

Cooling Automotive Pistons

Meech Air-Tec Air Amplifiers

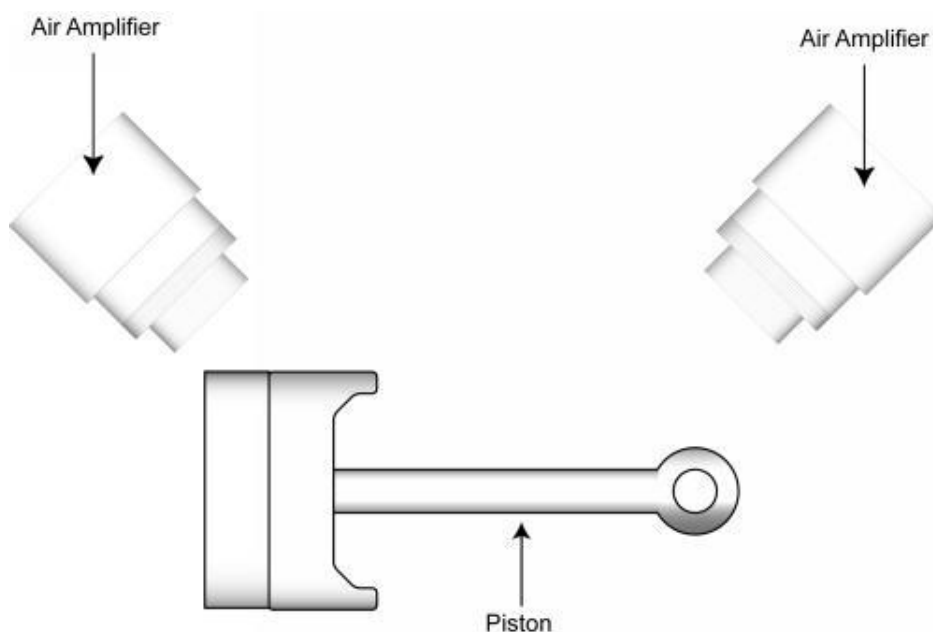
Problem

A well known car manufacturer uses a heat induction process during the construction of pistons that are heated to 120°C. This process is to expand the piston allowing a connection pin, which connects the piston and the shaft, to be added. The main problem is that the pistons cannot be easily removed from the machine because of the heat retained from the induction process. Valuable time and money is lost whilst the machine is at a stand still waiting for the pistons to cool.

Solution

Positioning two Meech Air Technology Energy Saving Air Amplifier at each of the cooling stations provides enough volume of air to drop the temperature to between 30 and 40°C. The machine indexes through eight sections, taking 4 minutes for a complete cycle. The Meech Air-Tec air amplifiers lowered the cycle time to 3 minutes by halving the cooling cycle time. A medium Meech Air Technology, Energy Saving Air Amplifier offers an amplification ratio of 20:1 and is recommended to run at 80psi, at which it will consume 25cfm and give an output flow of 500cfm. Air amplifiers are available in both aluminium and stainless steel.

Fig.



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