

## 14. AUTOMATIC CHOKE SYSTEM

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## 14. AUTOMATIC CHOKE SYSTEM

### DESCRIPTION

The object of this system is to supply a rich mixture temporarily when starting the engine in cold weather.

### OPERATION

#### 1. Automatic Choke System Operation (2T-C and 4M engines)

[When cold]

- When the engine is turned, the current flowing from the generator regulator "L" terminal turns the choke control relay "ON", to allow the current to flow through the automatic choke heat coil and cause the bimetal to heat up with time.
- Since the mixture will be overrich if the choke coil is full closed immediately after starting, the choke breaker, operated by the intake manifold vacuum, maintains the choke valve slightly open so as to ensure proper mixture.

[When hot]

- The bimetal, on being sufficiently heated up, will coil in toward the inner side and open the choke valve.
- The resistance of the positive temperature coefficient (PTC) thermister increases after a certain temperature is reached. The purpose of the increased resistance is to limit the current flowing through the heater to only the necessary amount after the choke valve has fully opened.

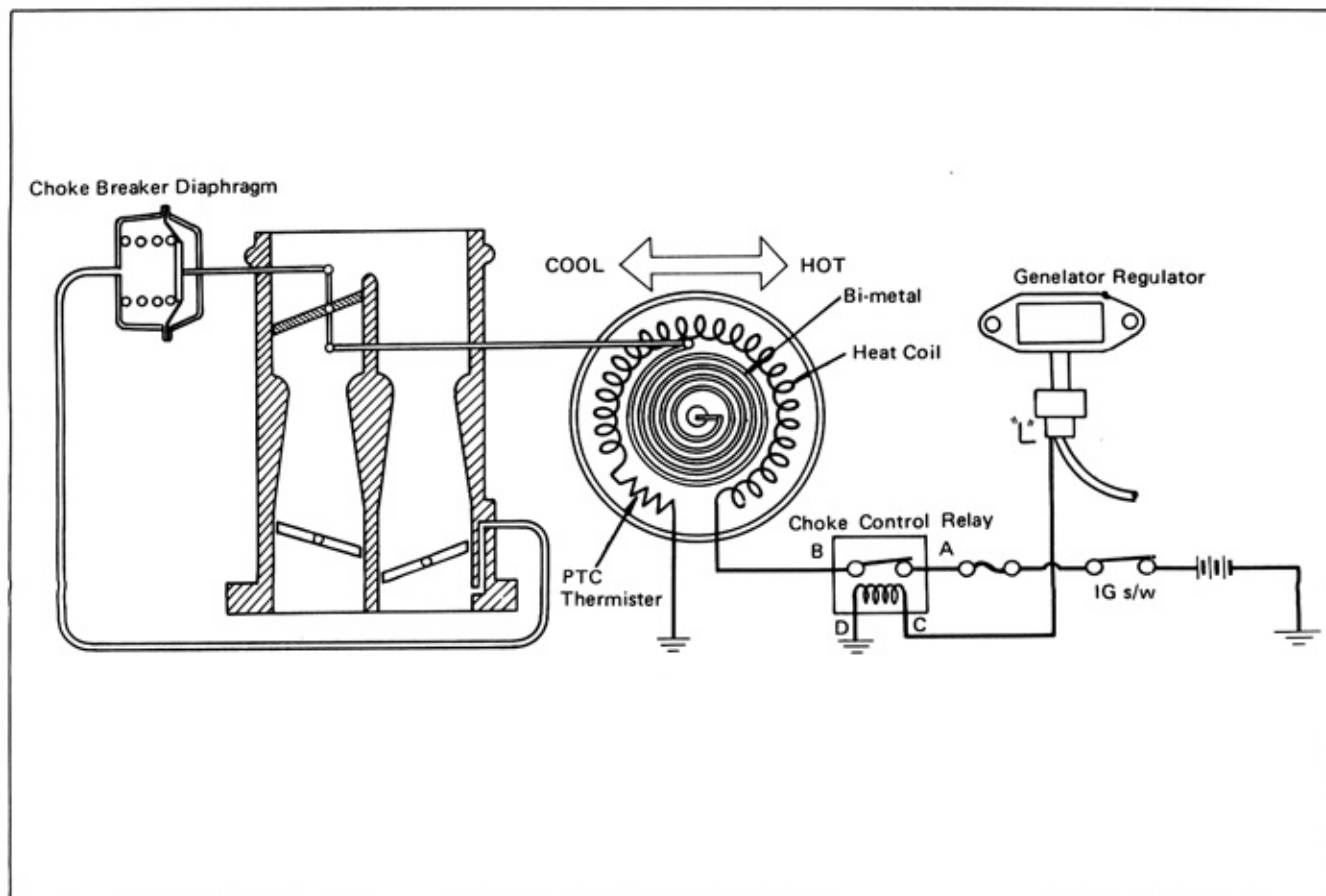


Fig. 14-1 Automatic Choke System

## 2. Automatic Choke System Operation (20R engine only)

[When cold]

- This is a type in which the bimetal is heated by the engine coolant circulating around the outside of the bimetal chamber. At cold engine, the coolant passing through is cold so that the bimetal is expanded toward the outside and has the choke valve closed.
- The choke breaker operation is the same as for the electro-thermo type.

[When hot]

- Since the engine coolant is heated up, the bimetal will heat up.
- The bimetal will coil in toward the inner side and pull the link, causing the choke valve to open.

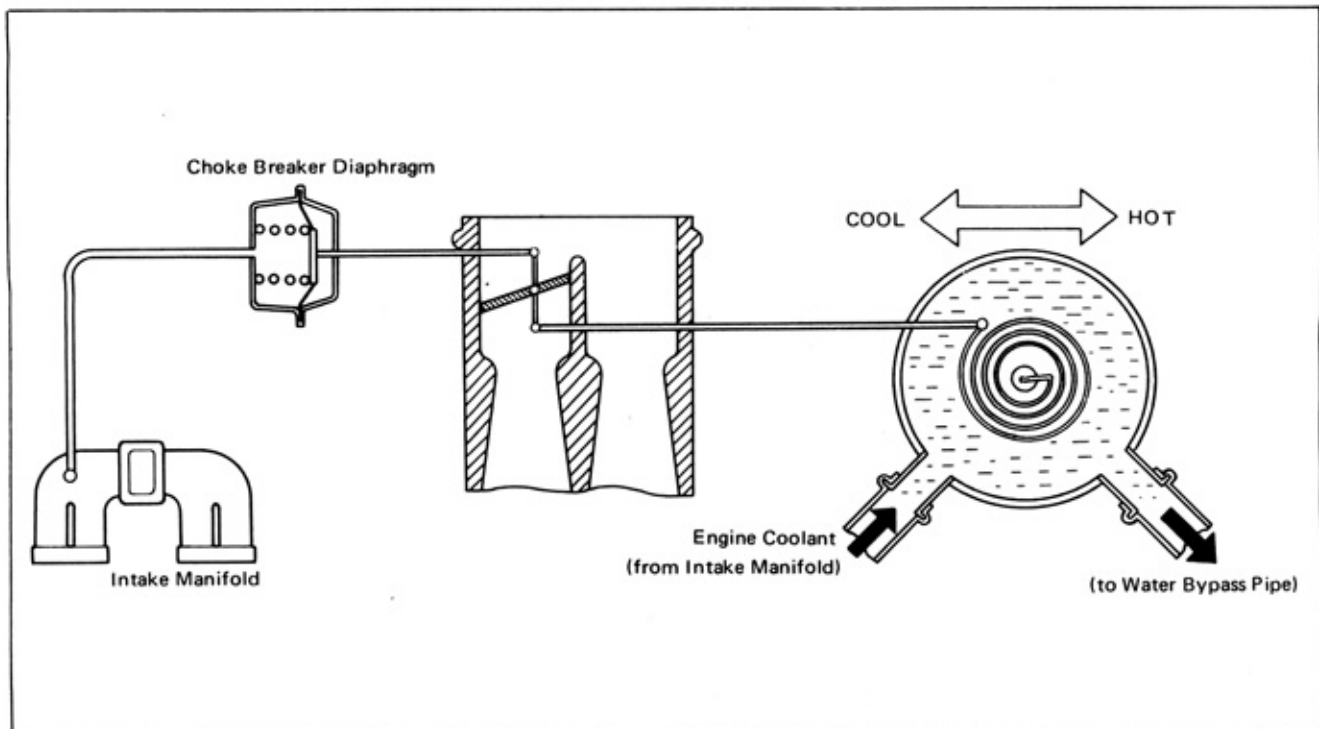


Fig. 14-2 Automatic Choke System – 20R Engine

### INSPECTION

#### 1. Choke Control Relay (2T-C and 4M)

- (1) Using a circuit tester (ohm-meter), check to see that there is no continuity between the terminals "A" and "B".
- (2) Connect the "C" terminal to the battery (+) terminal and the "D" terminal to the body terminal. Check to see that there is continuity between the terminals "A" and "B" at this time.

#### 2. Choke Breaker Diaphragm.

When there is vacuum acting on the diaphragm, the link should move.

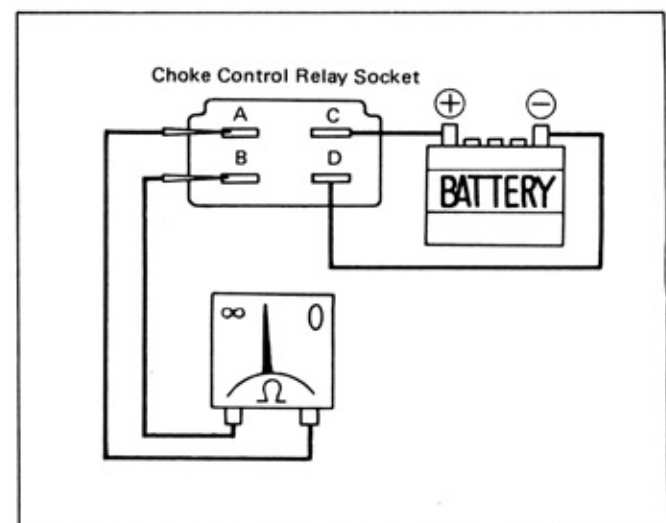
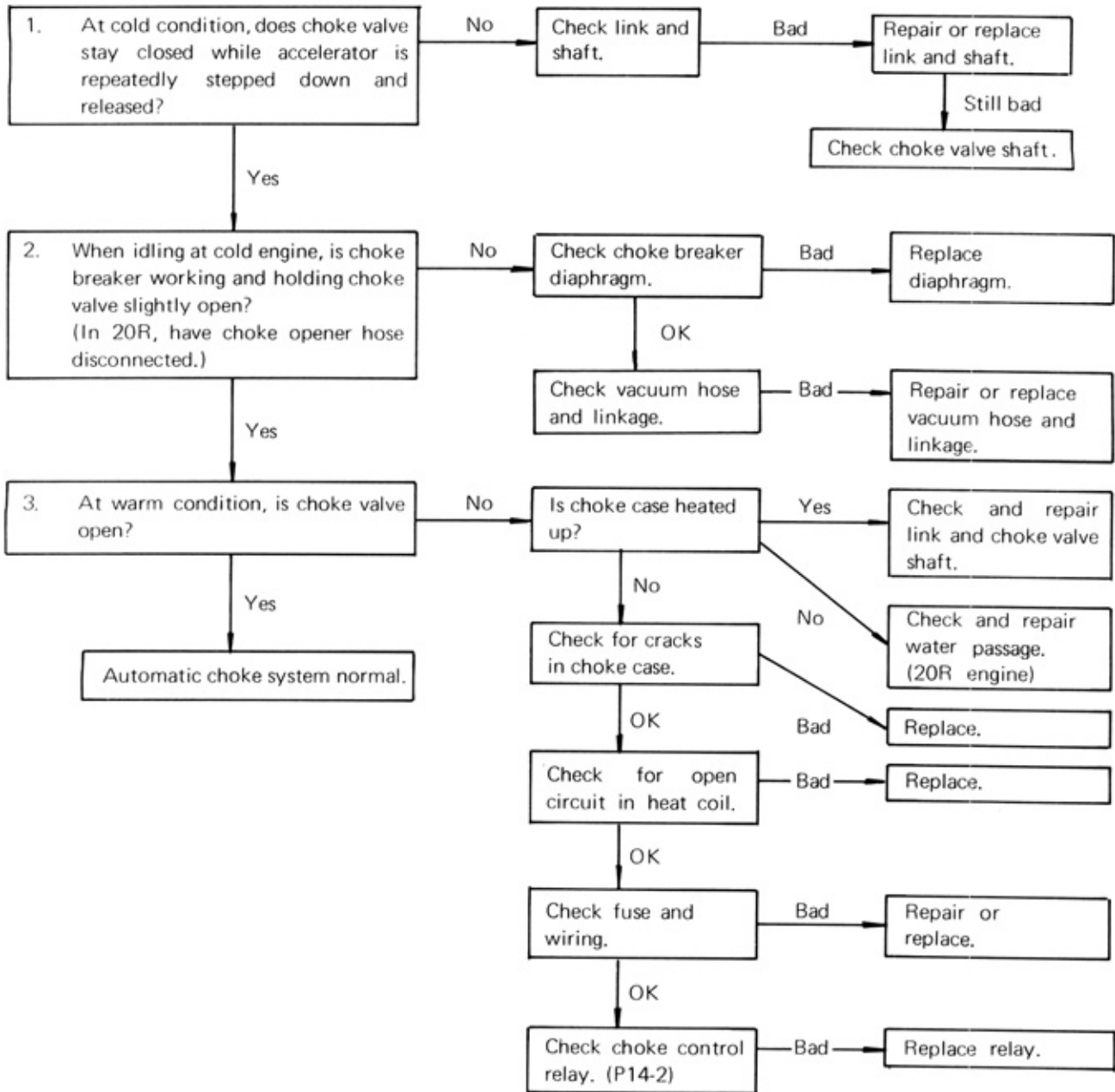


Fig. 14-3 Choke Control Relay Inspection

**AUTOMATIC CHOKE SYSTEM INSPECTION PROCEDURE**



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