

Illustration shows actuator M16/4

- 1 Throttle valve
2 Return spring 3 Spring capsule

capsule

(mechanical stop)

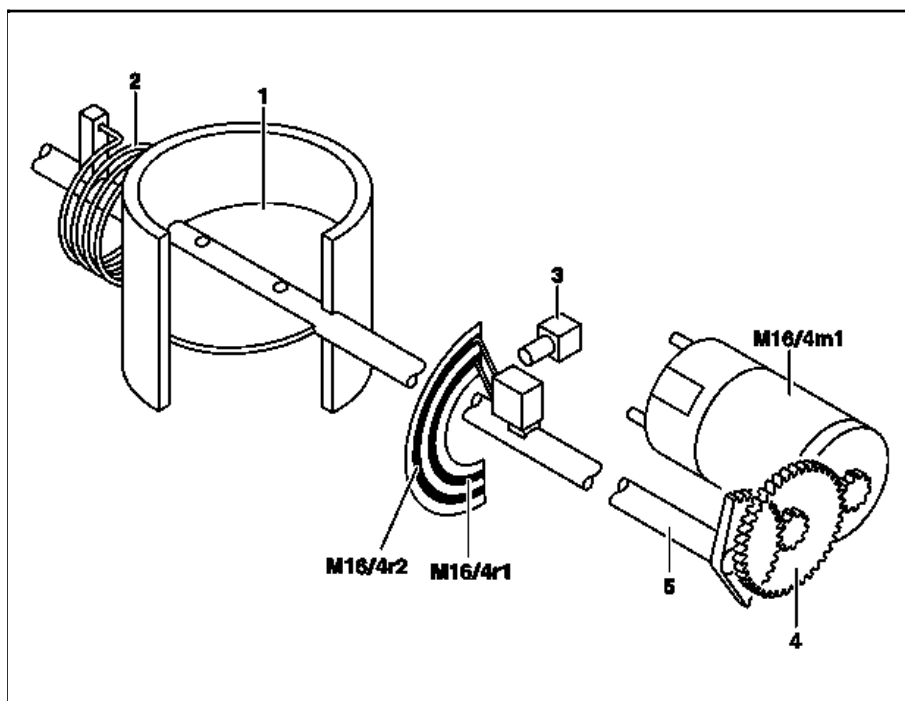
- 4 Transmission

- 5 Drive shaft throttle valve

M16/4 m1Actuator motor

M16/4r1 Actual value potentiometer 1
Throttle valve

M16/4r2 Actual value potentiometer 2
Throttle valve



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Function

The actual value potentiometers for the throttle valve inform the ME control unit about the position of the throttle valve (idling up to full load) in order to recognise the various loading conditions.

A. Ignition "Off"

In the de-energized state the throttle valve position is determined by the spring capsule (3).

B. Ignition "On"

When the ignition is switched on, the actuator motor in the EA/CC/ISC actuator is operated by the ME control unit and the return spring is checked. The throttle valve adopts a position which then depends on the coolant temperature.

D. Driving mode

The actuating motor when driving (partial/full load) regulates the throttle valve according to the various loading conditions or according to the input signals from the front pedal value sensor (B37) according to the position of the accelerator pedal.

E. Throttle valve damping

A damping function for the throttle valve is integrated in the ME control unit. In case of a sudden release of the accelerator, the throttle valve in the idle speed range is closed with delay.

C. Idle speed

The actuator motor controls the engine speed in the idle speed range by opening the throttle valve further, depending on coolant temperature and engine load (increased mixture), or closing it further (reduced mixture).

In this case, the throttle valve may be closed further by the actuator motor by overcoming the force of the spring capsule (mechanical end stop).

If the actuator is de-energized, the throttle valve is resting against the spring capsule. As a result the throttle valve opening is constantly approx. 10 to 12 °. The engine speed for the no load condition is about 1800 rpm.



When first connecting to terminal 30 the ME control unit independently undertakes adaptation of the actuator (learn the lower mechanical limit stop and full-load position of the throttle valve).