5.3   CALIFORNIA ENGINE IDLE LIMITING

California has new legislation that requires the engine manufacturer to limit the allowable engine idling time. This logic is activated on engines/vehicles registered in California starting in 2008.

5.3.1   OPERATION

This shutdown feature is not an engine malfunction and is required to meet the state of California emissions regulations. After an automatic shutdown, the engine may be restarted and operated normally. Cycling the key to OFF is not necessary. Idle Shutdown enables engine restart in the same ignition cycle in which a shutdown has occurred. The parameter and setting options for Idle Shutdown are listed in Table 5-4.

Parameter Group	Parameter	Options	Default	Setting
17	Restart Enable	0 – Disable restart in the same ignition cycle 1 – Enable restart in the same ignition cycle	0	1

Table 5-4   Idle Shutdown Parameter for Engine Restart

Idle Conditions

The idle timer is activated only when all criteria of condition A or condition B listed in Table 5-5 are met.

Condition A	Condition B
Engine is running in idle	Engine is running
Coolant temperature is higher than 60°F (15.6°C)	Coolant temperature is higher than 60°F (15.6°C)
Vehicle is not moving	Vehicle is not moving
Transmission is in neutral gear (or no neutral detection available)	Transmission is in neutral gear (or no neutral detection available)
Accelerator pedal is at idle position 0%	Accelerator pedal is actuated

Table 5-5   California Engine Idle Limiting Conditions

When the timer for condition A reaches five minutes (300 s) while Park Brake is closed or 15 minutes (900 s) while Park Brake is open, the engine shutdown sequence will commence. When the timer for condition B reaches five minutes (300 s) while Park Brake is closed or 15 minutes (900 s) while Park Brake is open, the engine shutdown sequence will commence. If any of the criteria for condition A or B are not met, the timer will not be active. The timer will reset and begin counting from zero again once all the criteria for either condition are met. The engine shutdown sequence can be overridden by the conditions detailed in one of the following sections.

PTO Conditions

The PTO shutdown timer is activated when all of the following conditions are met:

- □ PTO is active (Cruise PTO)
- □ Remote PTO is not active (Pin 2/9 is not grounded)
- □ Coolant temperature is higher than 60°F (15.6°C)
- □ Transmission is in neutral gear (or no neutral detection available)
- □ Vehicle is not moving

If Remote PTO is active (CPC pin 2/9 is grounded or multiplexed on J1939 and feature is enabled), the PTO and idle timers for the CARB idle limiting feature are deferred until Remote PTO is inactive and the criteria described in the previous section are met. Refer to section 4.1.21 for a full description of the Remote PTO Switch.

Override Conditions

The timer is reset when one of the following conditions are met. To prevent tampering, permanently applying a condition will not defer the shutdown.

- □ Service brake pedal is actuated
- □ Clutch pedal is actuated
- □ Stop engine override is actuated
- □ Accelerator pedal is actuated
- □ Status of park brake changed

Diagnostic Tools (DDDL or DDRS)

If a diagnostic tool is connected while the engine is running an additional 60 minutes idle time is granted. This session is available once per ignition cycle and will run out whenever idle or PTO conditions are met. When the idle or PTO conditions are no longer met, the diagnostic timer will be delayed.

If the tool is disconnected within this 60 minutes and either idle or PTO conditions are met, the engine will shutdown when either the diagnostic timer has run out or the regular timer for idle or PTO has reached its time to shutdown. If the diagnostic session takes longer than 60 minutes of idle time and idle or PTO conditions are met, the shutdown process will start.

The remaining idle time in diagnostic mode can be monitored using UDS analogue value #44.

High Idle Regeneration

High Idle Regeneration (HIR) will defer the shutdown process until the completion of the high-idle regeneration.

5.3.2   INTERACTION WITH OTHER FEATURES

The features listed in Table 5-6 are affected by California Engine Idle.

Feature	Interaction with California Engine Idle Limiting
Optimized idle	Permanently disabled
Traditional Idle and PTO Shutdown	These features can be used. The California logic takes the minimum of the calibrated idle and PTO shutdown times. To prevent tampering, permanent override conditions will not affect the California Engine Idle Limiting logic functionality.
Continuous Override (auto and throttle pedal)	Disabled

Table 5-6   California Engine Idle Limiting and Other Features