

Testing the Ferrari 328 K-Jetronic CIS Throttle Position Switch (TPS)

Carl Rose & Mark Foley

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The throttle position switch (TPS) is the component of the CIS K-Jetronic fuel injection which signals the ECU of the throttle butterfly plate position. Essentially three positions are recognized by the ECU: idle, part throttle, and full-throttle (>60% of opening). The idle position is readily identifiable by an audible “click” just prior to full rotation of the internal contacts, but there is not a corresponding click to signify full throttle. “Part-throttle” is absence of either of these. Each terminal is clearly labeled at the input connector from the wiring harness:

Terminal #2: idle contact

Terminal #18: common ground

Terminal #3: full-throttle contact

The original switch is Bosch #0280120310/Ferrari #121517 and retails for approximately \$55; this is not a Ferrari-specific application and is widely available. I believe the 308QV uses the same switch, but am not certain.

Checking the switch requires only a voltmeter and two jumper leads. A digital voltmeter is pictured but not required, as resistance will either be infinite or continuous. Two 7mm hex screws secure this to the throttle body, and switch then slides off the shaft.

Essentially two positions are checked. I found a small flat-bladed screwdriver inserted into the switch allowed me to move the internal cam while simultaneously taking measurements.

Idle position - with idle “clicked” measuring across terminals #18-#2:



demonstrating continuity of circuit.

Idle position - with idle “clicked” measuring across terminals #18-#3:



This should not show continuity (“OL” on meter signals infinite resistance).

Next check the full-throttle circuit:

Full-throttle position (rotated to opposite extreme of travel) measuring across terminals #18-#2:



This correctly shows discontinuity of the idle circuit at this point.

Full-throttle position (rotated to opposite extreme of travel) measuring across terminals #18-#3:



showing proper continuity of full-throttle position.

The above switch tests properly. I have read on the Porsche forums (www.rennlist.com) that TPS switches can occasionally test correctly when cold and faulty when hot, but have not encountered this personally. Of note for concours/restoration use, the current Bosch version of the switch appears slightly different (thicker sealed unit) that the original part but still has green dot sticker:



