Auxiliary Cooling Devices
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- Indirect cooler
- Direct cooler
Reasons for the Devices

- Stationary pumping
  - Limited air movement over engine
- High ambient temperature
- Off-road pumping
- Pump-and-roll operations
- Low radiator level
Indirect Cooler

- Water from fire pump does not mix with radiator coolant
- Inserted into one of the hoses used in the engine cooling system
- Engaged by opening valve on pump panel a quarter of a turn at a time

Types
- Marine and immersion
Indirect Cooler
Direct Cooler

- Water from the pump enters directly into the radiator
  - Radiator filler
  - No longer allowed by NFPA 1901
  - May cause catastrophic failure of radiator