

### Engine Idling

Avoid prolonged idling, long periods of idling may be harmful to your engine because combustion chamber temperatures can drop so low that the fuel may not burn completely. Incomplete combustion allows carbon and varnish to form on piston rings, cylinder head valves, and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the oil and causing rapid wear to the engine.

### Stopping The Engine

After full load operation, idle the engine for a few minutes before shutting it down. This idle period will allow the lubricating oil and coolant to carry excess heat away from the turbocharger.

**NOTE:** Refer to the following chart for proper engine shutdown.

Driving Condition	Load	Turbocharger Temperature	Idle Time (min.) Before Engine Shutdown
Stop and Go	Empty	Cool	None
Stop and Go	Medium		0.5
Highway Speeds	Medium	Warm	1.0
City Traffic	Maximum GCWR		1.5
Highway Speeds	Maximum GCWR		2.0
Uphill Grade	Maximum GCWR	Hot	2.5