

Engine Charge Air Cooler Nomenclature - SAE J1148 FEB84

SAE Recommended Practice
Reaffirmed Without Change February 1984

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ENGINE CHARGE AIR COOLER NOMENCLATURE—SAE J1148 FEB84

SAE Recommended Practice

Report of the Engine Committee, approved June 1976, reaffirmed without change February 1984.

1. Scope—This recommended practice is intended to outline basic nomenclature and terminology in common use for engine charge air coolers.

An Engine Charge Air Cooler is a heat exchanger used to cool the charge air of an internal combustion engine after it has been compressed by an exhaust gas driven turbocharger and/or mechanically driven blower. The use of an engine charge air cooler allows increased engine output because of the denser and cooler air available for combustion. Normal cooling sources are the engine's coolant, a raw water source, or air.

Engine charge air coolers are often referred to as either Intercoolers or Aftercoolers depending upon their location, relative to the final compression stage, in the air induction system.

Nomenclature sketches are presented below for the following general types of engine charge air coolers:

1.1 Air to Coolant Types

Mounted in Manifold—Figs. 1 and 2

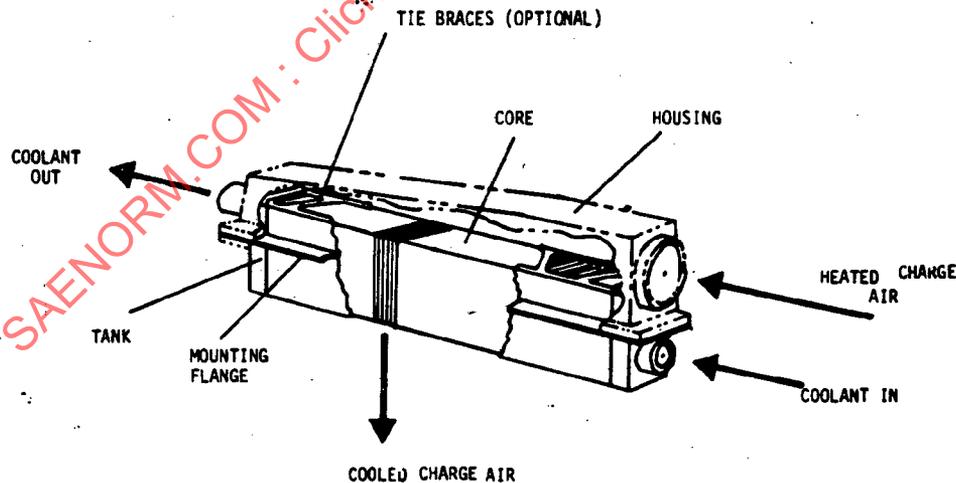
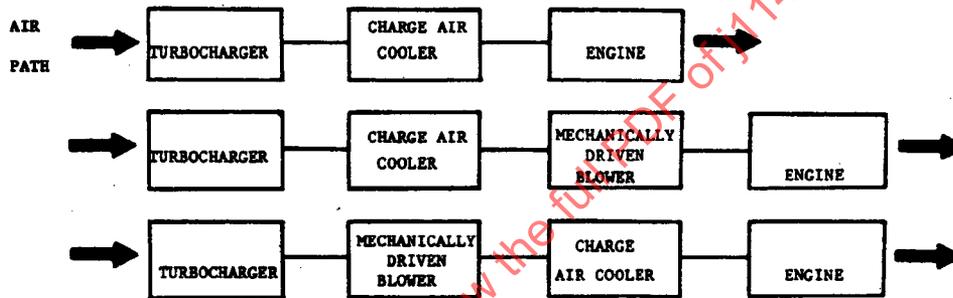
Mounted Remotely—Figs. 3 and 4

1.2 Air to Air Types

Engine-Fan Cooled—Fig. 5

Auxiliary Blower Cooled—Fig. 6

TYPICAL EXAMPLES OF CHARGE AIR COOLER SYSTEMS



NOTE:
COOLANT SOURCES CAN BE VARIED.
MATERIALS HAVE TO BE COMPATIBLE WITH
THE TYPE OF COOLANT AND ENVIRONMENT.

COOLANT TRAVERSES MAY BE A SINGLE PASS
OR A MULTI-PASS ARRANGEMENT.

FIG. 1—AIR TO COOLANT—MOUNTED IN INTAKE MANIFOLD

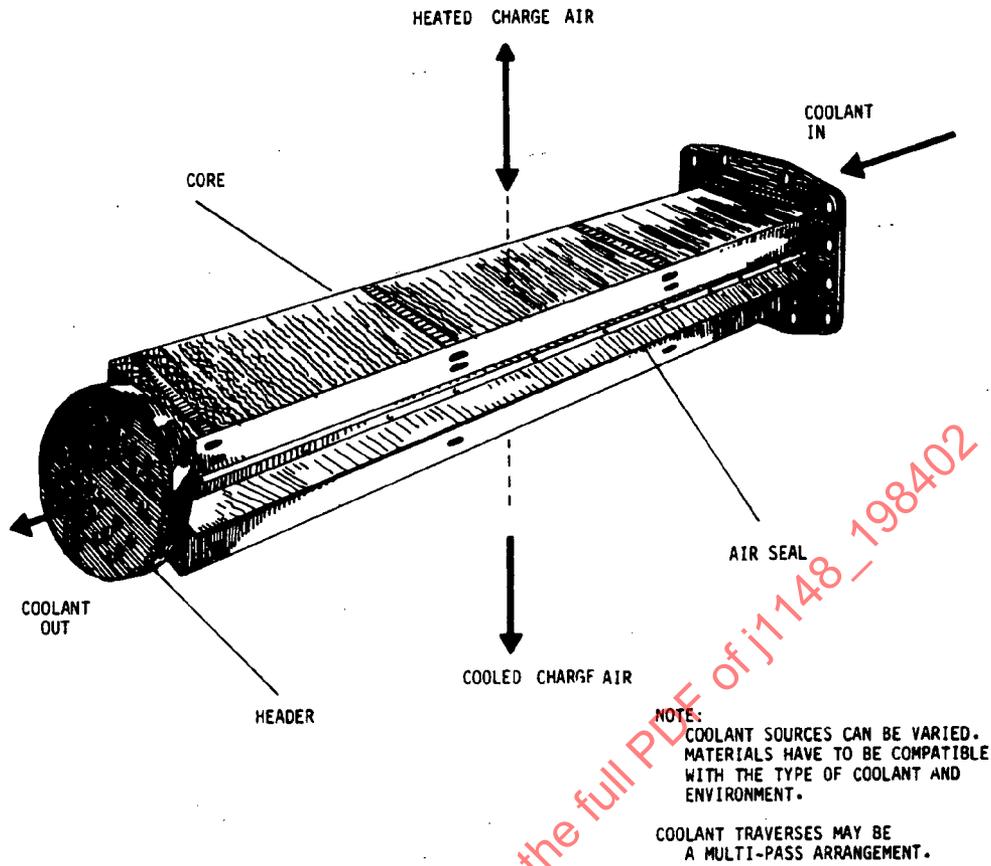
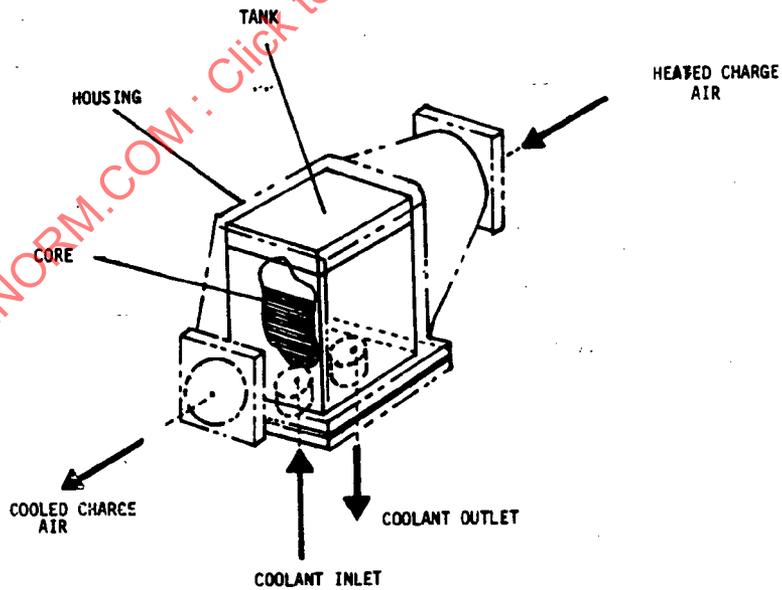


FIG. 2—AIR TO COOLANT—MOUNTED IN INTAKE MANIFOLD



NOTE:
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THE TYPE OF COOLANT AND ENVIRONMENT.

COOLANT TRAVERSE MAY BE A SINGLE
PASS OR MULTI-PASS ARRANGEMENT.

FIG. 3—AIR TO COOLANT—MOUNTED REMOTELY