www.danstengineering.co.uk enquiries@danstengineering.co.uk Tel: 07921168507

16/04/2024

MX5 NC Individual Throttle Body TPS Wiring Guide

Contents:

1.0 Introduction

This guide is intended to aid the user in connecting the supplied throttle position sensor supplied with our individual throttle body kit to the OEM wiring loom on the MX5 NC.

Irrespective of the sensor type (either from bike throttle bodies or more traditional Bosch style sensors as suppled on our DCOE kits) any danST supplied TPS sensor have 3 connections: Live (+5v), Ground (-ve) and a signal wire (the load sensing signal).

Also included in the final section is a basic guide for identifying pins on any throttle position sensor. This is for information only and is not strictly required for the purposes of this guide.

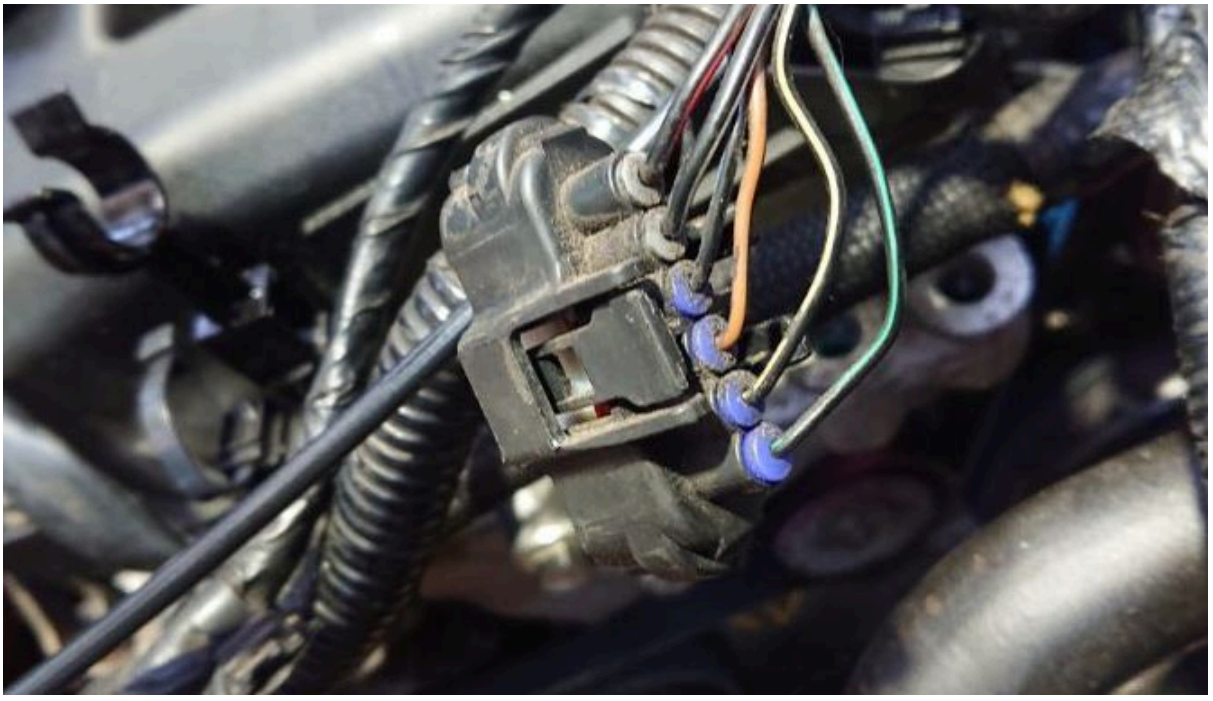
NOTE! It is assumed that you have purchased our individual throttle body kit for use alongside a plug in replacement ECU such as the Motorsport Electronics ME360 (available on our website). The information in this guide should not be used to attempt to use our ITB kit alongside the OEM ECU!

www.danstengineering.co.uk enquiries@danstengineering.co.uk Tel: 07921168507

16/04/2024

2.0 MX5 NC Connections

During the installation process the OEM inlet will need to be removed. You will be left with a 6 pin connector as shown in the photograph below:



The three wires we are interested in are as below:

TPS Signal: **Black/Green** (Pin 2AK)

-VE Ground: **Black/Blue** (Pin 2AP)

+5V Live: **Black/Yellow** (Pin 2AO)

(Note: the OEM ECU plug pin numbers are included above for completeness only and are not required for the purposes of this guide.)

These 3 wires should be joined (either solder or suitable crimp) to the throttle position sensor supplied in the ITB kit.

2.1. ZX10 Type Throttle Position Sensor.

If your kit is a bike throttle body kit then it is highly likely that our supplied throttle bodies are ZX10R and the TPS will appear as in the below Photograph (please disregard the printed numbers on the sensor, we are referring to the general appearance only). As you will see this particular sensor has Pink, Purple and Black wiring from left to right respectively. Your wire colour choice may vary, we are purely interested in connecting the correct pins on this sensor from left to right, to the correct OEM loom wires.

The pin assignment for this sensor is:

Left/Pink: **Signal (Join to black/green on the MX5 Loom)**

Middle/Purple: **+5V Live (Join to black/yellow on the MX5 Loom)**

Right: **-VE Ground (Join to black/blue on the MX5 Loom)**

2.2. Bosch/DCOE/SF Type Throttle Position Sensor.

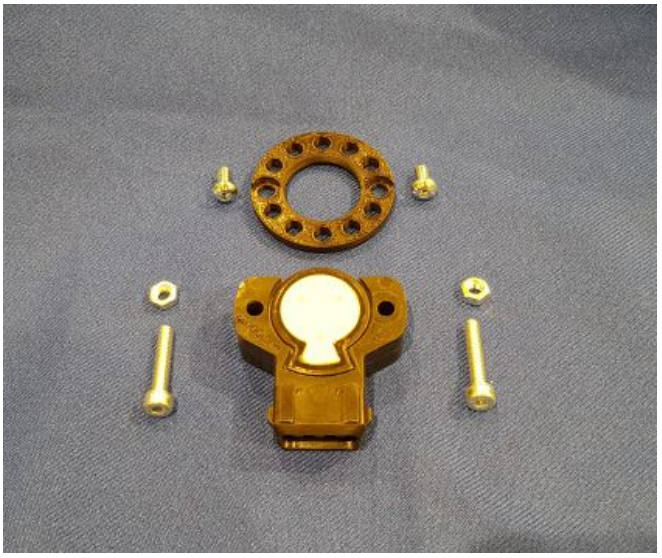
These sensors are supplied in our DCOE and SF type ITB kits and have the classic Bosch Junior Timer 3 pin connection.

The pin assignment for this sensor is:

Left: **+5V Live (Join to black/yellow on the MX5 Loom)**

Middle: **Signal (Join to black/green on the MX5 Loom)**

Right: **-VE Ground (Join to black/blue on the MX5 Loom)**



3.0. Basic Method for Pin Identification of a 3 Wire TPS Sensor

(Information courtesy of Motorsport Electronics LTD)

If the sensor to be used is not detailed in this document then the following procedure should be followed to identify the function of each wire/pin on the sensor in question. This method can also be found in the Motorsport Electronics installation manuals and guides:

The throttle position sensor (TPS) is used to tell the ECU the current throttle position. It should be of a three wire variety.

First, we must determine what the connections are on your TPS. As a guide, generally, the middle connection is the TPS signal, but follows this simple guide below to ensure you make the right connections:

1) Set your multi-meter to measure resistance in the order of 1 or 2 Mega-Ohms.
2) Connect it to two of the connections on the TPS sensor
3) Sweep the throttle slowly from CLOSED to OPEN, whilst watching the resistance reading.

If the reading on the multi-meter stays the same, then you have found the GROUND and TPS VOLTAGE REFERENCE wires, although we do not yet know which is which.
If the reading starts HIGH, and then REDUCES, then you are connected with the TPS SIGNAL wire and TPS VOLTAGE REFERNECE wires, although we do not yet know which is which.
If the reading starts LOW and INCREASES then you are connected with the TPS SIGNAL and the GROUND connection, although we do not yet know which is which.

By changing the pins that you are taking the readings from and going back to step three, you will eventually be able to mark each wire with GROUND, TPS SIGNAL and TPS VOLTAGE REFERENCE