

IGN-03, Throttle Position Switch Operation, Troubleshooting, and Adjustment

Tools

- Multimeter
- Phillips Screwdriver
- 90° Phillips head screwdriver (944 Turbos ONLY)
- Small Flat Tip Screwdriver or Probe

Operation

The throttle position switch (TPS) generates signals to tell the DME computer the position of the throttle. On normally aspirated cars, the TPS is a dual switch that tells the computer when the throttle is fully closed (idle) and when the throttle is fully open. The 944 Turbo TPS has a single switch that tells the computer when the throttle is fully closed (idle) and a variable potentiometer for throttle positions from just above idle to wide open throttle.

A faulty throttle position switch can cause several different running problems in 944s. For normally aspirated 944s (944, 944S, 944 S2) a faulty switch can cause poor power / acceleration and a reduction in fuel economy. For 944 Turbos a faulty switch will cause the same problems as in normally aspirated cars. Additionally, a faulty 944 Turbo switch can cause poor idling and can even prevent the car from starting.

Troubleshooting

Normally Aspirated TPS

1. Disconnect the DME electrical connector.
2. Test the idle contact by connecting an ohmmeter between terminal 2 on the DME wiring harness plug and ground.
3. With the TPS closed, you should read 0 ohms on the meter.
4. With the TPS open, you should read infinite ohms on the meter (normally 1.). The switch opening should occur when the throttle is approximately 1° open.
5. Test the full throttle switch by connecting the ohmmeter between terminal 3 and ground on the DME wiring harness plug.
6. With the TPS closed, the meter should read infinite ohms. With the TPS fully open, the meter should read approximately 0 ohms. Switching should occur at approximately 1° from full open.
7. If readings at the DME wiring harness plug are incorrect, perform the test again directly at the TPS. The idle contact is tested between terminals 2 and 18 on the TPS. The full throttle contact is measured between terminals 3 and 18.

944 Turbo TPS

1. Disconnect the DME electrical connector.
2. Test the idle contact by connecting an ohmmeter between terminal 2 on the DME wiring harness plug and ground.
3. With the TPS closed, you should read 0 - 10 ohms on the meter.
4. With the TPS open, you should read infinite ohms on the meter (normally 1.). The switch opening should occur when the throttle is approximately 1° open.
5. Test the throttle potentiometer by disconnecting the KLR unit plug and connecting the ohmmeter between terminals 22 and 23 on the plug. With the throttle closed, the ohmmeter should read 320 - 670 ohms. With the throttle fully open the ohmmeter should read 2700 - 4700 ohms. The ohmmeter reading should increase linearly from full closed throttle to wide open throttle.
6. If the readings at the KLR plug are not correct repeat the readings directly at the TPS. The idle contact is measured between terminals 4 and 6 on the TPS. The throttle potentiometer is measured between terminals 2 and 3 on the TPS.
7. Reconnect the plugs at the DME and KLR control units.
8. Check the power to the TPS by disconnecting the plug at the TPS.
9. Connect a voltmeter between terminals 1 and 2. Turn the ignition on. The voltmeter should read approximately 5 VDC.

Adjusting the Throttle Position Switch

1. On normally aspirated cars, the throttle body must be removed from the car to adjust the TPS.
2. Loosen the mounting screws for the TPS and move the switch until the closed switch actuates just as you start to open the throttle.
3. On turbocharged cars, the TPS can be adjusted in place. However, the bottom mounting screw is difficult to get to. It must be loosened using a 90° Phillips head screwdriver. For ease of adjustment in the future, I recommend replacing the Phillips head screws with Allen head screws. Adjustment is the same as normally aspirated cars.

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