

## BMW P1643: THROTTLE VALVE ACTUATOR START TEST AMPLIFIER BALANCING PLAUSIBILITY

### OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Advanced
Repair Cost	:	\$600-\$850
Can I Still Drive?	:	Yes (Short-term only)

### What Does The BMW P1643 Code Mean?

During the throttle valve adaptation routine the diagnostic function monitors the offset and amplification of throttle valve potentiometer 1 in the amplified range.

This fault is recognized when the amplifier's offset exceeds 0.1 V or drops below -0.1 V. This fault is also registered when the amplification factor is greater than 4.15 or less than 3.85.

### What Are The Potential Causes Of The BMW P1643 Code?

Below are some potential causes of this DTC:

- TP sensor signal circuit is open (inspect wiring & connector)
- TP sensor signal circuit is shorted to ground
- TP sensor or module is damaged or it has failed
- Throttle valve is damaged or dirty
- Throttle valve control module is faulty

### Reference Sources

[ENGINE PERFORMANCE Self Diagnosis for P1643](#) - 2011 BMW 535xi, pages 148-149.