

Uses a **moving air stream** to cool engine components and maintain a constant operating temperature by dispersing heat that is generated by the engine

Direct cooling system components: cooling fans, air fan/blower, shroud, ducting, Bellows type thermostat
Two most common direct cooling fans are the **Radial Flow Fan** and the **Axial Flow Fan**

Direct Cooling Systems

Direct Cooling System Advantages

- lightweight
- low cost construction (no coolant, inhibitors, radiators or hoses needed)
- optimal engine temperature quickly reached
- don't have to worry about leaks

Possible engine damage from overheating

- blown head gasket
- seized engine,
- cracked cylinder head
- friction damaged engine bore and piston

Direct Cooling System Disadvantages

- Noisy engine operations
- difficult to tell if engine is overheating
- engine will overheat if air stream is not maintained during vehicle operation