Stepping motor, air-mixing flap, RH

222RH

29,10   30,11

216

E870D024

216

H10-6

222RH   E870D025
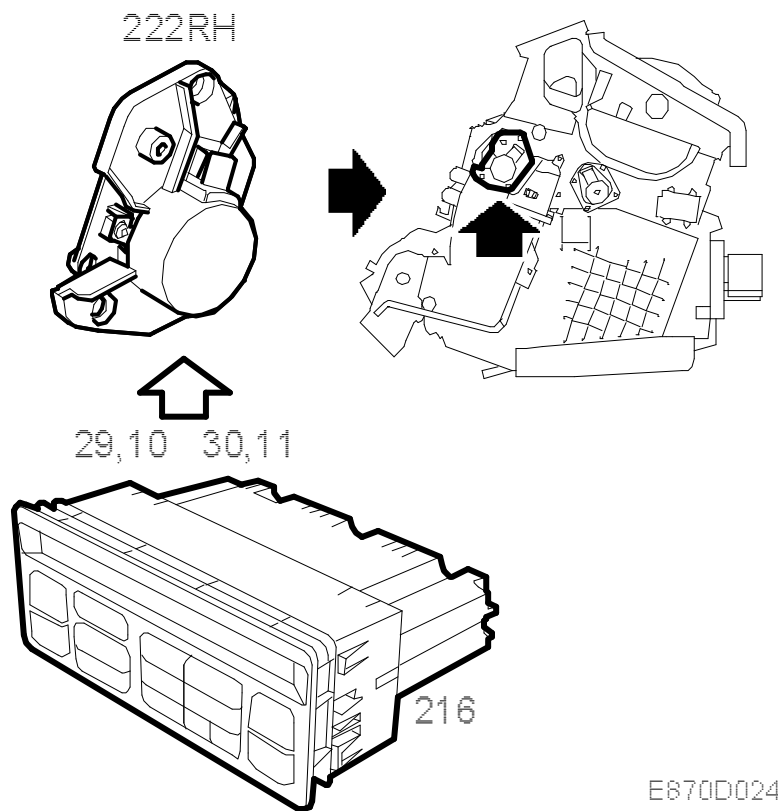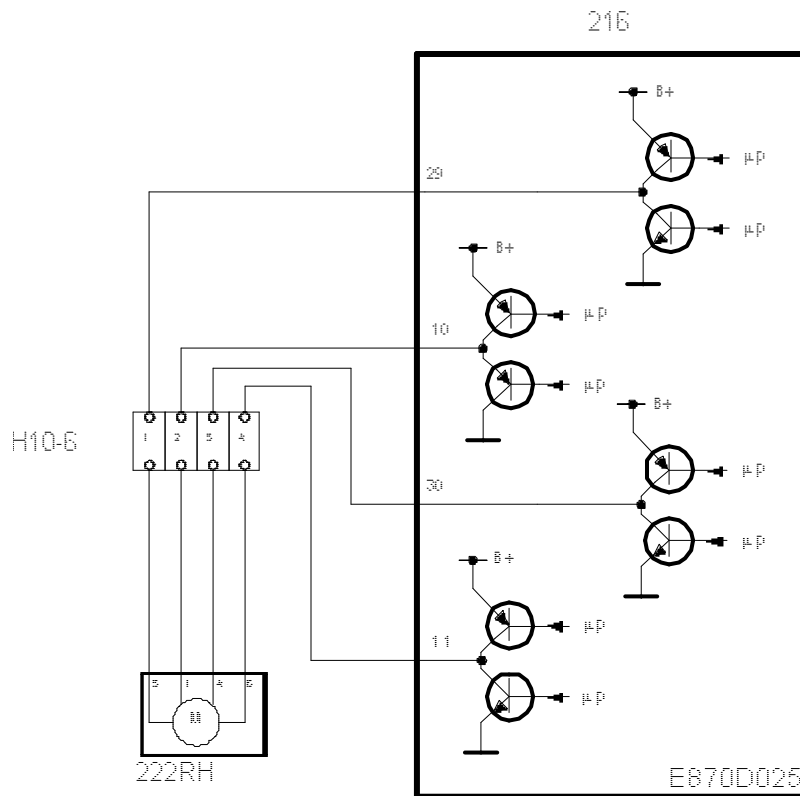
The stepping motor has two windings. The windings are energized in a special order with short pulses. This makes the motor move in short steps, which is how it got its name. The direction of rotation can be changed. When the motor is stationary, both the windings are energized continuously to lock the motor. The stepping motor does not require a feed-back coupling to the control module (position sensor). By sending a known number of pulses, the control module always knows how far the flap has moved. This is possible on condition that the control module has calibrated itself by turning the flap to its respective end positions so that it knows the position of the flap.

Calibration is performed by pressing the AUTO and OFF buttons. Calibration must be performed if the battery has been disconnected/discharged, if the ACC unit or stepping motor has been changed, or if its position has been changed.

The climate system has three air-mixing flaps, one for the driver's zone and one for the front seat passenger that is linked to the air-mixing flap for the rear seat passengers.

The stepping motor for the right-hand air-mixing flap is supplied with current from the ACC unit pins 29 and 10 (winding 1) and pins 30 and 11 (winding 2).

The flap position is set by the control module using the mixed-air temperature sensor for the right-hand side so that the requested mixed-air temperature is achieved.

When OFF, the flap is set to maximum cold.

Diagnostics

In the event of an open circuit or short circuit, diagnostic trouble code B2290 is set and 09 is displayed instead of right-hand temperature when calibrating. If the motor jams, diagnostic trouble code B2296 is set and 10 is displayed instead of right-hand temperature when calibrating.

If the motor does not have a mechanical contact with the flap, diagnostic trouble code B2295 is set and 11 is displayed instead of right-hand temperature while calibrating.

Diagnostics tool shows 100% at maximum heat and 0% at maximum cold.