

BODY BUILDER INSTRUCTIONS

Mack Trucks



Cab, Instrument Panel
MD
Section 8

Introduction

This information provides specifications for chassis body installation for MACK vehicles.

Note: We have attempted to cover as much information as possible. However, this information does not cover all the unique variations that a vehicle chassis may present. Note that illustrations are typical but may not reflect all the variations of assembly.

All data provided is based on information that was current at time of release. However, **this information is subject to change without notice.**

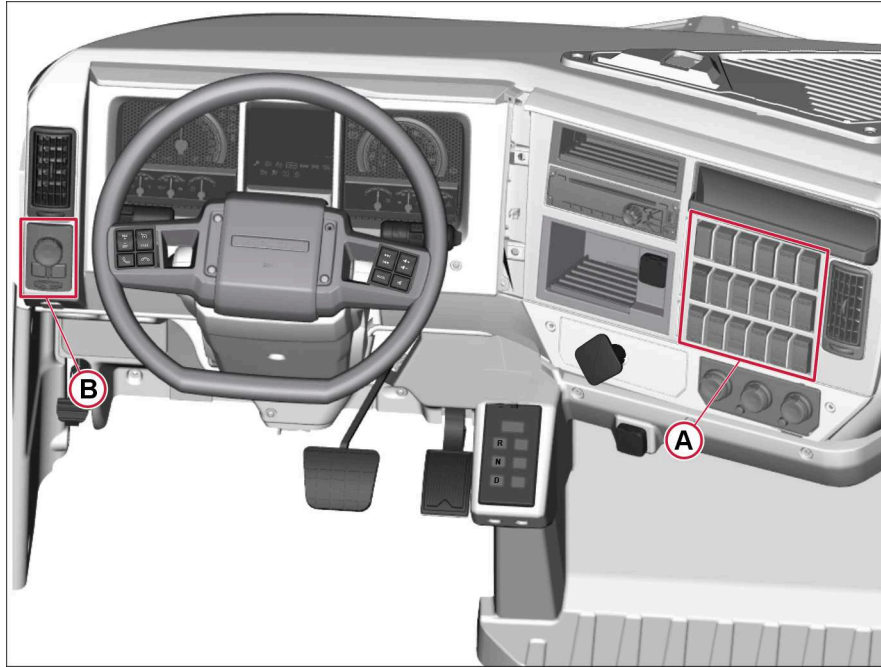
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Contents:

- "Dashboard Switch Locations", page 2
- "Dash Switches", page 5
- "Overview of Instruments", page 6
- "Overhead Switches", page 7
- "Instrument Cluster", page 9
- "Alarm, Check and Information Symbols", page 10
- "Warning Indicator Light Panel", page 12
- "Gauge Layout", page 15
- "PTO", page 19

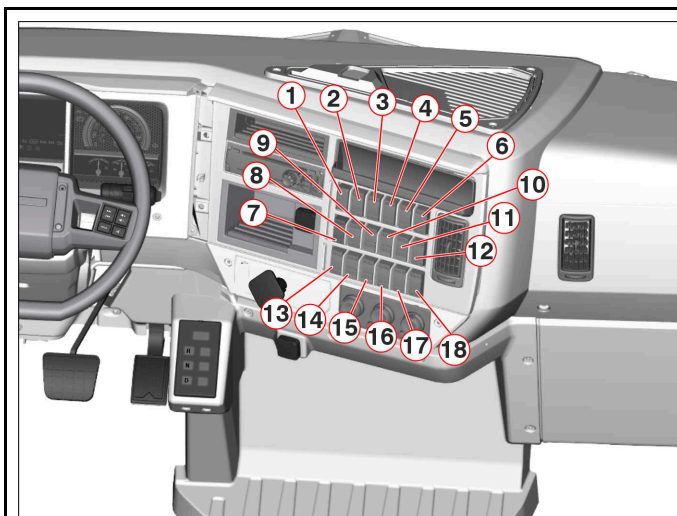
Instrument Panel

Dashboard Switch Locations



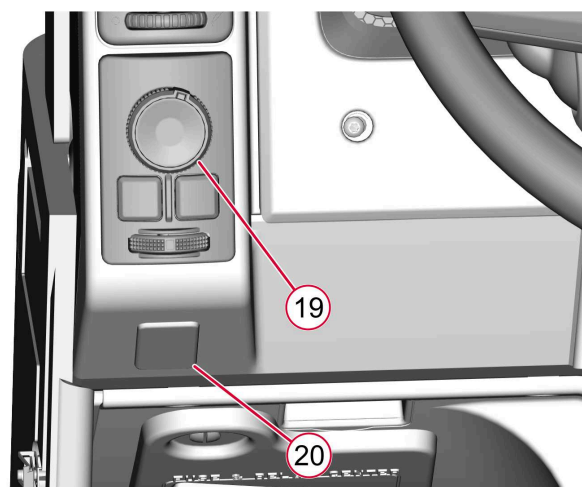
T8210326

Panel Arrangement A and B



T8210327

Panel A



W3133551

Panel B

Note: Some switch options may not be applicable for your vehicle.

| Number | Part Number | Description |
|--------|-------------|--------------------------|
| 1 | 22392299 | Cruise ON / OFF |
| 2 | 22392282 | Cruise SET / RESUME |
| 3 | 22559210 | Cummins Engine Brake |
| 4 | 22392546 | Grade Gripper Disable |
| 5 | 22392314 | ATC (MUD / SNOW) |
| 6 | 22393029 | Trailer AUX (CENTER PIN) |
| 7 | 22396611 | IGN AUX |
| 8 | 22392442 | DIFF LOCK (INTER WHEEL) |
| 9 | 22846096 | INTERAXLE LOCK |
| 10 | 22392259 | PLOW LAMPS |
| 11 | 22559918 | AIR SUSP (DUMP) |
| 12 | 22392281 | STROBE |
| 13 | 22392399 | BATTERY AUX |
| 14 | 22846105 | PTO 1 |
| 15 | 22846105 | PTO 2 |
| 16 | 22559226 | BEACON LIGHT |
| 17 | 23229511 | FAN CLUTCH OVERRIDE |
| 18 | 22392285 | ASSIGNABLE ON / OFF |
| 19 | 82719617 | HEADLAMP SWITCH |
| 20 | 23006490 | FLOOR LAMP SWITCH |

Other Available Options

Note: Some switch options may not be applicable for your vehicle.

| Part Number | Description |
|-------------|-------------------------|
| 22572307 | LDWS DISABLE |
| 22392308 | TIME GAP (ACC) |
| 22392420 | ATC |
| 22392256 | RETARDER |
| 22392260 | ASSIGNABLE ON / OFF |
| 22392286 | WINDSHIELD DEFROST |
| 22392297 | ECS RAISE / LOWER |
| 22392311 | ASSIGNABLE MOMENTARY |
| 22396071 | POWER FLOAT |
| 22396079 | LOW HYDRA OIL OVERRIDE |
| 22396090 | SPREADER LIGHTS |
| 22396625 | REAR AMBER FLASHER |
| 22559241 | SANDER LIGHT |
| 22559244 | CHAIN LIGHT |
| 22559245 | ROTATING LIGHT |
| 22559917 | BOGIE CONTROL |
| 22846089 | TAIL GATE LOCK / UNLOCK |
| 22846090 | TAIL GATE LOCK / UNLOCK |
| 22846091 | SNOW INGESTION |
| 22846093 | NEUTRAL CONTROL |
| 22846096 | INTERAXLE |
| 22846097 | SUSP HEIGHT CONTROL |
| 22846101 | 5TH WHEEL |
| 22846108 | PTO CONTROL (MUNCIE) |
| 22846121 | ECS MODE |
| 22879194 | LOAD LIGHT |
| 23053219 | FORWARD LIFT AXLE |
| 23053220 | REAR LIFT AXLE |
| 23093324 | FRONT DIFF LOCK |
| 23093325 | REAR DIFF LOCK |
| 23229509 | SHUTDOWN OVERRIDE |
| 23229510 | WINDSHIELD DEFROST |
| 23229512 | ATC |
| 23229513 | INTER WHEEL LOCK |
| 23229514 | GRADE GRIPPER DISABLE |
| 23229515 | LOW HYDRA OIL OVERRIDE |

| Part Number | Description |
|-------------|----------------------|
| 23229516 | LDWS DISABLE |
| 23229517 | FRONT DIFF LOCK |
| 23229518 | REAR DIFF LOCK |
| 23239140 | ASSIGNABLE MOMENTARY |
| 23239141 | IGNITION (15 AMP) |
| 23239142 | REAR AMBER FLASHER |

Dash Switches

General

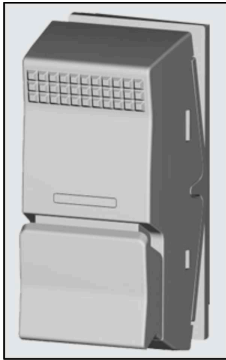
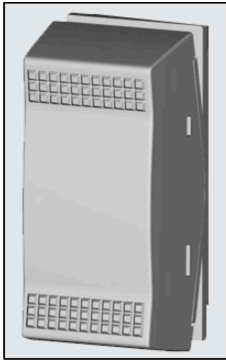
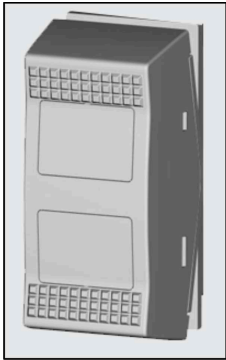
Switches that may be fitted in your vehicle are on the following pages. The available switches in your particular vehicle are dependent on the vehicle's equipment.

Movable Switches

The location of the majority of the switches can be easily adapted to your requirements. A few switches cannot be moved for safety reasons. Contact an authorized dealership for more information.

Switch Styles

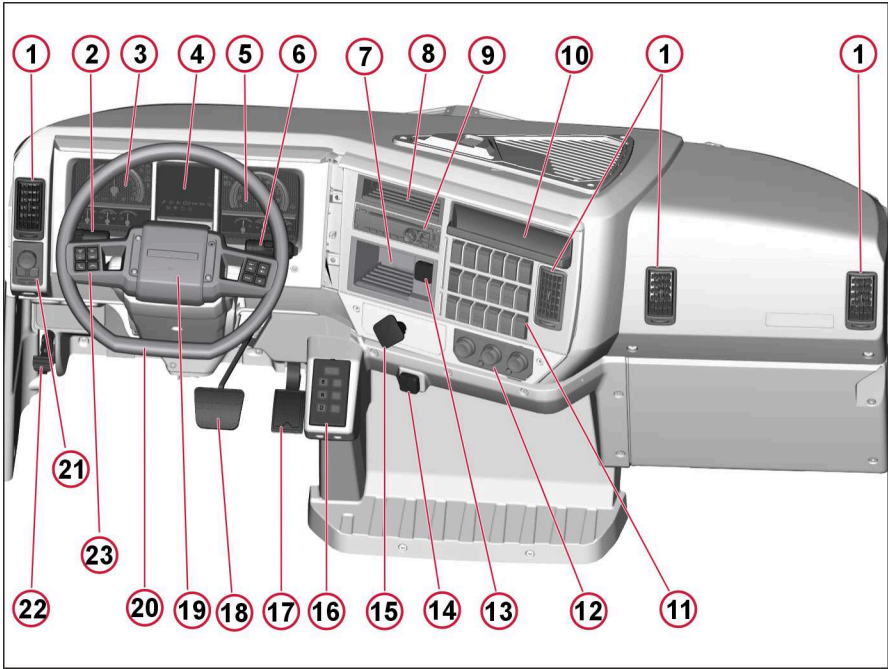
There are three types of switches that are used on the dash panel.

| Locking | Standard | BodyBuilder Assignable |
|---|---|---|
|  <p>W3133393</p> |  <p>W3133394</p> |  <p>W3133395</p> |

Notes

Overview of Instruments

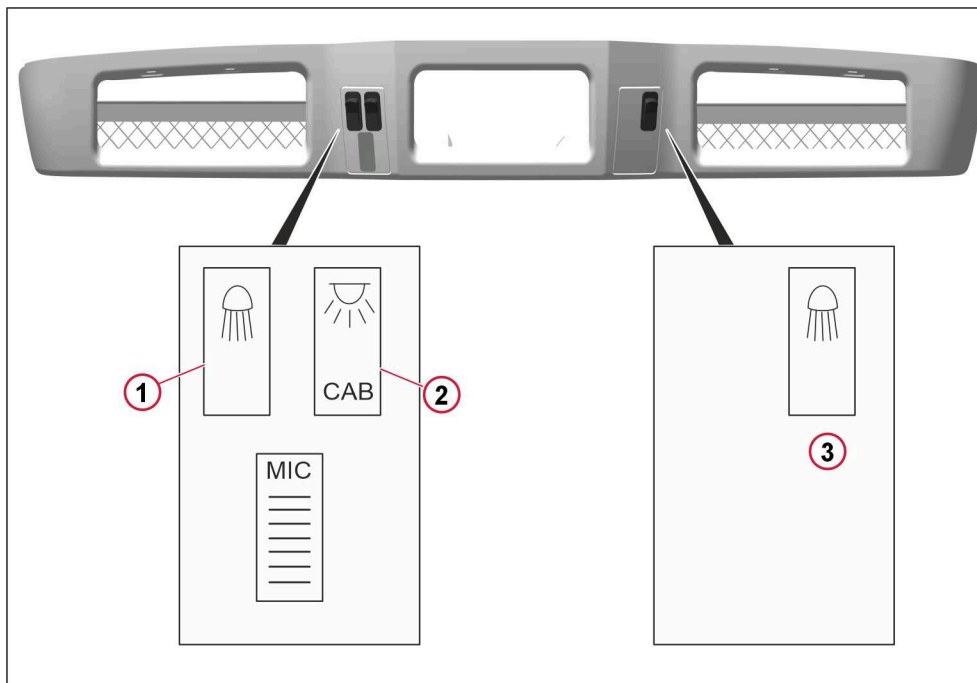
Before driving this vehicle, locate the instruments and controls and become thoroughly familiar with their operation. After starting and when driving, ensure that the instrument readings are normal.



T8210210

| | | |
|------------------------|--------------------------------|--|
| 1. Air Vent | 9. Radio | 17. Accelerator Pedal |
| 2. Left Stalk Control | 10. Storage Slot | 18. Brake Pedal |
| 3. Power Meter | 11. Dashboard Switches | 19. Electric Horn Button (City Horn) |
| 4. Mack® Co-Pilot™ | 12. Climate Control Unit | 20. Steering Wheel |
| 5. Speedometer | 13. Power Outlet | 21. LCP (Light Control Panel) |
| 6. Right Stalk Control | 14. USB (Universal Serial Bus) | 22. Steering Column Tilt Control Pedal |
| 7. Storage Slot | 15. Parking Brake | 23. Steering Wheel Switches |
| 8. Storage Slot | 16. Drive Selector | |

Overhead Switches

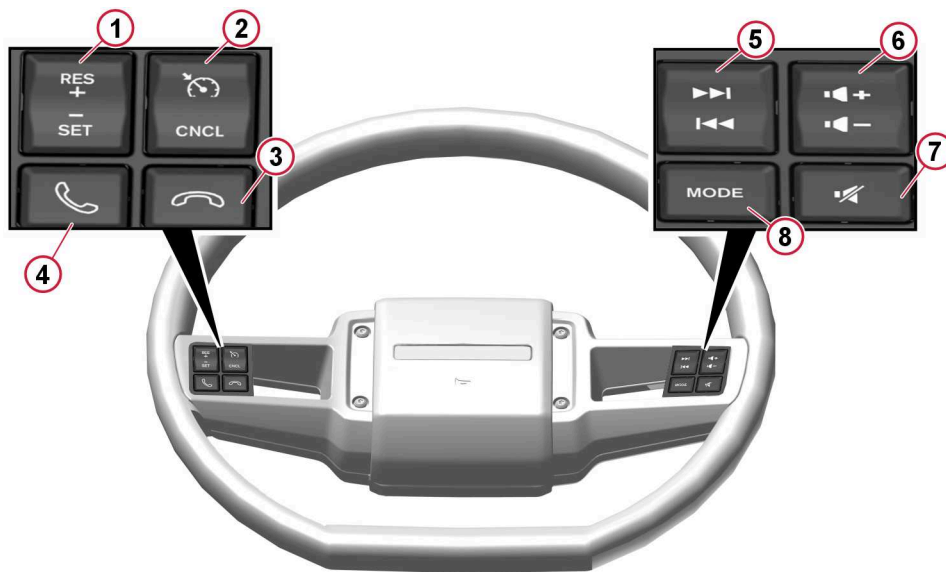


T8210274

1. Map Lamp Switch, Driver Side
2. Map and Overhead Lamp Switch (Turns On All Four Lamps)
3. Map Lamp Switch, Passenger Side

Note: Trucks built from week 01, 2025 will have the overhead switches.

Steering Wheel Switches



T8210452

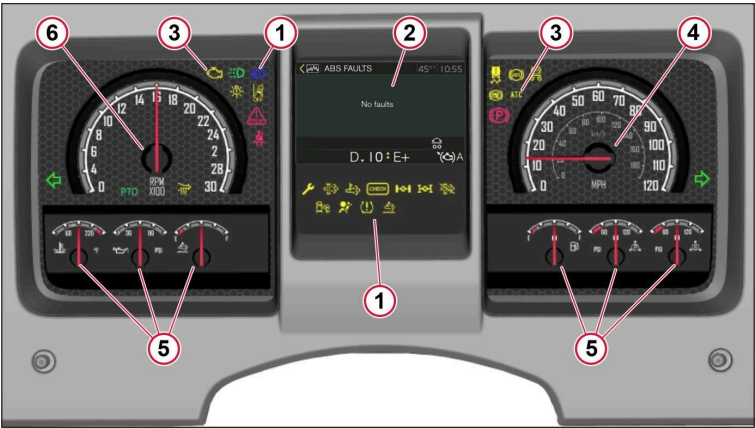
1. Cruise Control Resume/Set
2. Cruise Control ON/OFF/Cancel
3. Phone Hang Up
4. Phone Answer/Mute
5. Radio Seek Up/Down
6. Radio Volume +/-
7. Radio Mute
8. Radio Mode

Note: Trucks built from week 01, 2025 will have the radio and cruise control switches on the steering wheel.

Instrument Cluster

The instrument cluster provides system/component condition information to the driver. This information is available to assist the driver in determining any necessary actions.

The instrument cluster consists of the following components: condition indicators (tell-tales), driver information display (DID), gauges, speedometer and tachometer, on board diagnostic (OBD) fault and warning indicators.



T8162832

- 1. Condition Indicators (Tell-tale)
- 2. Driver Information Display (DID)
- 3. On Board Diagnostic (OBD) Fault and Warning Indicators
- 4. Speedometer
- 5. Gauges
- 6. Tachometer

Notes

Tell-Tales

A tell-tale is a display that indicates the actuation of a device, a correct or defective condition, or a failure to function.

The operator should become familiar with these symbols in order to recognize and react (if necessary) to the indicated condition. Tell-tale symbols are shown in the instrument panel cluster.











Colors








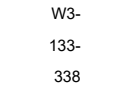


To promote visual recognition internationally, specific colors for tell-tales have been established. Unless governmental regulations (in the area where the vehicle is to be used) or engineering directives specify otherwise, the standard colors are:





- **Steady Blue** — high-beam headlights
- **Flashing Green** — turn signals
- **Flashing Red** — hazard condition involving the safety of personnel
- **Steady Green** — system in operation
- **Steady Red** — warning, immediate action required
- **Amber** — early warning, such as low fuel or Anti-Lock Brake System (ABS) malfunction

Alarm, Check and Information Symbols

Note: Some Warning Indicator Lamps may not be applicable for your vehicle.

| Number | Symbols | Meaning |
|--------|--|--|
| 1 |  W3133317 | Malfunction Indicator Lamp |
| 2 |  W3133318 | Hill Assist Indicator |
| 3 |  W3133319 | Stop |
| 4 |  W3133320 | Interaxle lock |
| 5 |  W3133322 | Turn Signal Indicator |
| 6 |  W3133324 | Parking Brake engaged |
| 7 |  W3133-326 | Safety Belts Reminder |
| 8 |  W3133327 | Aftertreatment DPF Regeneration |
| 90 |  W3133328 | Aftertreatment High Exhaust System Temperature |
| 10 |  W3133330 | ABS Malfunction Tractor |

| Number | Symbols | Meaning |
|--------|---|--|
| 11 |  W3133331 | Preheating Active or Preheating Fault |
| 12 |  W3133333 | High Beam Indicator |
| 13 |  W3133334 | Aftertreatment DEF Tank Low Indicator |
| 14 |  W313333-5 | Check Indicator |
| 15 |  W3133336 | Light Indicator |
| 16 |  W3133337 | Tractor Control System (TCS) Indicator |
| 17 |  W3-133-338 | Lane Departure Warning System (LDWS) Indicator |
| 18 |  W3133339 | Power Take-off (PTO) Indicator |
| 19 |  W31-333-40 | Electronic Stability Control (ESC) Indicator |
| 20 |  | Daytime Running Light (DRL) Indicator |

| Number | Symbols | Meaning |
|--------|--|--|
| | W3133341 | |
| 21 |  W3133342 | Lane Changing System (LCS) Indicator |
| 22 |  W3133343 | Airbag Indicator |
| 23 |  W3133344 | Tire Pressure Monitoring System (TPMS) Indicator |
| 24 |  W31333-45 | Automatic Traction Control (ATC) |

Warning Indicator Light Panel

Note: Some Warning Indicator Lamps may not be applicable for your vehicle.

1. Malfunction Indicator Lamp

Malfunction Indicator Lamp indicates government Regulation On Board Diagnostics (OBD) faults.

2. Hill Assist Indicator

Indicates hill assist is active.

3. Stop Tell-Tale

Illuminates when conditions require the driver to stop the vehicle. This usually occurs when vehicle conditions fall below designated standards for operation.



DANGER

Failure to take necessary action when the STOP tell-tale is on can ultimately result in automatic engine shutdown and loss of power steering assist. Vehicle crash can occur, resulting in personal injury or death.

4. Interaxle Lock

Illuminates when interaxle lock is engaged.

5. Turn Signal Indicator

Flashes when turn signals are active.

6. Parking Brake Engaged

Indicates parking brake is engaged.

7. Safety Belt Reminder

Indicates safety belt needs to be fastened.

8. Aftertreatment DPF Regeneration

Indicates aftertreatments DPF regeneration is required.

9. High Exhaust System Temperature (HEST) Indicator

The HEST Indicator illuminates when the exhaust temperature reaches 300° C (572° F) and the regeneration process begins. When the regeneration process is completed, the engine should be allowed to run until the HEST indicator shuts off.

During regeneration while the vehicle is moving, the HEST indicator will only illuminate when vehicle speed is less than 8 kph (5 mph). During a parked regeneration, the HEST indicator will turn off when regeneration is complete and the exhaust temperature has returned to a normal temperature.

10. ABS Tractor Malfunction

Indicates a problem being reported by the Tractor ABS System.

11. Preheating Active

Indicates that preheating is active.

12. High Beam

Illuminates when high beam lights are engaged.

13. Aftertreatment DEF Tank Low

Illuminates when the fluid level is low. It also Flashes when the level becomes critically low.

14. Check Indicator

Illuminates when there is an engine or aftertreatment system issue.

15. Light Indicator

Illuminates when there is a lighting system error.

16. Traction Control System (TCS) Indicator

Indicates that the TCS is active.

17. Lane Departure Warning System (LDWS) Indicator

Indicates that the LDWS is off.

18. Power Take-off (PTO) Indicator

Indicates that the PTO is active.

19. Electronic Stability Control (ESC) Indicator

Indicates that the ESC system is active.

20. Daytime Running Light (DRL) Indicator

Indicates that the DRLs are active.

21. Lane Change System (LCS) Indicator

Indicates that the LCS is off or disabled.

22. Airbag Indicator

Indicates that there is an airbag error. Maintenance is required.

23. Tire Pressure Monitoring System (TPMS) Indicator

Indicates that there is an issue with the vehicle's tire pressure. Maintenance is required.

24. Automatic Traction Control (ATC) Indicator

Indicates that the vehicle is losing traction and the ATC is engaging.

Notes

Gauge Layout

Tachometer

The tachometer displays the engine's revolutions per minute (RPMs).



W3133360

Speedometer

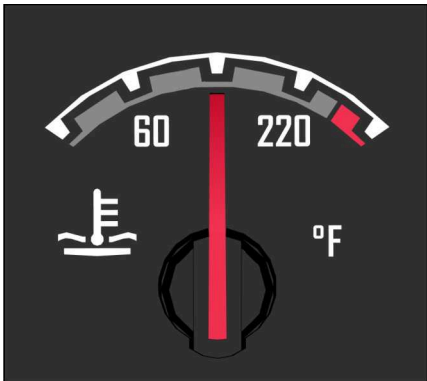
Indicates the speed of the vehicle. The speedometer is driven by the vehicle's electronic system.



W3133361

Coolant Temperature Gauge


The coolant temperature gauge indicates engine coolant temperature. The normal operating temperature for Cummins engines is 80 to 105° C (170–215° F). If the temperature remains below or exceeds the normal temperature range, the cooling system should be checked for problems by an authorized Mack Vehicle dealer. When coolant temperature is excessive, the red STOP tell-tale illuminates and the buzzer will sound. The engine is at risk and the ECM may derate the engine power. Stop at the first safe place where the problem can be checked.



W3133363

Engine Oil Pressure Gauge

Indicates engine oil pressure. When the engine oil pressure is too low, the red STOP tell-tale illuminates and the buzzer will sound. If the engine oil pressure becomes low, the engine is at risk. Bring the vehicle to a safe stop where the problem can be checked.

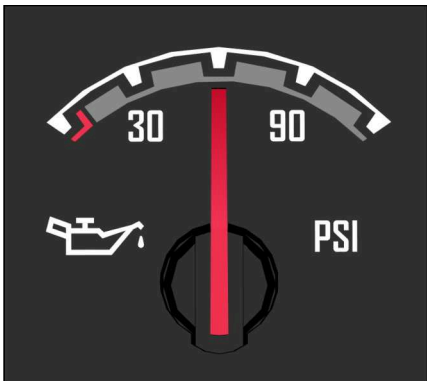
**DANGER**

Failure to take necessary action when the STOP tell-tale is on can ultimately result in automatic engine shutdown and loss of power steering assist. Vehicle crash can occur, resulting in personal injury or death.



W3133319

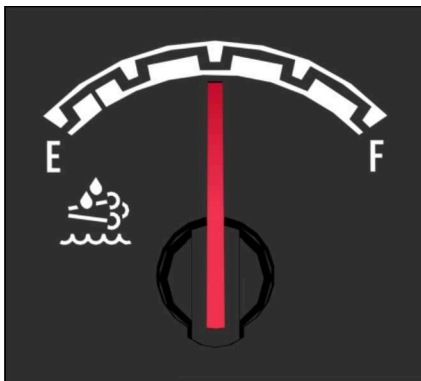
Stop Tell-Tale



W3133362

Aftertreatment DEF Gauge

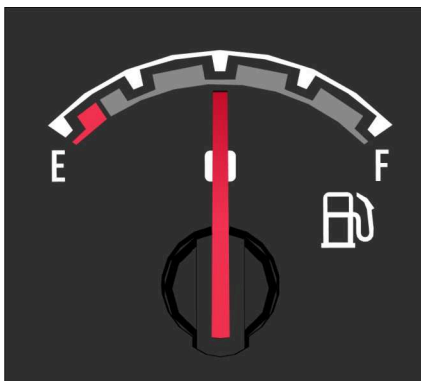
Indicates the amount of Diesel Exhaust Fluid (DEF) in the tank.



W3133364

Fuel Gauge

Indicates the fuel level. The fuel gauge is connected to the fuel sensor unit in the fuel tank. There is only one sensor even if the vehicle is equipped with dual tanks.



W3133365

Primary Brake Air Pressure Gauge

The primary brake air pressure gauge is connected to the rear circuit tank via sensors mounted on the passthrough wall. The front and rear air gauges should register equal air pressure. By observing the gauge pointers, the operator can detect a pressure drop if an air leak develops and can readily identify the circuit affected.



DANGER

Failure to observe these precautions can result in the loss of braking performance. This can lead to a vehicle accident, which can result in personal injury or death.



W3133367

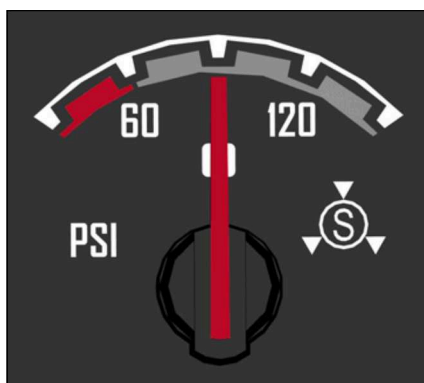
Secondary Brake Air Pressure Gauge

The secondary brake air pressure gauge is connected to the front circuit tank via sensors mounted on the passthrough wall. The front and rear air gauges should register equal air pressure. By observing the gauge pointers, the operator can detect a pressure drop if an air leak develops and can readily identify the circuit affected.



DANGER

Failure to observe these precautions can result in the loss of braking performance. This can lead to a vehicle accident, which can result in personal injury or death.



W3133366

PTO



DANGER

A Rotating PTO shaft can snag clothes, hands, etc., causing severe personal injury or death. To avoid injury or death:

- Do NOT go near rotating shafts when the engine is running.
- STOP the engine before attempting to work on a PTO, its controls or related equipment.



CAUTION

It is important to only engage the switch when the PTO is required. Leaving the PTO pump engaged when not needed can lead to poor performance and pump damage.

Note: Some PTOs can not be operated while driving the vehicle. To do so would cause component damage. To avoid component damage, contact a certified dealer to confirm if the vehicle's PTO can be used while driving.

A Power Take-Off (PTO) is a device that transfers power from the engine to another piece of equipment attached to the vehicle. Some examples include cement mixers and the compactor on a garbage vehicle.

A maximum of two PTOs can be operated in unison. One PTO is preset as a priority component. The remaining PTOs are preset as secondary in priority. The priority settings are dependent on the PTO preset arrangement and the number of PTOs available.

There is one basic type of PTO is available: transmission-mounted.

Depending on customer specification, some transmission-mounted PTOs are not operable when driving the vehicle.

The **Split shaft PTO** consists of an additional gearbox that divides the drive shaft into two shafts. One shaft drives the vehicle's axle. The other shaft drives the PTO.

When the PTO is engaged, the PTO tell-tale illuminates in the instrument cluster.

PTO

W3133339

PTO Tell-Tale

Use the following switch to activate/deactivate the PTO.



W3133396

PTO Switch

For automatic transmissions:

1. Engage the PTO by pressing the PTO switch. Press the locking tab and at the same time depress the main part of the switch.

The PTO engages.

PTO Speed Adjustment

For the PTO speed adjustment to function, the Cruise Control and PTO must be activated. If the PTO can be activated while driving the vehicle, the vehicle speed must be under approximately 8 Km/h (5 mph).

To set the engine speed:

1. Press the Cruise Control / Speed Control Switch to the ON position. This switch is located on the dash of the vehicle.
2. Press the PTO switch to the ON position.

The PTO is now active. The PTO revolutions per minute (RPM) automatically adjusts to the preset PTO speed.

3. Press and hold the RESUME / SET or ACCEL / DECEL button to increase or decrease PTO engine speed. Then press SET to have the PTO maintain the desired speed.



T8159370

1. Cruise Control Resume / Set Steering Wheel Switch
2. Cruise Control ON / OFF / Cancel Steering Wheel Switch



W3133398

Speed Control (Cruise Control) Switch