

AUTOMATIC PREHEATING

- In cold areas, when the starting switch is turned to ON, the bimetal timer is at low temperature, so the contacts are closed.

As a result, electric current flows in the following circuit.

(1) Battery (+) → starting switch terminal **B** → starting switch terminal **BR** → bimetal timer terminal "2" → (2) and (3).

(2) Bimetal timer terminal "3" → ground connection

(3) Bimetal timer terminal "1" → glow switch terminal "3" → glow switch terminal "2" → heater relay signal terminal → heater relay coil → ground connection. The electric current in circuit (3) closes the heater relay. As a result, electric current flows in the following circuit.

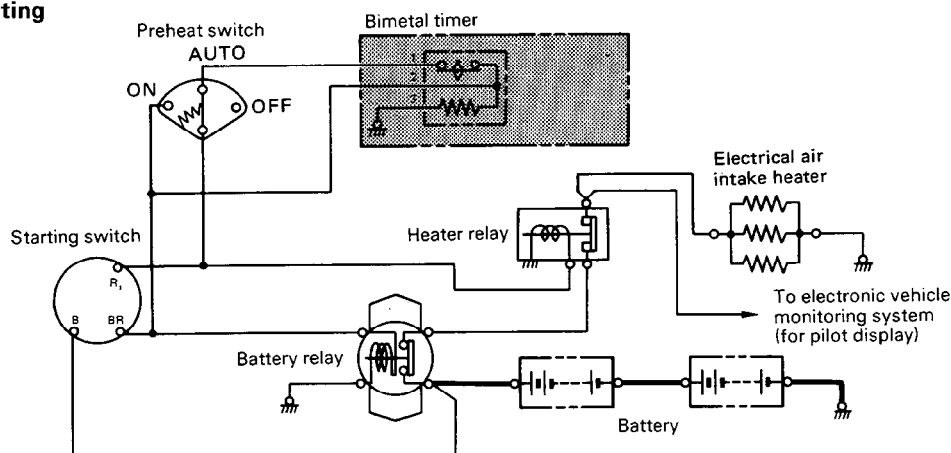
(4) Battery (+) → battery relay → heater relay → electrical air intake heater → ground connection, and the engine is preheated.

When this happens, circuit (2) sends electric current through the resistor inside the bimetal timer, so the resistor heats up and the bimetal between bimetal timer terminal "2" and terminal "1" is heated.

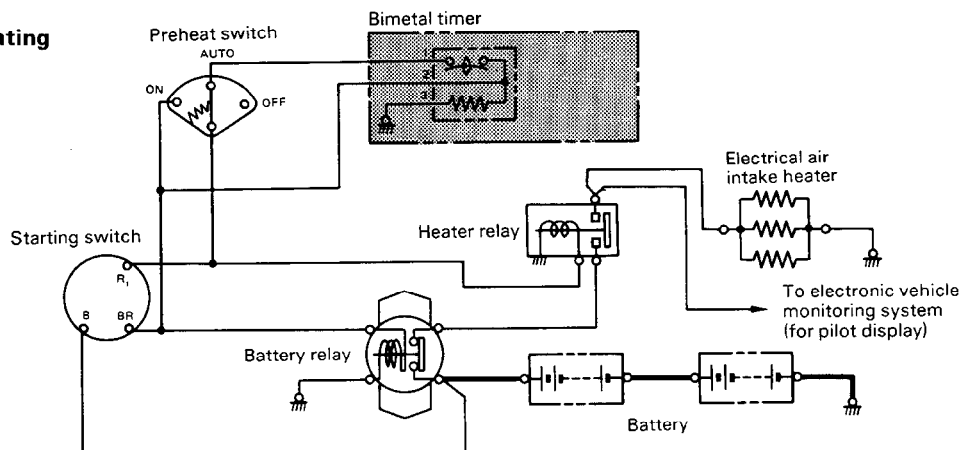
As a result, after a time (the time depends on the ambient temperature) the bimetal bends (opens) and circuit (3) is shut off.

The flow of electric current to the heater relay coil stops, so the heater relay is opened and preheating stops. Even after the preheating stops, electric current continues to flow between terminals "2" and "3" of the bimetal timer, so the bimetal is kept heated. Therefore the bimetal does not become straight until the starting switch is turned OFF, so after the engine is started, there is no preheating.

While preheating

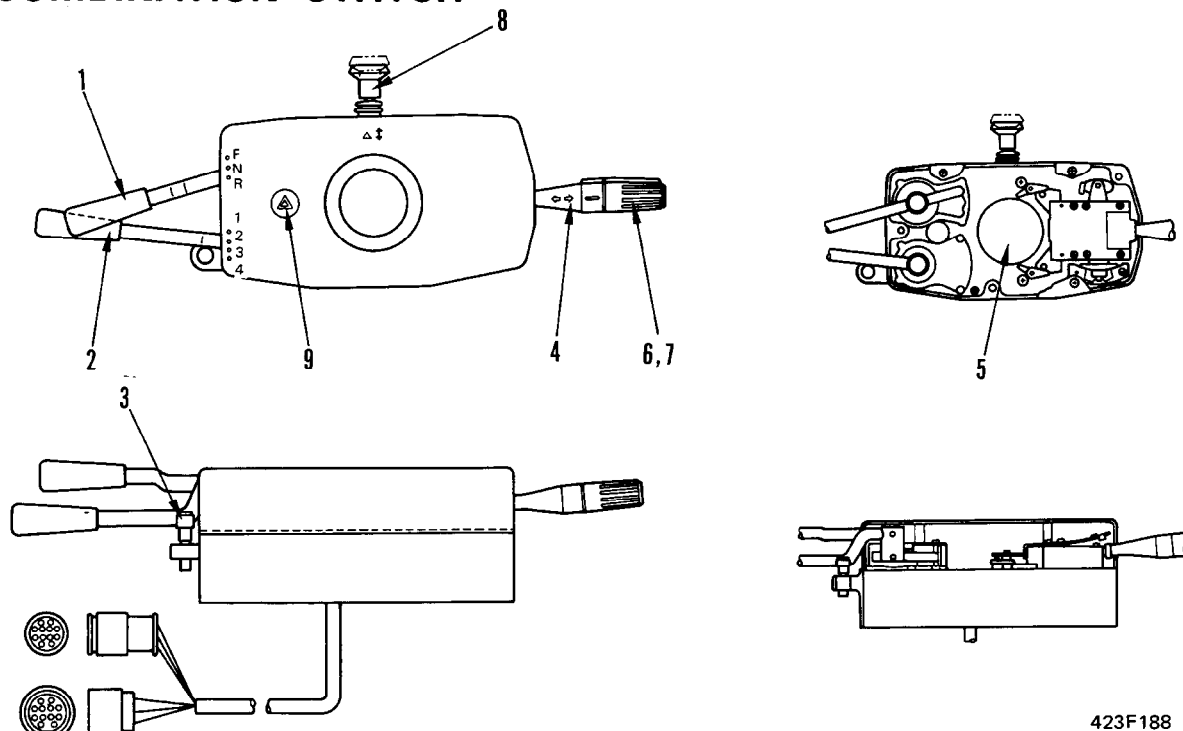


After preheating



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COMBINATION SWITCH



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Outline

- The FORWARD-REVERSE lever has three contacts; the speed control lever switch has four contacts. The switch alone has no detent mechanism. The detent mechanism is in the combination switch itself. Each switch is held at two places by pins. In addition, each switch is secured to the base by three screws.

When the lever is moved to the desired position, the switch, which is connected by a shaft, moves and electric current flows in only that circuit to move the machine.

Function

1	FORWARD-REVERSE lever switch	Selecting FORWARD, REVERSE or NEUTRAL
2	Speed control lever switch	Selecting machine speed range
3	Speed control lever stopper	Prevents speed control lever from going into 3rd or 4th speed during operations
4	Direction indicator lamp	Indicates direction when turning left or right
5	Self cancel	Returns direction indicator lamp lever to neutral automatically after turning left or right
6	Lamp switch	Selects clearance lamps, headlamps, parking lamps
7	Dimmer switch	Selects travel beam, low beam
8	Emergency flasher switch	Makes left and right wipers flash at the same time
9	Emergency flasher pilot lamp	Flashes when emergency flasher lamp is ON