

Introduction

This manual provides information needed to operate and understand the vehicle and its components. More detailed information is contained in the *Owner's Warranty Information for North America* booklet, and in the vehicle's workshop and maintenance manuals.

Custom-built Freightliner vehicles are equipped with various chassis and cab components. Not all of the information contained in this manual applies to every vehicle. For details about components in your vehicle, refer to the chassis specification pages included in all new vehicles and to the vehicle specification decal, located inside the vehicle.

For your reference, keep this manual in the vehicle at all times.

IMPORTANT: Descriptions and specifications in this manual were in effect at the time of printing. Freightliner Trucks reserves the right to discontinue models and to change specifications or design at any time without notice and without incurring obligation. Descriptions and specifications contained in this publication provide no warranty, expressed or implied, and are subject to revisions and editions without notice.

Environmental Concerns and Recommendations

Whenever you see instructions in this manual to discard materials, you should first attempt to reclaim and recycle them. To preserve our environment, follow appropriate environmental rules and regulations when disposing of materials.

Event Data Recorder

This vehicle is equipped with one or more devices that record specific vehicle data. The type and amount of data recorded varies depending on how the vehicle is equipped (such as the brand of engine, if an air bag is installed, or if the vehicle features a collision avoidance system, etc.).

Customer Assistance Center

Having trouble finding service? Call the Customer Assistance Center at 1-800-385-4357 or 1-800-FTL-HELP. Call night or day, weekdays or weekends, for dealer referral, vehicle information, breakdown coordi-

nation, or Fleetpack assistance. Our people are knowledgeable, professional, and committed to following through to help you keep your truck moving.

Reporting Safety Defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Daimler Trucks North America LLC.

If the NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Daimler Trucks North America LLC.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to www.safercar.gov; or write to: Administrator, NHTSA, 1200 New Jersey Avenue, SE, Washington, DC 20590. You can also obtain other information about motor vehicle safety from www.safercar.gov.

Canadian customers who wish to report a safety-related defect to Transport Canada, Defect Investigations and Recalls, may telephone the toll-free hotline 1-800-333-0510, or contact Transport Canada by mail at: Transport Canada, ASFAD, Place de Ville Tower C, 330 Sparks Street, Ottawa, Ontario, Canada K1A 0N5.

For additional road safety information, please visit the Road Safety website at: www.tc.gc.ca/roadsafety/menu.htm.

Foreword

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Vehicle Identification

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Vehicle Identification

Vehicle Specification Decal

The vehicle specification decal lists the vehicle model, identification number, and major component models. It also recaps the major assemblies and installations shown on the chassis specification sheet. One copy of the specification decal is attached to the inside of the sliding storage/waste drawer; another copy is inside the rear cover of the *Owner's Warranty Information for North America* booklet. An illustration of the decal is shown in **Fig. 1.1**.

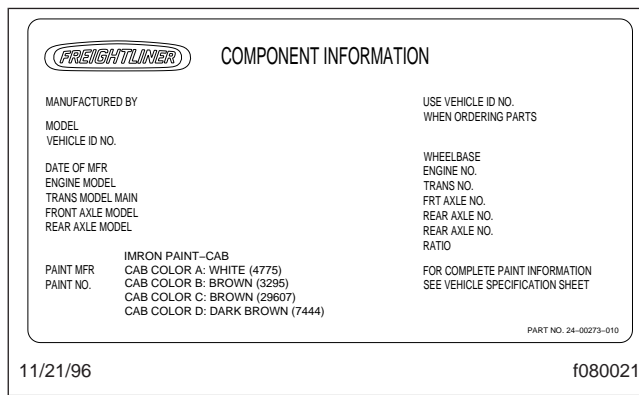


Fig. 1.1, Vehicle Specification Decal (U.S.-built vehicle shown)

NOTE: Labels shown in this chapter are examples only. Actual specifications may vary from vehicle to vehicle.

Federal Motor Vehicle Safety Standard (FMVSS) Labels

NOTE: Due to the variety of FMVSS certification requirements, not all of the labels shown will apply to your vehicle.

Tractors with or without fifth wheels purchased in the U.S. are certified by means of a certification label (**Fig. 1.2**) and the tire and rim labels. These labels are attached to the left rear door post, as shown in **Fig. 1.3**.

If purchased for service in the U.S., trucks built without a cargo body have a certification label (**Fig. 1.4**) attached to the left rear door post. See **Fig. 1.3**. In addition, after completion of the vehicle, a certification label similar to that shown in **Fig. 1.2** must be attached by the final-stage manufacturer. This label will be located on the left rear door post and certifies

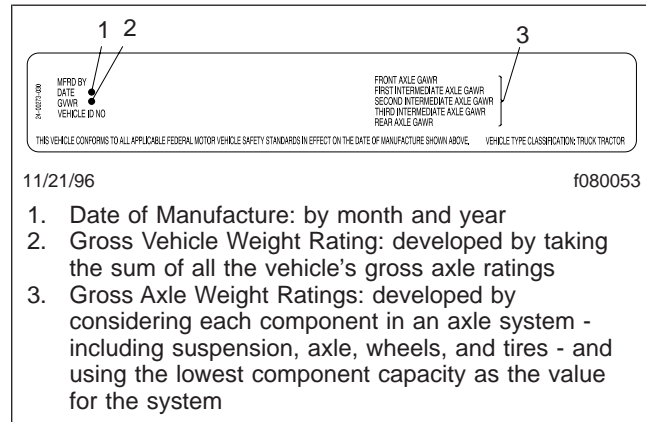


Fig. 1.2, Certification Label, U.S.

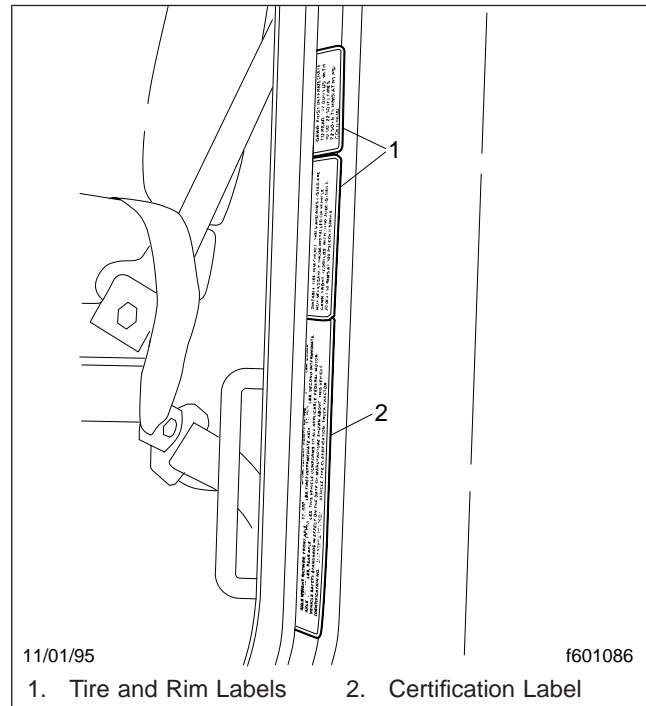


Fig. 1.3, Labels Location

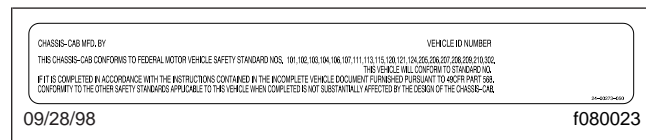


Fig. 1.4, Incomplete Vehicle Certification Label, U.S.

that the vehicle conforms to all applicable FMVSS regulations in effect on the date of completion.

Canadian Motor Vehicle Safety Standard (CMVSS) Labels

In Canada, tractors with fifth wheels are certified by means of a "Statement of Compliance" label and the Canadian National Safety Mark (Fig. 1.5), which are attached to the left rear door post. In addition, tire and rim labels (Fig. 1.6) are also attached to the left rear door post.

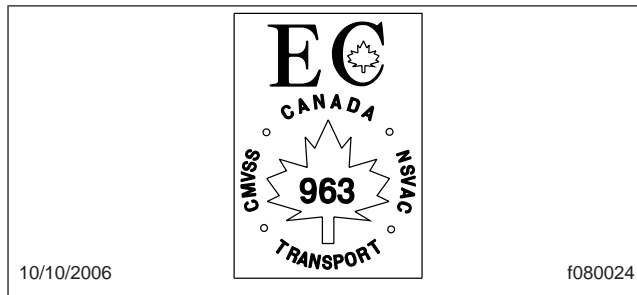
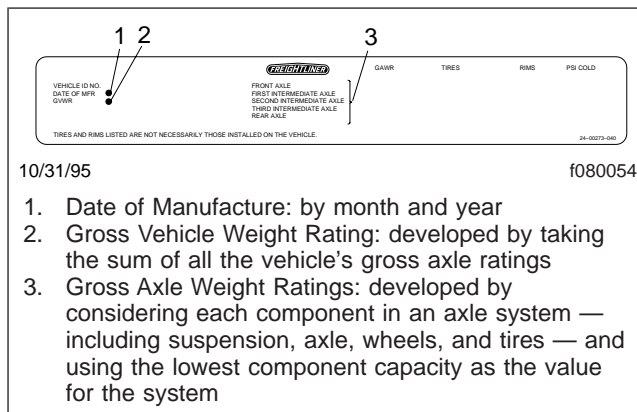


Fig. 1.5, Canadian National Safety Mark



1. Date of Manufacture: by month and year
2. Gross Vehicle Weight Rating: developed by taking the sum of all the vehicle's gross axle ratings
3. Gross Axle Weight Ratings: developed by considering each component in an axle system — including suspension, axle, wheels, and tires — and using the lowest component capacity as the value for the system

Fig. 1.6, Tire and Rim Label

If purchased for service in Canada, trucks built without a cargo body and tractors built without a fifth wheel are certified by a "Statement of Compliance" label, similar to Fig. 1.2. This label must be attached by the final-stage manufacturer after completion of the vehicle. The label is located on the left rear door post, and certifies that the vehicle conforms to all applicable CMVSS regulations in effect on the date of completion.

Tire and Rim Labels

Tire and rim labels certify suitable tire and rim combinations that can be installed on the vehicle, for the given gross axle weight rating. Tires and rims installed on the vehicle at the time of manufacture may have a higher load capacity than that certified by the tire and rim label. If the tires and rims currently on the vehicle have a lower load capacity than that shown on the tire and rim label, then the tires and rims determine the load limitations on each of the axles.

See Fig. 1.6 for U.S. and Canadian tire and rim labels.

EPA Emission Control

Vehicle Noise Emission Control Label

A vehicle noise emission control label (Fig. 1.7) is attached either to the left side of the dashboard or to the top-right surface of the frontwall between the dash and the windshield.

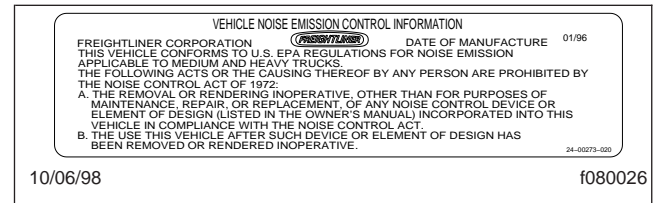


Fig. 1.7, Vehicle Noise Emission Control Label

IMPORTANT: Certain Freightliner incomplete vehicles may be produced with incomplete noise control hardware. Such vehicles will not have a vehicle noise emission control information label. For such vehicles, it is the final-stage manufacturer's responsibility to complete the vehicle in conformity to U.S. EPA regulations (40 CFR Part 205) and label it for compliance.

EPA07 Exhaust Emissions

To meet January 2007 emissions regulations, vehicles with engines manufactured after January 1, 2007, are equipped with an emission aftertreatment device. There is a warning label on the driver's sunvisor, explaining important new warning indicators in the driver's message display, that pertain to the after-treatment system. See Fig. 1.8.

Vehicle Identification






EXHAUST AFTERTREATMENT SYSTEM INFORMATION					
INDICATOR LAMP(S)	 (Solid) Level 1	 (Flashing) Level 2	 (Flashing) CHECK Level 3	 (Flashing) CHECK STOP Level 4	 WARNING
Indicator Lamp Message(s)	Filter Regeneration Recommended	Filter Regeneration Necessary	Parked Regeneration Required – Engine Derate	Parked Regeneration Required – Engine Shut Down	HEST (High Exhaust System Temperature)
Diesel Particulate Filter Condition	Filter is reaching capacity.	Filter is now reaching maximum capacity.	Filter has reached maximum capacity.	Filter has exceeded maximum capacity.	Flashing A regeneration is in progress.
Required Action	Bring vehicle to highway speeds to allow for an Automatic Regeneration or perform a Parked Regeneration.	To avoid engine derate bring vehicle to highway speeds to allow for an Automatic Regeneration or perform a Parked Regeneration as soon as possible.	Vehicle must be parked and a Parked Regeneration must be performed – engine will begin derate.	Vehicle must be parked and a Parked Regeneration or Service Regeneration must be performed. Check engine operator's manual for details – engine will shut down.	Solid Exhaust Components and exhaust gas are operating at high temperature. When stationary, keep away from people and flammable materials, vapors, or structures.
For a driver Parked Regeneration there must be a dash mounted Regeneration Switch.					
See Engine Operator's Manual for complete Regeneration Instructions.					
<small>24-01583-0008</small>					

Fig. 1.8, Sunvisor Warning Label

It is a violation of federal law to alter exhaust plumbing or aftertreatment in any way that would bring the engine out of compliance with certification requirements. (Ref: 42 U.S.C. S7522(a) (3).) It is the owner's responsibility to maintain the vehicle so that it conforms to EPA regulations.

2

Instruments and Controls Identification

Instrument and Control Panel	2.1
Instrumentation Control Unit 4 (ICU4 and ICU4-2)	2.3
Instrumentation Control Unit 3 (ICU3 and ICU3 '07)	2.7
Instrumentation Control Unit 2L (ICU2L)	2.11
Instruments	2.12
Controls	2.17
Collision Warning System (CWS), Eaton VORAD EVT-300, Optional	2.33
Lane Guidance™ System, Optional	2.38
Roll Stability Control	2.39

Instruments and Controls Identification

Instrument and Control Panel

Engine Protection—Warning and Shutdown Process

 **WARNING**

When the red stop engine, or engine protection light illuminates, most engines are programmed to shut down automatically within 30 seconds. The driver must immediately move the vehicle to a safe location at the side of the road to prevent causing a hazardous situation that could cause bodily injury, property damage, or severe damage to the engine.

The driver should be familiar with the vehicle warning system, in order to bring the vehicle to a safe stop if the engine malfunctions. If the driver doesn't understand how the warning system works, an engine shutdown could occur, causing a safety hazard.

If the engine coolant temperature, the coolant level, the engine oil pressure, or the diesel particulate filter for the exhaust aftertreatment system, (on some engines, the engine oil temperature, or the intake air temperature also,) reach preset levels, the engine will begin a warning and shutdown process. See the engine manufacturer's engine operation manual for your vehicle, for specific details. See the "EPA07 Aftertreatment System" information in **Chapter 7** in this manual, for a description of the warning and shutdown modes associated with the exhaust aftertreatment system.

There are four customer-programmable levels for electronic engine protection: OFF, WARNING, DERATE, and SHUTDOWN (factory default).

In the engine monitoring OFF mode, the individual sensor indicator lights will illuminate if a problem exists, but no shutdown action will be started, and the event will not be recorded.

The WARNING mode warns the driver, and the engine electronics will log the event for diagnostic purposes. The amber Check Engine lamp will flash, and

the buzzer will sound. The amber Check Engine lamp will go out if the problem stops. See [Fig. 2.1](#)

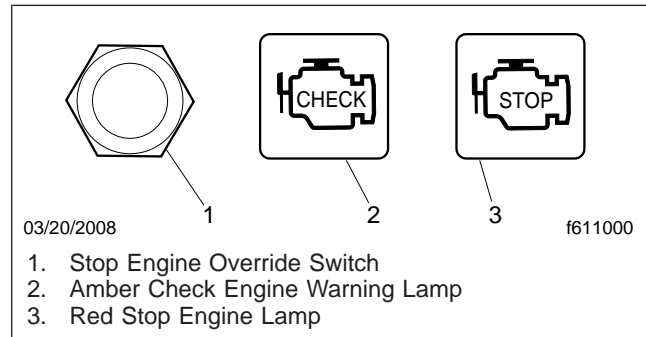



Fig. 2.1, Engine Lamps

The DERATE and SHUTDOWN modes will reduce the power to the engine, then shutdown the engine, to avoid engine damage. The red Stop Engine light, (ENG PROT or SHUT DOWN for older vehicles), will illuminate when the problem is serious enough to reduce the power or speed. The engine power will ramp down, then shut down, if the problem continues.










The driver has about 30 seconds, after the red Stop Engine light illuminates, to move the vehicle safely off the road. If the vehicle cannot be moved to a safe location within that time, the engine can be restarted by turning the ignition switch to the OFF position for at least 5 seconds, then back ON, or by pushing the stop-engine-override button if the vehicle is equipped with one. This action can be repeated until the vehicle is safely off the road. Do not operate the vehicle until the problem has been corrected.

Warning and Indicator Lights

The dash lightbars have warning and indicator lights that may be lettering or icons. Up until December 31, 2006, the warning and indicator lights are a mixture of ISO icons, and lettering. Since January 2007, ISO icons are used for all standard warning and indicator lights on the dash lightbar. See the following table for a full description of the icons used.

Warning and Indicator Lights		
	Check Engine Lamp (amber)	Indicates an undesirable engine condition is detected or recorded. If the condition gets worse, the stop engine or engine protection light will illuminate.

Instruments and Controls Identification

Warning and Indicator Lights		
	Stop Engine or Engine Protect Lamp (red)	Indicates a serious fault that requires the engine shut down immediately. The engine ECU will reduce the maximum engine torque and speed, and, if the condition does not improve, will shut down the engine within 30 seconds of the light illuminating. The driver must safely bring the vehicle to a stop on the side of the road and shut down the engine as soon as the red light is seen. If the engine shuts down while the vehicle is in a hazardous location, the engine can be restarted after turning the key to the OFF position for a few seconds.
	High Exhaust System Temperature (HEST) Lamp (amber)	Slow (10-second) flash, indicates a regeneration is in progress, and the driver is not controlling the engine idle speed. Steadily illuminated indicates a regeneration is in progress, with high exhaust temperatures at the outlet of the tail pipe, if the speed is below 5 mph (8 km/h). It does not signify the need for service; it only alerts the vehicle operator of high exhaust temperatures. See the engine operation manual for details.
	Diesel Particulate Filter (DPF) Status Lamp (amber)	Steadily illuminated indicates a regeneration is required. Change to a more challenging duty cycle, such as highway driving, to raise exhaust temperatures for at least 20 minutes, or perform a parked regeneration. See the engine operation manual for details. Blinking indicates that a parked regeneration is required immediately. An engine derate and shutdown will occur. See the instructions in the manufacturer's <i>engine operation manual</i> for instructions to perform a stationary regeneration.
	Malfunction Indicator Lamp (MIL) (amber)	Indicates an engine emissions-related fault, including, but not limited to the aftertreatment system. See the engine operation manual for details.
	Tractor ABS Lamp (amber)	Indicates a problem with the ABS is detected. Repair the tractor ABS immediately to ensure full antilock braking capability.
	Trailer ABS Lamp (amber)	Indicates a fault is detected with the trailer ABS.
	Left-Turn Signal (green)	Flashes on and off whenever the outside turn signal lights are flashing.
	Right-Turn Signal (green)	Flashes on and off whenever the outside turn signal lights are flashing.
	High-Beam Indicator (blue)	Indicates the headlights are on high beam.