The DPF
Regeneration Lamps, Switches and Driver Tips

ACERT™ Technology for 2007

The HEST Lamp is a reminder to the driver that the DPF outlet temperature is more than approximately 840°F (450°C). The vehicle speed must be less than 5 mph (8 km/h) for this lamp to illuminate. 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.

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

a. The DPF Lamp must be on or flashing with the Inhibit (Disable) Switch in the Not Inhibited (Not Disabled) position. (See DPF Switch section.)

b. The Manual Regeneration (or Parked Regeneration) Switch must be “on” or pressed (for some OEMs the switch is depressed for four seconds).

c. The driver must not push the throttle, clutch or service brake pedals during a manual regeneration.

d. The vehicle must be stopped.

e. If the truck is equipped with an automatic transmission it must be in neutral.

f. The parking brake must be set.

When these conditions are met and the Manual Regeneration (or Parked Regeneration) Switch is on or has been pressed (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 conditions change, manual regeneration deactivates and the engine returns to idle. If the DPF Lamp illuminates again, either an automatic regeneration must be performed or manual regeneration must be restarted.

The Caterpillar Regeneration System (CRS) 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 (Disable) Switch (if equipped) must be in the Not Inhibited (Not Disabled) position. Caterpillar recommends automatic regeneration for most applications.

Manual Regeneration (or Parked Regeneration)

If for any reason an automatic regeneration has not happened and 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.

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Regeneration

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

- The DPF Lamp must be on or flashing with the Inhibit (Disable) Switch in the Not Inhibited (Not Disabled) position. (See DPF Switch section.)
- The Manual Regeneration (or Parked Regeneration) Switch must be "on" or pressed (for some OEMs the switch is depressed for four seconds).
- The driver must not push the throttle, clutch or service brake pedals during a manual regeneration.
- The vehicle must be stopped.
- If the truck is equipped with an automatic transmission it must be in neutral.
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If any of the conditions change, manual regeneration deactivates and the engine returns to idle. If the DPF Lamp illuminates again, either an automatic regeneration must be performed or manual regeneration must be restarted.
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.

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Dash Switch Functions
(if equipped)

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

1. Automatic (Preferred Position):
   A regeneration cycle starts automatically when engine conditions warrant. The driver does not need to take any action.

2. 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.

3. Manual Regeneration (or Parked Regeneration) Start:
   The driver can initiate a manual regeneration by moving the switch to the Manual (Parked) Regeneration 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 to the right 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.

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Three Position Switch

Front View

Side Views

- **UP:** Start Manual/Parked Regeneration
- **MIDDLE:** Automatic Regeneration
- **DOWN:** Inhibit (or Not Inhibited)

Two Position Manual/Parked Regeneration Switch

Front View

Side Views

- **UP:** Manual/Parked Regeneration
- **DOWN:** Automatic Regeneration

Two Position Switch

Inhibit (Disable) Regeneration*

Front View

Side Views

- **UP:** Inhibit (or Disable)
- **DOWN:** Not Inhibited (or Not Disabled)

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*The Inhibit (Disable) Switch overrides the Manual Regeneration Switch. For Manual Regeneration to occur, the Inhibit (Disable) Switch must be in the Not Inhibited (Not Disabled) position. For automatic regeneration the Inhibit (Disable) Switch must be in the Not Inhibited (Not Disabled) position and Manual Regeneration Switches must be in the Automatic position.

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1. If the DPF Lamp is flashing and the Check Engine Lamp is off, the ECM is requesting an automatic regeneration but the Inhibit (Disable) Switch is in the Inhibit position. Place the switch in the automatic or Not Inhibited position and continue to drive. The DPF Lamp will stop flashing and an automatic regeneration will begin.

2. The DPF Lamp is on solid. The driver must initiate an automatic or manual regeneration as soon as safely possible.

3. If the DPF Lamp is flashing and the Check Engine Lamp is on, level 3 of soot loading has been reached and a regeneration, either automatic or manual, must be performed as soon as safely possible.

4. If regeneration can not be achieved, the truck should be taken to an authorized Caterpillar® dealer.

5. 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.

6. 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.

7. 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.

8. After a second shutdown, regeneration may not be initiated and the engine will run for only 60 seconds at a time.
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### Soot Loading

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Two Position Manual/Parked Regeneration Switch

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