

Riverdale Poultry

SUBJECT: **Regeneration Process**

Origin Date: **Nov 8, 2024**

Revision Date: **Insert Date**

Approved by: **Operations Department**

To summarize Regeneration process for drivers, including how to do it. This stays in Driver's binder.

Regeneration Overview (Passive vs Active)

Passive Regeneration process: Occurs naturally during normal driving conditions when exhaust temperatures are sufficiently high to oxidize and burn off the accumulated soot in the DPF.

- Passive regeneration is most effective while driving on highways as the high engine loads and speeds, typically above 55-65 MPH(88-105 Km/h).
- Continuous Driving for at least 20-30 Min allows the exhaust temperature to burn off accumulated soot.

Active regeneration process (ARP): A controlled process initiated by the ECU to burn off accumulated soot in the DPF, when passive regen conditions are not met or soot levels are too high. The ECU monitors various engine parameters such as exhaust temperature, engine load and DPF soot level. When the soot level reaches a certain threshold (~70-90%), the ECU triggers an ARP.

If you don't do an Active Regeneration you risk 1) engine power reduction; 2) increased fuel consumption; 3) more warning lights; 4) potential damage to DPF and engine

Active Regeneration - When to Do It? How to Do it? Common Notifications:









When To Do It: When the DPF lamp is flashing- you need to run an Active Regeneration Process.

The 5 Step Process:

- 1) **Prepare the vehicle:** Park in a safe area (away from vegetation, structures or flammable materials), set transmission to Neutral, engage Parking Brake.
- 2) **Warm the Engine:** Start and warm up the engine until the coolant temperature hits 150°F (66°C).
- 3) **Set Engine and Transmission:**
 - a) **Manual Truck:** Keep at slow idle.
 - b) **Automatic Truck:** Briefly shift to Gear then back to Neutral.
- 4) **Initiate Regeneration:** Lift the Regen Switch Guard and hold the DPF button for 5 seconds until the HEST lamp lights on.
- 5) **Monitor and Complete:**
 - a) **Manual Truck:** Stay within the vehicle, Engine speed will increase, and the DPF lamp will turn off.
 - b) **Automatic Truck:** Stay within the vehicle, Regeneration finishes in 20-60 minutes

To Stop Regen: Automatic transmission- Press the clutch, brake, or accelerator pedal . Press and hold the Regen Inhibit Switch until idle returns to normal. Shut down the engine if needed.

Manual - Press and hold the Regen Inhibit Switch until idle returns to normal. Shut down the engine if needed.

NOTIFICATION AND DESCRIPTION	DRIVER ACTION
 Check Engine Lamp or Amber Warning Light (CEL or AWL) <ul style="list-style-type: none"> • Engine controls, aftertreatment control system and/or component issues exist. 	Vehicle can be driven to end of shift. Call for service.
 High Exhaust System Temperature Lamp (HEST) <ul style="list-style-type: none"> • Solid: Exhaust is at high temperature and vehicle is at low speed or parked. • Flashing: Parked regeneration in process. System is not up to temperature. 	No change in driving style is required. When parked, keep vehicle at a safe distance from people and flammable materials or vapors.
 Malfunction Indicator Lamp (MIL) / Check Engine Lamp <ul style="list-style-type: none"> • There is a potential problem with the emission control system or component. • May illuminate at the same time as the Check Engine Lamp. • Driving for a prolonged period with the MIL on can cause damage to the engine and/or aftertreatment system as well as degrade mileage and drivability. 	Vehicle can be driven to end of the shift. If the MIL remains on after 3 drive cycles, call for service.
 DPF Regeneration Lamp <ul style="list-style-type: none"> • Solid: Parked regeneration may be needed. • Flashing: Parked regeneration is required as soon as possible. • Diesel Particulate Filter reaching system limits. 	Perform a parked regeneration OR bring vehicle to highway speeds to enable Automatic Regeneration of the filter.
Flashing  ENGINE DERATED <ul style="list-style-type: none"> • Diesel Particulate Filter has reached system limits. 	A parked regeneration must be performed. If the parked regeneration exits and the lamps remain on, repeat the parked regeneration. If the second attempt fails, call for service.
Flashing  ENGINE SHUTDOWN <ul style="list-style-type: none"> • Diesel Particulate Filter has exceeded system limits. 	<p>A parked regeneration must be performed. If the parked regeneration exits and the lamps remain on, repeat the parked regeneration. If the second attempt fails, call for service.</p> <p>Note: Engine can be restarted, but a parked regeneration must be initiated within 30 seconds or the engine will shutdown.</p>
 Fuel Filter Restriction Sensor Lamp (FFRS) <ul style="list-style-type: none"> • Fuel Filter is restricted. 	Driver has one to three days to seek service or the engine may derate.
 Water In Fuel Lamp (WIF) <ul style="list-style-type: none"> • Water level is too high and must be drained from the fuel system. 	Engine water separator must be drained or an engine derate will occur.