



**Fuel injection pump (FIP)**

The FIP is of the vane-type and is chain driven from the front end of the crankshaft. Fuel delivery from the FIP to the injectors is regulated by the movement of a control spool. Movement of the control spool increases or decreases the fuel delivery rate to meet engine operating requirements.

The FIP houses the following items that either send signals to the ECM, or responds to signals sent from the ECM:

**Fuel quantity servo unit**

Moves the control spool to regulate the amount of fuel delivered to injectors.

**Servo unit potentiometer**

Used by the control unit to calculate the position of the control spool.

**Injection timing device**

Regulates pump speed dependent on internal pump pressure.

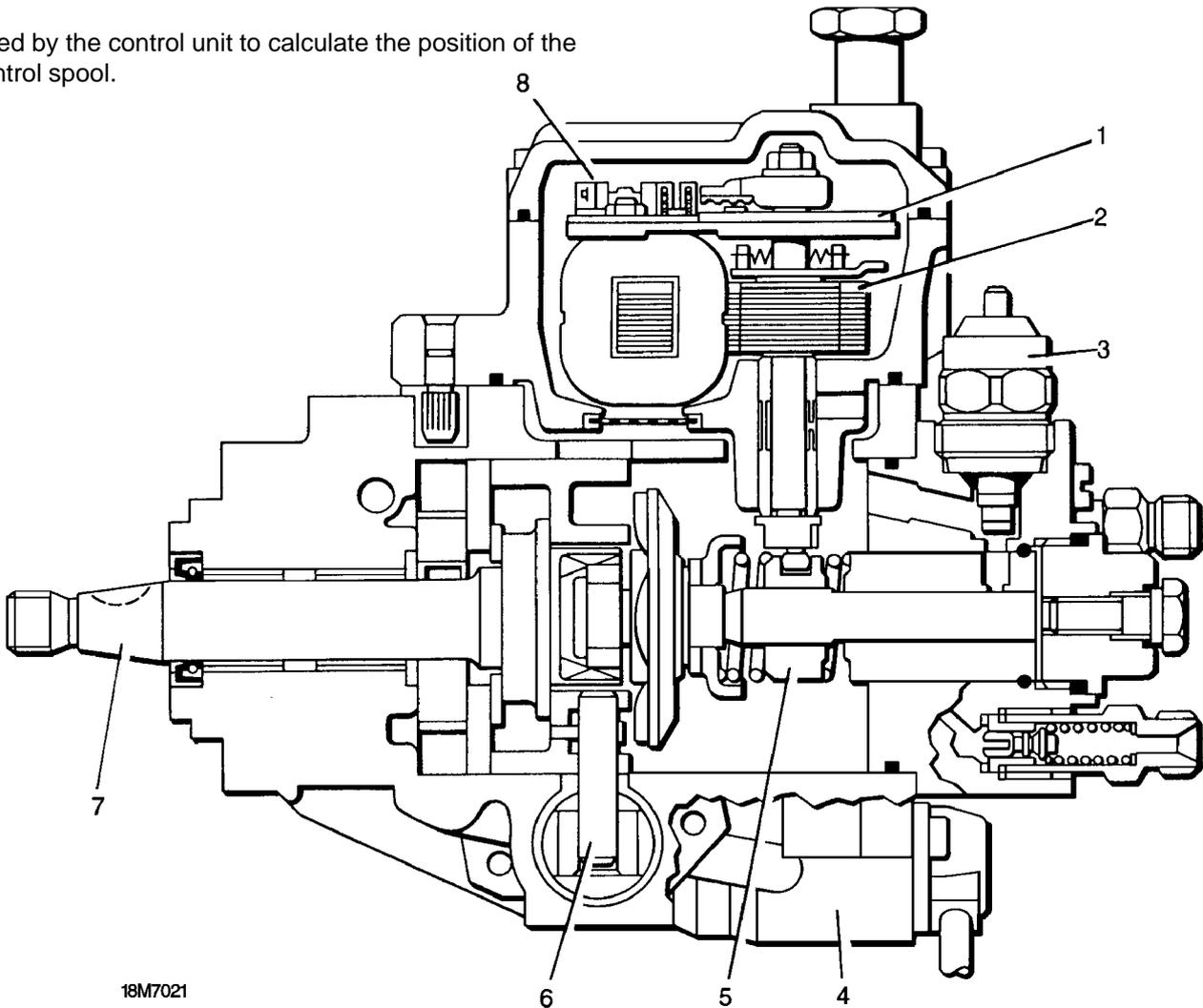
**Fuel temperature sensor**

Monitors fuel temperature.

**Stop solenoid**

Cuts fuel delivery to the injectors when de-energised.

These items have been previously described in this section - **See Input devices or Output devices** as applicable.



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|---|----------------------------|
| 1. Rotary potentiometer                   | 5. Control spool           |
| 2. Quantity control servo unit            | 6. Timing device plunger   |
| 3. Stop solenoid                          | 7. Drive shaft             |
| 4. Injection timing device solenoid valve | 8. Fuel temperature sensor |