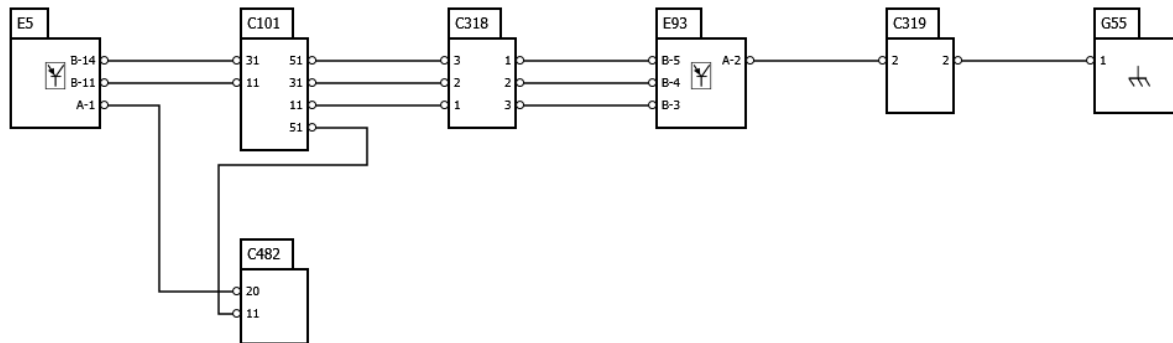


YS2R6X400E9183544 / GMS, Gearbox management system / E 5, GMS control unit / OPC / E, Electronic control units / E93, Clutch actuator ECA



E93, Clutch actuator ECA

## E93, Clutch actuator ECA

On vehicles with fully automatic Opticruise clutch processes are carried out by a clutch actuator, ECA (Electrical Clutch Actuator). The clutch actuator controls a clutch cylinder electrically, which in turn operates the clutch hydraulically. There is no clutch pedal. The clutch actuator has two sensors to ensure which position the clutch actuator should be in when disengaging and engaging. One of the sensors is an angle sensor which is located on the electric motor. The other sensor is a position sensor which is located on the slave cylinder. The clutch actuator is controlled by the Opticruise control unit via a separate CAN bus where it requests a position and speed for the electric motor and receives signals back from the sensors. The clutch actuator fluid reservoir has a sensor for the fluid level. If the level is below a certain limit, a warning lamp will come on in the instrument cluster.

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## Requested position

Displays the clutch actuator position requested by the OPC control unit. The value may vary between 0° and 6,307°. 0° corresponds to a fully engaged clutch (no thrust) and 6,307° corresponds to the maximum permissible thrust when disengaging. Normally a lower value than 6,307° is requested when disengaging. It is normal that the value varies somewhat from time to time.

## Current position for actuator motor

Displays the position the clutch actuator currently is in. The value may vary between 0° and 6,307°. 0° corresponds to a fully engaged clutch (no thrust) and 6,307° corresponds to the maximum permissible thrust when disengaging. Normally the value is lower than 6,307° when disengaging. The value for the current position should correspond to the value for requested position. Allow the requested position to be constant for at least 10 seconds, then check the current position. It must not deviate more than 250° from the requested position. If the deviation is greater, there may be a fault on the clutch actuator.

## Current consumption

Displays the clutch actuator current consumption. The current consumption varies depending on the position of the clutch actuator. The relevant current consumption can be used when troubleshooting in several ways:

- If for any reason the clutch actuator is prevented to carry out its mechanical movement and is stationary despite a request from the control unit, the current consumption will be approximately 80 A for approximately 2 seconds. After that the current consumption will be switched off for approximately 1 minute (0 A) and after that a new attempt is made to activate the clutch actuator. This can occur if any of the clutch mechanical components is jammed or stuck.
  - If the requested position is 0° for at least 10 seconds the current consumption should also be close to 0 A. If the current consumption is 5 A or higher instead, this indicates that the clutch actuator has not been able to engage the clutch. If this is the case, there may be a fault on the clutch actuator.
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