545 137 freightliner code

545 137 freightliner code, a diagnostic trouble code (DTC) commonly encountered by Freightliner truck owners and technicians, signals an issue within the vehicle's electronic control unit (ECU) or related systems. Understanding this specific code is crucial for diagnosing and resolving performance problems, ensuring the longevity of the vehicle, and preventing costly downtime. This comprehensive guide will delve into the meaning of the 545 137 Freightliner code, explore its potential causes, outline diagnostic procedures, and suggest effective repair strategies. We will cover the intricacies of the Freightliner diagnostic system, common symptoms associated with this code, and how to approach troubleshooting for a robust resolution.

Understanding the Freightliner 545 137 Code

The Freightliner 545 137 code is a specific diagnostic trouble code that points towards an anomaly detected by the vehicle's onboard diagnostics (OBD) system. In essence, it signifies a communication or internal fault within a particular module, often related to the electronic control unit (ECU) responsible for managing various engine or chassis functions. Freightliner vehicles, known for their robust engineering, utilize sophisticated electronic systems to monitor performance and alert drivers and mechanics to potential issues. When this code appears, it warrants immediate attention to prevent minor problems from escalating into significant mechanical failures.

What Does 545 137 Freightliner Code Mean?

The literal interpretation of the 545 137 Freightliner code typically relates to a fault within the powertrain control module (PCM) or a similar electronic control unit. While the exact definition can vary slightly depending on the specific Freightliner model and year, it generally indicates an internal error or a communication breakdown. This could stem from a problem within the module itself, such as corrupted software, damaged internal components, or issues with its power supply or ground connections. It's a signal that the module is not functioning as intended, potentially impacting various vehicle operations.

Common Systems Affected by 545 137 Freightliner Code

When the 545 137 Freightliner code is active, several vehicle systems might exhibit symptoms. The most directly impacted systems are those controlled by the affected ECU. This can include:

- Engine performance and idle control
- Transmission shifting logic
- Fuel injection timing and delivery
- Emissions control systems
- Vehicle speed and cruise control functions
- Diagnostic reporting and communication between modules

The specific manifestations will depend on which module is reporting the code and the nature of the internal fault.

Potential Causes of 545 137 Freightliner Code

Diagnosing the Freightliner 545 137 code requires a systematic approach to identify the root cause. Several factors can contribute to this DTC appearing in the vehicle's system. These range from simple electrical issues to more complex internal module failures.

Electrical System Faults

Electrical issues are among the most frequent culprits behind DTCs. For the 545 137 Freightliner code, this could involve:

- Loose or corroded wiring harnesses connected to the ECU
- Damaged or frayed wires that are shorting to ground or to other circuits
- Faulty power or ground connections to the ECU, leading to intermittent power loss or fluctuations
- Issues with fuses or relays related to the ECU's power supply
- Problems with the vehicle's alternator or battery, which can affect voltage stability

A thorough inspection of the entire electrical system, paying close attention to the wiring leading to and from the suspected module, is a critical first step in troubleshooting.

Internal ECU or Module Malfunction

In some cases, the 545 137 Freightliner code may indicate a problem originating from within the electronic control unit itself. This can occur due to:

- Internal component failure within the ECU (e.g., capacitors, resistors, microprocessors)
- Software corruption or glitches within the ECU's programming
- Overheating of the ECU due to poor ventilation or environmental factors
- Physical damage to the ECU from impacts or vibration
- Water intrusion or exposure to corrosive substances

Diagnosing an internal ECU failure often requires specialized diagnostic tools and may ultimately lead to the need for module repair or replacement.

Communication Errors Between Modules

Modern Freightliner trucks rely on complex networks, such as the CAN bus, for communication between various electronic modules. The 545 137 Freightliner code can sometimes signal a communication interruption:

- Faulty CAN bus wiring or connectors
- A failing node on the CAN bus network that is disrupting communication
- Interference from other electronic devices or aftermarket installations
- Software conflicts between different modules

Troubleshooting communication errors often involves checking network integrity and ensuring all modules are communicating properly.

Sensor or Actuator Issues

While the code directly points to an ECU fault, sometimes issues with connected sensors or actuators can indirectly trigger this code. If a sensor is providing erroneous data or an actuator is not responding as expected, the ECU might register an internal fault in its attempt to process the faulty

input or control signal.

Diagnosing the 545 137 Freightliner Code

Accurate diagnosis is paramount to resolving the 545 137 Freightliner code effectively and efficiently. This involves a combination of visual inspections, electrical testing, and the use of specialized diagnostic equipment.

Using a Diagnostic Scan Tool

The first and most crucial step in diagnosing any DTC, including the 545 137 Freightliner code, is to use a professional-grade diagnostic scan tool. This tool allows technicians to:

- Read the specific DTC and any associated freeze frame data, which captures the vehicle's operating conditions at the time the code was set
- View live sensor data to monitor the performance of various components
- Perform actuator tests to verify the functionality of specific systems
- Clear the DTC after repairs to confirm the issue has been resolved
- Access manufacturer-specific diagnostic information and repair procedures

A reliable scan tool is indispensable for any technician working on Freightliner vehicles.

Visual Inspection of Wiring and Connectors

A thorough visual inspection can often reveal obvious problems. Technicians should carefully examine:

- All wiring harnesses connected to the suspect ECU for any signs of damage, fraying, or corrosion
- Connectors for bent pins, loose connections, or signs of moisture intrusion
- The physical condition of the ECU itself for any external damage or signs of overheating

This simple yet effective step can save significant time and effort.

Electrical Testing Procedures

Beyond visual inspection, electrical testing is essential to verify circuit integrity and component functionality. This may involve:

- Testing for proper voltage supply to the ECU
- Checking ground connections for continuity and resistance
- Testing individual circuits for shorts, open circuits, or high resistance
- Using a multimeter or oscilloscope to analyze signal waveforms from sensors or to the ECU

These tests help pinpoint whether the issue lies with the wiring, the ECU, or associated components.

Checking for Technical Service Bulletins (TSBs)

Freightliner frequently issues Technical Service Bulletins (TSBs) to address known issues and provide recommended repair procedures. When encountering the 545 137 Freightliner code, it's highly advisable to consult relevant TSBs for the specific vehicle model and year. These bulletins can offer valuable insights into common causes and proven solutions.

Repair and Resolution Strategies for 545 137 Freightliner Code

Once the cause of the 545 137 Freightliner code has been identified, appropriate repair strategies can be implemented. The approach will vary significantly based on the diagnosis.

Repairing or Replacing Wiring Harnesses

If the diagnosis points to damaged wiring or faulty connectors, the repair process will involve:

- Carefully splicing and soldering damaged wires
- Replacing entire wiring harnesses if extensive damage is present
- Ensuring all connectors are clean, securely fastened, and properly sealed to prevent future moisture intrusion

Proper insulation and protection of repaired wiring are crucial for long-term reliability.

ECU Repair or Replacement

If the internal ECU is found to be faulty, there are a few options:

- **ECU Repair:** Some specialized electronics repair shops can diagnose and repair internal ECU faults. This can be a cost-effective solution compared to replacement.
- **ECU Replacement:** If repair is not feasible or cost-effective, the ECU will need to be replaced. This often requires programming the new module with the vehicle's specific configuration and VIN.

It is imperative to use a high-quality replacement ECU that is compatible with the vehicle's make, model, and year.

Addressing Communication Network Issues

Resolving CAN bus communication problems might involve:

- Checking and repairing or replacing faulty CAN bus wiring
- Identifying and replacing any malfunctioning nodes on the network
- Ensuring proper termination resistors are in place
- Verifying that all modules are functioning correctly and communicating on the network

Network diagnostics can be complex and often require specialized tools.

Replacing Faulty Sensors or Actuators

If the 545 137 Freightliner code was indirectly triggered by a faulty sensor or actuator, that component will need to be replaced. After replacement, the DTC should be cleared, and the vehicle's performance monitored to ensure the issue is resolved.

Preventative Maintenance and Avoiding Future Codes

Implementing a robust preventative maintenance schedule is key to minimizing the occurrence of DTCs like the 545 137 Freightliner code and ensuring the overall health of the vehicle's electronic systems.

Regular Inspections of Electrical Components

Routine checks of wiring harnesses, connectors, and battery terminals can identify potential problems before they escalate. Look for signs of wear, corrosion, or loose connections.

Keeping Software Updated

Ensure that the vehicle's ECU software is kept up-to-date through authorized Freightliner service centers. Software updates often address known bugs and improve system performance, which can prevent diagnostic trouble codes.

Protecting Against Environmental Factors

Minimize exposure of electrical components to extreme temperatures, moisture, and corrosive substances. Proper cleaning and protection of the engine bay and chassis can go a long way in preventing electrical issues.

Frequently Asked Questions

What does the Freightliner 545-137 diagnostic

trouble code (DTC) typically indicate?

The Freightliner 545-137 DTC generally points to an issue with the Transmission Range Sensor (TRS) circuit. This could mean there's a problem with the sensor itself, its wiring, or the associated connectors.

What are the common symptoms of a Freightliner truck experiencing a 545-137 code?

Common symptoms include the transmission not shifting properly, difficulty selecting gears, the transmission staying in one gear, or the transmission indicator on the dash not displaying the correct gear selection.

How is the Freightliner 545-137 code typically diagnosed?

Diagnosis usually involves using a diagnostic scan tool to read live data from the Transmission Control Module (TCM) and the TRS. Technicians will check for voltage, resistance, and continuity in the TRS circuit and inspect for damaged wiring or corroded connectors.

What are the potential causes of the 545-137 code in a Freightliner?

Potential causes include a faulty Transmission Range Sensor, damaged or shorted wiring harness for the TRS, loose or corroded electrical connectors at the TRS or TCM, or internal transmission issues affecting the sensor's operation.

Can I continue driving a Freightliner with a 545-137 code present?

While the truck might still be drivable, it's not recommended to drive for extended periods or under heavy load with a 545-137 code. Transmission shifting issues can lead to further damage and compromise safety.

What is the role of the Transmission Range Sensor (TRS) in a Freightliner?

The TRS tells the Transmission Control Module (TCM) which gear the driver has selected (e.g., Park, Reverse, Neutral, Drive). This information is critical for the TCM to control transmission engagement and shifting.

What is the typical repair process for a

Freightliner 545-137 code?

The repair process usually involves identifying the exact cause. This could mean replacing the Transmission Range Sensor, repairing or replacing damaged wiring, or cleaning and securing electrical connectors. After repairs, a road test and rescan are performed to confirm the issue is resolved.

Are there any specific Freightliner models or transmission types more prone to the 545-137 code?

While the 545-137 code is generally associated with the TRS circuit, certain older models or specific automatic transmission configurations might exhibit this issue more frequently. It's best to consult your specific truck's service manual or a qualified technician for model-specific information.

Additional Resources

Here are 9 book titles related to the 545 137 Freightliner code, with short descriptions:

1. *The 545 137 Freightliner Enigma: Unraveling the ECM's Secrets*
This technical manual delves deep into the Freightliner ECM (Engine Control Module) and the specific diagnostic code 545 137. It provides a step-by-step breakdown of potential causes, from sensor malfunctions to intricate wiring harness issues. The book aims to empower technicians and owner-operators with the knowledge to accurately diagnose and repair problems associated with this particular code, ensuring optimal vehicle performance.

2. *Freightliner 545 137: A Technician's Field Guide to Troubleshooting*
Designed for mechanics on the go, this concise guide offers practical solutions for the 545 137 Freightliner code. It prioritizes common issues and presents them in an easy-to-follow format, complete with visual aids and diagnostic flowcharts. The book emphasizes efficient repair strategies to minimize downtime and get Freightliner trucks back on the road quickly.

3. *Decoding 545 137: Advanced Diagnostics for Freightliner Trucks*
This in-depth resource explores the more complex scenarios and advanced diagnostic techniques related to the 545 137 Freightliner code. It goes beyond basic troubleshooting to examine software glitches, communication errors between modules, and nuanced sensor readings. The book is ideal for experienced diesel technicians seeking to master challenging diagnostic puzzles.

4. *Mastering Freightliner ECM Codes: The 545 137 Case Study*
This title focuses on the 545 137 code as a prime example of common ECM issues in Freightliner vehicles. Through detailed case studies and real-world examples, readers learn to identify patterns and apply effective diagnostic principles. The book offers valuable insights into the diagnostic process, enhancing a technician's ability to resolve a wide range of ECM-related

problems.

5. *The Complete Guide to Freightliner Drivetrain Malfunctions: Featuring 545 137*
While not exclusively about code 545 137, this comprehensive guide dedicates significant attention to drivetrain-related issues, including those indicated by this specific code. It covers the interplay between engine, transmission, and emission control systems, explaining how they can contribute to diagnostic trouble codes. The book helps users understand the broader context of the 545 137 code within the vehicle's overall mechanical operation.

6. *Freightliner 545 137: Preventative Maintenance and Early Detection Strategies*
This proactive approach to vehicle care focuses on identifying and mitigating the root causes that can lead to the 545 137 Freightliner code. It outlines recommended inspection schedules, maintenance best practices, and warning signs to look for. The book aims to help owners and maintenance managers avoid costly repairs by addressing potential problems before they manifest as diagnostic codes.

7. *Wiring Diagrams and Solutions for Freightliner 545 137 Failures*
Essential for any technician, this book provides detailed wiring diagrams specifically related to the systems implicated by the 545 137 Freightliner code. It offers clear illustrations of electrical pathways, connector pinouts, and troubleshooting steps for electrical faults. The publication is a critical resource for diagnosing and repairing wiring harness damage or connectivity issues.

8. *Understanding the Nuances of Freightliner Emission Control Codes: A Deep Dive into 545 137*
This specialized manual explores the intricacies of Freightliner's emission control systems and how faults within them can trigger codes like 545 137. It examines components such as EGR valves, DPF sensors, and SCR systems, explaining their function and common failure points. The book provides a thorough understanding of the environmental regulations and system behaviors influencing this diagnostic code.

9. *Freightliner Aftermarket Parts and the 545 137 Code: A Comparative Analysis*
This unique title investigates how the choice of aftermarket parts can impact the occurrence and resolution of the 545 137 Freightliner code. It compares the reliability and compatibility of various replacement components, offering guidance on selecting the best options. The book helps users avoid potential issues arising from incorrect or low-quality aftermarket parts that might trigger or exacerbate diagnostic codes.

545 137 Freightliner Code

545 137 Freightliner Code: A Comprehensive Guide to Diagnosis and Repair

Ebook Title: Decoding Freightliner Diagnostic Trouble Codes: A Practical Guide

Ebook Outline:

Introduction: Understanding Freightliner diagnostic trouble codes (DTCs), their significance, and how to access them. The importance of accurate diagnosis for efficient repair.
Chapter 1: Deciphering DTC 545 137: Detailed explanation of DTC 545 137, its meaning, potential causes, and associated symptoms. Troubleshooting steps and diagnostic procedures.
Chapter 2: Common Causes and Solutions: In-depth analysis of the most frequently encountered causes behind DTC 545 137, including faulty sensors, wiring issues, and control module problems. Practical solutions and repair techniques.
Chapter 3: Advanced Diagnostics: Utilizing advanced diagnostic tools and techniques for complex troubleshooting scenarios related to DTC 545 137. Interpreting data from various onboard systems.
Chapter 4: Prevention and Maintenance: Preventive measures to reduce the likelihood of encountering DTC 545 137 in the future. Regular maintenance practices and best practices for extending the lifespan of related components.
Conclusion: Recap of key findings, emphasizing the importance of accurate diagnosis and timely repairs to maintain optimal vehicle performance and safety.

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545 137 Freightliner Code: A Comprehensive Guide to Diagnosis and Repair

Introduction:

Freightliner trucks, known for their durability and performance, rely on sophisticated electronic control systems. These systems constantly monitor various parameters and generate diagnostic trouble codes (DTCs) when malfunctions occur. Understanding these codes is crucial for efficient troubleshooting and repair. This comprehensive guide delves into Freightliner DTC 545 137, providing a detailed explanation of its meaning, causes, and solutions. Accurate diagnosis is paramount to prevent further damage and ensure the safe and reliable operation of your Freightliner vehicle. Ignoring a DTC like 545 137 could lead to significant downtime, costly repairs, and potential safety hazards. This ebook aims to empower you with the knowledge and understanding necessary to effectively address this specific code and similar issues you might encounter.

Chapter 1: Deciphering DTC 545 137: Understanding the Code and its Implications

The Freightliner DTC 545 137 typically points to a problem within the vehicle's transmission control system. While the exact meaning can vary slightly depending on the specific Freightliner model and year, it generally relates to a malfunction or communication error within the transmission's electronic control unit (ECU) or its associated sensors and actuators. This could manifest as issues with gear shifting, erratic transmission behavior, or even complete transmission failure. Understanding the potential causes is the first step towards effective diagnosis.

Potential Symptoms Associated with DTC 545 137:

Rough shifting: Experiencing jerky or hesitant gear changes.
Transmission slipping: The engine revs up but the vehicle doesn't accelerate proportionally.
Inability to shift gears: The transmission might get stuck in a particular gear or refuse to shift at all.
Transmission limp mode: The vehicle enters a reduced power mode to protect the transmission from further damage.
Check Engine Light illuminated: The illuminated CEL (Check Engine Light) is often accompanied by other warning lights related to the transmission.
Diagnostic Trouble Codes: The presence of other DTCs, in addition to 545 137, can provide further clues about the root cause.

Chapter 2: Common Causes and Solutions: Troubleshooting DTC 545 137

Several factors can trigger DTC 545 137. Identifying the specific cause requires a systematic approach to diagnosis. The following are some of the most common causes:

Faulty Transmission Control Module (TCM): The TCM is the brain of the transmission. A malfunctioning TCM can lead to various transmission problems, including DTC 545 137. Repair usually involves replacing the TCM.
Transmission speed sensor (VSS) issues: The VSS measures the vehicle's speed, providing critical input to the TCM for gear selection. A faulty VSS can lead to incorrect gear selection and DTC 545 137.
Transmission output speed sensor (OSS) problems: Similar to the VSS, the OSS monitors the output shaft speed. A faulty OSS can result in inaccurate speed readings and trigger the code.
Wiring harness issues: Damaged or corroded wiring in the transmission system can disrupt communication between the TCM and other components, leading to DTC 545 137.
Low transmission fluid: Insufficient transmission fluid can cause overheating and damage to internal components, triggering the code.
Transmission internal problems: In severe cases, DTC 545 137 may indicate internal mechanical problems within the transmission, requiring major repairs or replacement.

Solutions:

Inspect wiring harness: Carefully check the wiring harness for any damage, corrosion, or loose connections. Repair or replace any damaged wiring.
Check and replace sensors: Test the VSS and OSS using a scan tool or multimeter. Replace any faulty sensors.
Check transmission fluid level: Ensure the transmission fluid level is correct and the fluid is clean. Replace the fluid if necessary.
Flash or replace TCM: Depending on the issue, flashing the TCM's software (reprogramming) might resolve the problem. Otherwise, replacing the TCM might be necessary.
Transmission overhaul or replacement: In cases of severe internal damage, a transmission overhaul or replacement may be required.

Chapter 3: Advanced Diagnostics: Utilizing Diagnostic Tools and Techniques

Effective diagnosis of DTC 545 137 often requires the use of advanced diagnostic tools. These tools provide access to more detailed information about the transmission system and can help pinpoint the exact cause of the problem.

Freightliner diagnostic software: Specialized Freightliner software connects to the vehicle's onboard diagnostics system, allowing access to real-time data, active codes, and freeze frame data.
Scan tools: Professional-grade scan tools provide comprehensive diagnostic capabilities, including the ability to read and clear codes, monitor sensor data, and perform actuator tests.
Multimeters: Multimeters are essential for testing sensor voltages and circuit continuity.
Data loggers: Data loggers record data over time, which can be helpful in identifying intermittent problems.

Using these tools, technicians can analyze sensor readings, check actuator function, and identify communication errors within the transmission control system. This allows for a more precise diagnosis and a targeted approach to repairs.

Chapter 4: Prevention and Maintenance: Reducing the Risk of DTC 545 137

Preventive maintenance plays a crucial role in minimizing the risk of encountering DTC 545 137 and other transmission-related problems.

Regular fluid changes: Following the recommended fluid change intervals specified by Freightliner is crucial. Using the correct type of transmission fluid is also vital.
Regular inspections: Periodic inspections of the transmission system, including checking for leaks,

damaged wiring, and loose connections, can help prevent problems before they escalate.
Proper driving habits: Avoid harsh acceleration, braking, and shifting. These habits can put undue stress on the transmission.
Addressing minor issues promptly: Don't ignore any minor transmission issues, as they can worsen over time.

Conclusion:

Understanding and addressing DTC 545 137 requires a systematic approach. This guide provided a detailed overview of the code, its causes, and the troubleshooting steps involved. By utilizing the correct diagnostic tools and employing preventative maintenance practices, you can significantly reduce the likelihood of encountering this code and maintain the optimal performance and longevity of your Freightliner truck. Remember to always consult a qualified mechanic for repairs, particularly when dealing with complex transmission issues.

FAQs:

1. What does DTC 545 137 mean in a Freightliner Cascadia? In a Cascadia, it usually indicates a communication error or malfunction within the transmission control system.

2. Can I drive my Freightliner with DTC 545 137? It’s generally not recommended. Driving with this code could lead to further damage and potentially unsafe driving conditions.

3. How much does it cost to fix DTC 545 137? The cost varies greatly depending on the specific cause and the extent of the repairs required, ranging from a simple sensor replacement to a major transmission overhaul.

4. What is the role of the TCM in relation to DTC 545 137? The TCM (Transmission Control Module) is central to this code. A malfunctioning TCM can directly cause the code, or its malfunction could stem from other problems.

5. How can I prevent DTC 545 137? Regular transmission fluid changes, routine inspections, and avoiding harsh driving habits are key preventive measures.

6. What tools are needed to diagnose DTC 545 137? A scan tool capable of reading Freightliner codes, a multimeter, and potentially specialized Freightliner software.

7. Can I clear DTC 545 137 myself? While you can clear the code with a scan tool, it doesn't fix the underlying problem. Addressing the root cause is crucial.

8. Is DTC 545 137 a serious issue? Yes, it can indicate significant transmission problems, potentially leading to immobility and costly repairs.

9. Where can I find a qualified Freightliner mechanic? Consult your Freightliner dealer or search

online for reputable independent shops specializing in Freightliner repair.

Related Articles:

1. Freightliner Transmission Troubleshooting Guide: A comprehensive guide to diagnosing and repairing various transmission problems in Freightliner trucks.

2. Understanding Freightliner Diagnostic Trouble Codes: An overview of the Freightliner diagnostic system and how to interpret DTCs.

3. How to Use a Freightliner Diagnostic Scan Tool: A step-by-step guide to using scan tools for diagnosing Freightliner trucks.

4. Freightliner Transmission Fluid Change Procedure: A detailed explanation of the process for changing transmission fluid in Freightliner trucks.

5. Common Freightliner Transmission Problems and Solutions: A list of common transmission problems and their solutions.

6. Freightliner TCM Repair and Replacement Guide: A detailed guide to repairing or replacing the Transmission Control Module in Freightliner trucks.

7. Freightliner Speed Sensor Diagnosis and Repair: A guide focusing on diagnosing and repairing speed sensors impacting transmission function.

8. Freightliner Wiring Harness Troubleshooting: A guide to identifying and repairing damaged or faulty wiring harnesses.

9. Freightliner Preventative Maintenance Schedule: A recommended maintenance schedule to help prevent transmission issues.

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previous editions. It introduces new contributors and international case studies that illustrate the impact of green logistics in practice. There is a new chapter on the links between green logistics and corporate social responsibility and a series of postscripts examining the effects of new developments, such as 3D printing, distribution by drone, the physical internet and the concept of peak freight. Other key topics examined include: carbon auditing of supply chains; transferring freight to greener transport modes; reducing the environmental impact of warehousing; improving the energy efficiency of freight transport; making city logistics more environmentally sustainable; reverse logistics for the management of waste; role of government in promoting sustainable logistics. The 3rd edition of Green Logistics includes indispensable online supporting materials, including graphics, tables, chapter summaries, and guidelines for lecturers.

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545 137 freightliner code: Gasoline Engine Management Konrad Reif, 2014-07-22 The call for environmentally compatible and economical vehicles necessitates immense efforts to develop innovative engine concepts. Technical concepts such as gasoline direct injection helped to save fuel up to 20 % and reduce CO2-emissions. Descriptions of the cylinder-charge control, fuel injection, ignition and catalytic emission-control systems provides comprehensive overview of today´s gasoline engines. This book also describes emission-control systems and explains the diagnostic systems. The publication provides information on engine-management-systems and emission-control regulations.

545 137 freightliner code: *Technologies and Approaches to Reducing the Fuel Consumption of Medium- and Heavy-Duty Vehicles* National Research Council, Transportation Research Board, Division on Engineering and Physical Sciences, Board on Energy and Environmental Systems, Committee to Assess Fuel Economy Technologies for Medium- and Heavy-Duty Vehicles, 2010-07-30 Technologies and Approaches to Reducing the Fuel Consumption of Medium- and Heavy-Duty Vehicles evaluates various technologies and methods that could improve the fuel economy of medium- and heavy-duty vehicles, such as tractor-trailers, transit buses, and work trucks. The book also recommends approaches that federal agencies could use to regulate these vehicles' fuel consumption. Currently there are no fuel consumption standards for such vehicles, which account for about 26 percent of the transportation fuel used in the U.S. The miles-per-gallon measure used to regulate the fuel economy of passenger cars. is not appropriate for medium- and heavy-duty vehicles, which are designed above all to carry loads efficiently. Instead, any regulation of medium- and heavy-duty vehicles should use a metric that reflects the efficiency with which a vehicle moves goods or passengers, such as gallons per ton-mile, a unit that reflects the amount of fuel a vehicle would use to carry a ton of goods one mile. This is called load-specific fuel consumption (LSFC). The book estimates the improvements that various technologies could achieve over the next decade in seven vehicle types. For example, using advanced diesel engines in tractor-trailers could lower their fuel consumption by up to 20 percent by 2020, and improved aerodynamics could yield an 11 percent reduction. Hybrid powertrains could lower the fuel consumption of vehicles that stop frequently, such as garbage trucks and transit buses, by as much 35 percent in the same time frame.

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hundreds of cases, this treatise gives litigators a wide variety of perspectives on potential strategies, and the tools to support those strategies with persuasive arguments. This authoritative two-volume work will enable you to: Assess products liability case potential and build sound litigation strategies Dig deep into products liability law to build creative approaches to litigation Craft a winning case and reap the greatest reward for your clients Find the tools and information to support strategies with persuasive arguments Both federal and state courts contribute a rich mix of decisions to products liability law, which covers both consumer products and occupational hazards. This indispensable resource for the products liability practitioner helps you prepare your case. Is the product defective? Who is liable? What is the manufacturer's responsibility? Who can be sued? What kind of awards may be realized? How might this be defended? Shapo on the Law of Products Liability also includes coverage of: Asbestos litigation Chinese drywall Food and drug Medical devices Design/manufacturing defects claims Punitive damages Discovery rule Up to date analysis and commentary History and background on products liability law Damages Advertising material Packaging Marshall S. Shapo, the Frederic P. Vose Professor at Northwestern University School of Law, is a nationally recognized authority on torts and products liability law.

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