US006044808A

United States Patent [19]

Hollis

[11] Patent Number: 6,044,808

[45] Date of Patent: Apr. 4, 2000

[54] **ELECTRONICALLY ASSISTED THERMOSTAT FOR CONTROLLING ENGINE TEMPERATURE**

[76] Inventor: **Thomas J. Hollis**, 5 Roxbury Dr., Medford, N.J. 08055

[21] Appl. No.: **08/848,362**

[22] Filed: **Apr. 30, 1997**

Related U.S. Application Data

[63] Continuation of application No. 08/593,993, Jan. 30, 1996, Pat. No. 5,657,722.

[51] **Int. Cl.**[7] **F01P 3/02**

[52] **U.S. Cl.** **123/41.1**

[58] **Field of Search** 123/41.1; 236/34, 236/34.5

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Primary Examiner—Noah P. Kamen

Attorney, Agent, or Firm—Seidel, Gonda, Lavorgna & Monaco, PC

[57] **ABSTRACT**

A temperature control system in a liquid cooled internal combustion engine including an electronically assisted thermostat for controlling flow of a temperature control fluid through the engine. The electronically assisted thermostat has a first state for inhibiting said flow and a second state for allowing said flow. The thermostat includes a housing with a valve member that reciprocates within the housing between the first state and the second state. A return spring biases the valve member into the second state. A wax pellet is attached to the valve member and has a solid state and a liquid state. The wax pellet maintains the valve member in its first state when the wax pellet is in its solid state, and allows the return spring to bias the valve member into its second state when the wax pellet is in its liquid state. A heating element is mounted within the housing and adapted to transfer heat to wax pellet. The heating element is adapted to receive an electrical transmission for producing heating of the heating element. An engine computer determines a thermostat state based on the temperature control fluid temperature signal and the additional signal. The engine computer sends an output signal when the additional signal is above a predetermined value regardless of whether the temperature of the temperature in control fluid signal is below a predetermined temperature control fluid temperature value. The signal from the engine computer controls the electrical transmission to the heating element.

3 Claims, 59 Drawing Sheets