

5.29 SOFT CRUISE

Soft Cruise feature increases fuel economy by reducing the available torque and introducing an alternate set of switches.

5.29.1 OPERATION

Soft Cruise reduces the available torque at the cruise set speed to a previously determined “road load” horsepower (i.e. the horsepower in the current gear that is required to move a fully loaded tractor/trailer combination down a level road at the set speed). Maximum available torque curve ramps back up only after the vehicle speed drops below the cruise set speed down to a calibrated delta. This effectively prefilters the cruise control system torque requests and reduces the overall fueling required to operate the vehicle, increasing fuel economy.

The Soft Cruise feature also introduces an alternate set of engine retarder switch ON/OFF speeds (vehicle speed triggers) based on the estimated grade of the road:

- Steeper grades result in more aggressive engine retarder behavior
- Mild grades reduce engine retarder engagement to maximize vehicle inertia
- Engine retarder also functions in three different steps based on programmed parameters.

Preliminary test results show ~1% fuel economy improvement with Soft Cruise.

5.29.2 PROGRAMMING REQUIREMENTS AND FLEXIBILITY

The parameters for Soft Cruise are listed in Table 5-101.

Diagnostic Name	Parameter Group	Min	Max	Default	Range	Access
SCruise Eng Ret1 On Thres Spd	10	0	31.75	3	Soft Cruise alternative engine brake activation threshold stage 1	DRS, VEPS, DDDL 7.0
SCruise Eng Ret2 On Thres Spd	10	0	31.75	5	Soft Cruise alternative engine brake activation threshold stage 2	DRS, VEPS, DDDL 7.0
SCruise Eng Ret3 On Thres Spd	10	0	31.75	8	Soft Cruise alternative engine brake activation threshold stage 3	DRS, VEPS, DDDL 7.0
SCruise Eng Ret1 Off Thres Spd	10	0	31.75	1	Soft Cruise alternative engine brake deactivation threshold stage 1	DRS, VEPS, DDDL 7.0
SCruise Eng Ret2 Off Thres Spd	10	0	31.75	3	Soft Cruise alternative engine brake deactivation threshold stage 2	DRS, VEPS, DDDL 7.0
SCruise Eng Ret3 Off Thres Spd	10	0	31.75	5	Soft Cruise alternative engine brake deactivation threshold stage 3	DRS, VEPS, DDDL 7.0
Soft Cruise Enable	15	0	8	0	0 = disable 4 = Soft Cruise enabled 8 = Soft Cruise enabled with alternative engine brake thresholds	VEPS

Table 5-101 Soft Cruise