassis-to-Body Electrical System Circuit and Load Requirements — This RP offers guidelines for chassis-to-body electrical system circuit and load requirements for refuse vehicles.

RP 1505 Torque Rod Selection and OEM Installation Guidelines for Vocational Vehicles — This RP offers torque rod selection and installation guidelines for vocational vehicles.

RP 1506 Torque Rod Maintenance Guidelines for Vocational Vehicles—This RP offers torque rod maintenance guidelines for vocational vehicles.

RP 1507 Recommendations for a J1939 Network Interface Strategy—This RP offers recommendations for developing J1939 network interfaces for vocational vehicles.

RP 1510 Power Take-Off (PTO) Selection Guidelines — The purpose of this RP is to offer fleet managers guidelines for power take-off (PTO) selection. This RP applies to transmission-mounted PTOs used in vocational applications.

RP 1511 General Safety Guidelines for Servicing Commercial Vehicles With Hybrid Drive Systems —Offers general safety guidelines for servicing

hybrid electric drive systems used on Class 1-8 commercial vehicles. This RP applies to charge-sustaining and charge-depleting hybrid systems employing series or parallel architecture with rated voltages between 50-800 volts.

RP 1512 Guidelines for Specifying Pneumatic Supply on Vocational Vehicles —Helps equipment users specify pneumatic systems used on Class 8 vehicles in vocational applications. It also offers recommendations for upgrading specifications on vehicles where the existing pneumatic supply is not adequate. This RP applies to refuse, construction, dump, mixer, tank, concrete, and bulk off-loading applications, as well as other vocational applications in which the vehicle is frequently used on-highway. Vehicles in these applications experience a drive/duty cycle that frequently taxes the pneumatic supply limits of the typical on-highway vehicle. This RP does not pertain to commercial vehicles that do not experience high-demand air requirements.

RP 1513A In-Cab Control Placement Guidelines For Refuse Vehicles — Offers guidelines for standardizing the layout and labeling of in-cab controls for refuse vehicles so that operators may be familiar with control placement, function and accessibility, regardless of vehicle manufacturer.

RP 1514 Hydraulic System Failure Analysis. — Helps maintenance personnel troubleshoot and maintain hydraulic systems used on Class 7-8 vocational trucks.

RP 1515 Auxiliary Axle Maintenance. — Offers guidelines for properly maintaining auxiliary axles used on commercial vehicles in vocational applications.

RP 1516 Auxiliary Axle Specification Guidelines. —Offers guidelines for selecting auxiliary axles used on commercial vehicles in vocational applications.

SERVICE PROVIDER — S.16

RP 1601 Guidelines for Measuring Equipment User Customer Satisfaction. — Offers service providers voluntary guidelines for developing and implementing a successful customer satisfaction index (CSI) system.

RP 1602 Repair Order Authorization and Approval. — Offers a template for effective communication between equipment owners and third party maintenance providers. Focuses on strategies that leverage the purchase order (PO) number and other key points of interaction/communication to promote mutual satisfaction with the service experience.

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- RP 1603 Warranty Workflow Procedures. — The purpose of this RP is establishing standard workflow procedures to expedite a warranty repair, and communicate the results of that repair back to the equipment owner. These standardized procedures should facilitate efficient and thorough warranty repairs so as meet fleet customer expectations.
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- RP 1604 Rapid Repair Assessment. — This RP provides basic guidelines for a service provider to implement and manage a rapid repair assessment process in its operation.
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- RP 1605 Justification for a Parts & Service Assistant. — The purpose of this RP is to help service managers justify and implement the hiring of a Parts and Service Assistant.
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- RP 1606A Standard Repair Time Implementation Guidelines. — The purpose of this RP is to lead third-party maintenance service providers through the process of selecting and implementing a standard repair time (SRT) guide for providing estimates on applicable repairs.
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- RP 1607 Technician Career Development. — This RP provides maintenance and human resource managers a model for designing, developing and implementing a technician career development program in both fleet and service provider operations. It focuses on developing technician candidates and the responsibilities of key participants in the development process.
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- RP 1608 Conflict Resolution Guidelines — Offers a template for the resolution of conflicts which may take place during different forms of business transactions between equipment owners and third-party maintenance providers (otherwise known as service providers). Can be used whether the conflict begins with the service provider or the equipment owner and/or user. Designed to provide a structure so that communication stays on point and the end result is a mutual agreement and resolution of the conflict. The end result should not negatively affect the relationship between the parties, but rather should strengthen communication between them.
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- RP 1609 Quality Control Guidelines — Provide a formal, structured, and repeatable framework for establishing a quality assurance program within a service provider repair facility. The goal of the program is to assure customers (both internal and external) that all serviced vehicles are ready for operation after a maintenance/repair event.
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- RP 1610 Emissions Tampering Guidelines — The purpose of this RP is to provide vehicle owners and service providers information regarding emissions defeat strategies/tampering devices and associated liabilities. It also provides samples of tampering policies as well as inspection protocols designed to reduce the risks associated with emissions tampering. This RP applies to diesel-powered commercial vehicles that must comply with 2004 model year and newer emissions regulations (including October 2002 “pull-ahead” models).
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- RP 1611 Parts Acquisition For Service Providers — This RP is designed to help parts and service personnel ensure that all available resources are considered when sourcing an out-of-stock item needed to execute a repair.
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- *RP 1612 Service Event Data Transparency — Offers guidelines for defining the electronic interface communication process between third-party maintenance providers (service providers) and commercial vehicle owners/customers. This RP should help ensure a consistent and transparent method of communicating repair status between service providers and customers, helping customers make better informed decisions regarding equipment repairs/service and their business.
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- *RP 1613 Shop Workload and Prioritization — Provides a logical and systematic approach to scheduling shop workload that takes into consideration available labor, skill levels, work complexity, and customer urgency. This RP applies to all repairs and maintenance brought into a service provider’s location under both scheduled and emergency situations.
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- *RP 1614 Technician Mentor Program Guidelines — Offers guidelines for establishing a program to mentor commercial vehicle technicians operating in a service provider environment. It covers various aspects of the mentor development process including return on investment (ROI) metrics, control planning, minimum qualifications, on-the-job-training, compensation, selection, roles and responsibilities.
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- CORROSION CONTROL — S.17**
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- RP 1701 Corrosion Repair Guidelines For Vocational Vehicles — Offers guidelines for properly identifying repair procedures concerning paints and coatings used during the maintenance, repair and modification of Class 7-8 vocational vehicle bodies and equipment. The recommended

repair methods described within this RP are suitable for typical mechanical repair facilities where professional paint refinishing provisions are not readily available.

- RP 1702 Mitigating Corrosion Of Hydraulic Components On Vocational Vehicles — This RP offers guidelines for the selection of components, design features, quality details and/or maintenance practices that will mitigate the effects of corrosion on hydraulic components on vocational vehicles. Examples of such vocational vehicles include, but are not limited to, snow and ice removal trucks, refuse collection trucks, concrete mixer trucks, car haulers, mobile cranes, utility vehicles, chassis mounted cranes and other mobile mounted hydraulic equipped vehicles.
- RP 1703 Corrosion Control Maintenance Guidelines For Hydraulic Brake Systems — This RP offers guidance on how to minimize the damaging effects of corrosion on hydraulic brake systems typically found on Class 2-6 light- and medium-duty vehicles.

OFFBOARD DATA SYSTEMS — S.22

- RP 2201 Transportation and Linerless Label Media Specification — This RP offers recommendations for spec'ing transportation and linerless label media.
- RP 2202 Transportation and Linerless Printer Product Specification — This RP offers recommendations for spec'ing transportation and linerless printer product.
- RP 2203 Trailer Tracking Interface Standard — This RP standardizes trailer-tracking interfaces.
- RP 2204 Guidelines for Wireless Data Connectivity at Fixed Points of Presence-This RP offers guidelines for wireless data connectivity and fixed points of presence such as truckstops.

ADDITIONAL RPs EXPECTED TO APPEAR IN TMC's 2019 RP SUPPLEMENT (MAY 2019)

- RP 129B Heavy Duty Vehicle Cranking and Charging Troubleshooting: 12-Volt Systems
- RP 181 Solar Panel Installation, Safety and Preventive Maintenance Inspection Guidelines
- RP 216D Radial Tire Conditions Analysis Guide
- RP 219D Radial Tire Wear Conditions and Causes: A Guide to Wear Pattern Analysis
- RP 222D Users' Guide to Wheels and Rims
- RP 337C Troubleshooting Low Power Complaints
- RP 342A Guidelines for Recording Electronic Engine Parameter Changes
- RP 344A Understanding Engine ECM Data
- RP 347B Fan Drive Maintenance and Troubleshooting
- RP 351A Guidelines for Color Standardization of Engine/Coolant Antifreeze

- RP 373 Diesel Exhaust Fluid System Maintenance
- RP 428B Guidelines for Vision Devices
- RP 633A Effects of Drivetrain Torsionals
- RP 641B Maintenance Guidelines for Hydraulically Activated Clutches
- RP 656A Hub and Spoke Wheel Fastener Maintenance
- RP 702D Trailer Lamp and Reflector Replacement
- RP 722B Large Vehicle Conspicuity Markings
- RP 748 Trailer Refrigeration Unit Preventive Maintenance Inspection Guidelines
- RP 752A Forklift Preventive Maintenance Inspection Guidelines
- RP 1432 Service and Utility Truck Body Safety Features
- RP 1615 Parts Core Management for Service Providers