

Regeneration Methods

The Caterpillar CRS system is designed to operate in automatic mode and perform regeneration as required without any driver action. Manual regeneration is a backup to the automatic mode.

Automatic Regeneration

To complete an automatic regeneration, the dash switch (if equipped) must be in the automatic regeneration position. The Inhibit or Disable Switch (if equipped) must NOT be enabled or "on." Caterpillar recommends automatic regeneration for most applications.

If the DPF soot loading reaches level 3, the DPF Lamp starts to flash and the Check Engine Lamp comes on. At this point, Caterpillar recommends a manual regeneration (or parked regeneration). If the DPF Lamp and Check Engine Lamp do not go out after a complete manual regeneration, contact your authorized Caterpillar® dealer.

Manual Regeneration (or Parked Regeneration)

For a manual regeneration, all of the following conditions must be met.

- The DPF Lamp must be on or is flashing with the Inhibit (or Disable) Switch "off."
- The Manual Regeneration (or Parked Regeneration) switch must be enabled or "on."
- The throttle, clutch and service brake must be released.
- Vehicle speed must be zero.
- The automatic transmission must be in neutral.
- The parking brake must be set, if programmed.

When these conditions are met and the switch is on (for some OEMs the switch is depressed for four seconds), the DPF Lamp turns off and the engine speed automatically increases to between 1200 rpm and 1400 rpm. Once the DPF reaches approximately 840° F (450° C), the High Exhaust System Temperature (HEST) Lamp illuminates. When regeneration is complete, the engine returns to idle.

If any of the above conditions change, manual regeneration deactivates and the engine returns to idle. If the DPF Lamp illuminates again, manual regeneration must be restarted.

High Exhaust System Temperature Lamp



The HEST Lamp comes on when the vehicle speed is less than 5 mph and the DPF outlet temperature is more than approximately 840° F (450° C). This condition can occur under normal operation. No action is required.

Driver Tips

Engine Noise: If the truck shuts down during a regeneration, the CRS purge air pump will run for approximately 10 minutes. When key is on at truck startup, the air pump will run for approximately five minutes. This is normal operation of the pump.

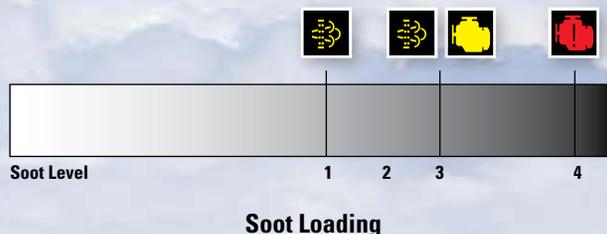
Note: This information is for reference only. Consult the Caterpillar Engine Operation and Maintenance Manual or your OEM truck manufacturer's manual for a complete description of exhaust aftertreatment.

The DPF Regeneration Lamps, Switches and Driver Tips

HEST (High Exhaust System Temperature) Lamp	
DPF (Diesel Particulate Filter) Lamp	
Check Engine Lamp	
Stop Engine Lamp	

Soot Loading Warnings

Soot loading is an accumulation of particulate matter in the DPF. During normal operation, the lamps should not come on, but there may be circumstances when they do. Following is a brief summary of what the lamps mean and what to do if they should light up. If the lamps remain on after the recommended actions, contact your Caterpillar authorized dealer.



1. If the DPF Lamp begins to flash, check to ensure the two position Inhibit (or Disable) switch is "off" or the three position switch is in the automatic regeneration position. The DPF Lamp will stop flashing when the Inhibit (or Disable) function is "off." If the DPF Lamp continues to flash, proceed to step 3.



2. The DPF Lamp comes on when the DPF reaches Level 1 of soot loading.

3. If the vehicle continues to be driven, the DPF will reach Level 2 of soot loading and the DPF Lamp will begin to flash or turn red. A regeneration must be performed as soon as safely possible.



4. The DPF Lamp continues to flash and the Check Engine Lamp comes on when soot loading reaches Level 3. Regeneration is required.

Soot Loading Warnings

(Continued)



- If the vehicle continues to be driven without regeneration, the engine progressively derates down to a reduced horsepower level which will limit maximum vehicle speed.
- At Level 4 of soot loading, the Stop Engine Lamp comes on. If regeneration is not started immediately, the Stop Engine Lamp will begin to flash and the engine will shut off in 30 seconds.
- The engine may be restarted and the driver must initiate regeneration. If the vehicle continues to be driven without regeneration, the engine shuts down for a second time.
- After a second shutdown, regeneration may not be initiated and the engine will run for only 60 seconds at a time.

Dash Switch Functions

(If Equipped)

The dash switch allows the driver to control the regeneration process.

- Automatic (Preferred Position):** A regeneration cycle starts automatically when engine conditions warrant. The driver does not need to take any action.
- Disabled or Inhibit:** Engaging this switch stops the regeneration process.

CAUTION: The DPF and regeneration system may be damaged if this switch remains in this position for an extended time.

- Manual Regeneration (or Parked Regeneration) Start:** The driver can initiate regeneration by moving the switch to the "on" position. Some OEM switches require the switch to be held for four seconds. The DPF Lamp must be on or flashing for manual regeneration to occur.

DPF Switch

(If Equipped)

The switches pictured are for example only. They may or may not appear on your vehicle's dashboard; every truck manufacturer uses a different arrangement. For specific instruction, consult your OEM truck manufacturer's manual.

Three Position Switch

Front View

Side Views

Preferred



UP: Start Manual/Parked Regeneration

MIDDLE: Automatic Regeneration

DOWN: Inhibit (or Disable) Function is "on"

Two Position Manual/Parked Regeneration Switch

Front View

Side View

Preferred



UP: Manual/Parked Regeneration is "on"

DOWN: Automatic Regeneration

Two Position Switch - Inhibit or Disable Regeneration*

Front View

Side View

Preferred



UP: Inhibit (or Disable) Function is "on"

DOWN: Inhibit (or Disable) Function is "off"

*The Disable Switch overrides the Manual Regeneration Switch. For Manual Regeneration to occur, the Disable Switch must be in the Automatic Regeneration position (OFF). For automatic regeneration to occur both the Disable and Manual Regeneration switches must be in the off position.