

Description and Operation

Overview

The air intake system cleans intake air with a replaceable, dry-type engine Air Cleaner (ACL) element made of treated, pleated paper. A new Air Cleaner (ACL) element must be installed periodically as scheduled. Engine performance and fuel economy are adversely affected when maximum restriction of the Air Cleaner (ACL) element is reached.

The [CAC \(charge air cooler\)](#) is a liquid to air heat exchanger located inside the intake manifold. It's function is to remove additional heat from the intake air charge. This increases the density of the air flow entering the cylinders providing additional power output and efficiency.

The [CAC](#) radiator is a heat exchanger that is located in front of the main radiator below the [A/C \(air conditioning\)](#) condenser. This location allows ambient air to pass through it removing heat from the coolant returning from the [CAC](#) and the turbocharger.

The air intake system measures air temperature with the [TCIPT \(turbocharger intake pressure and temperature sensor\)](#).

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