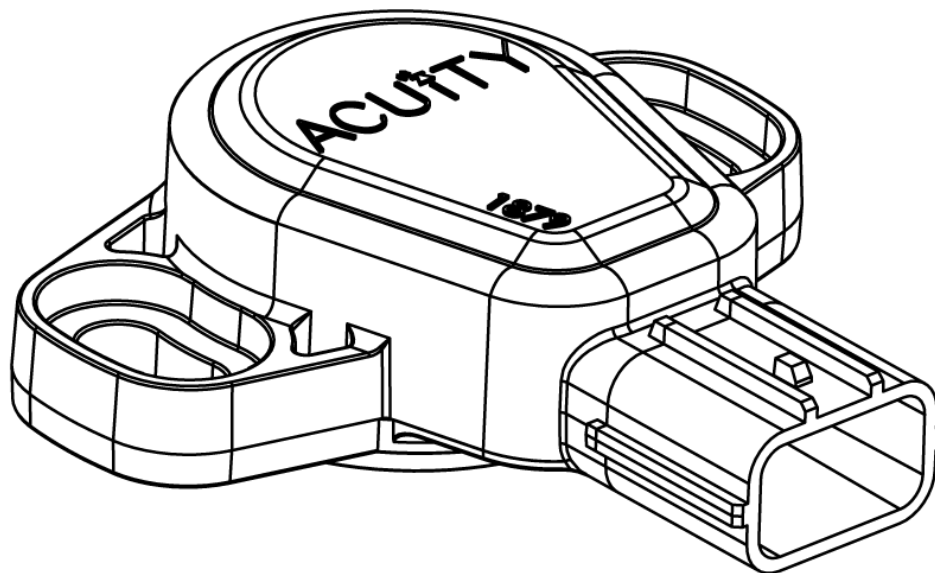


ACUITY



1878-A Throttle Position Sensor

Install Guide

Applications:

2007-2012 Honda CBR600 RR/RA

2007-2012 Honda CBR1000 RR/RA

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INSTALLATION NOTES:

IMPORTANT: *The instructions below are meant as a rough outline of the installation procedure, not a comprehensive installation manual. Only qualified technicians should attempt installation. ACUITY LLC assumes no liability for issues arising from improper installation.*

STEP 1 - UNPLUG WIRING HARNESS

Unplug the wiring harness from your existing TPS

STEP 2 - REMOVE EXISTING TPS

If you are replacing an aftermarket TPS, use a screwdriver or allen wrench (as appropriate) to remove the two bolts holding it in place.

If you are replacing your original Honda or Acura TPS, you cannot simply unscrew the bolts holding it in place. The easiest way to remove the screws is to slot them using a thin cut-off blade in a dremel or similar rotary tool. With a slot cut, a flat head screwdriver can be used to unscrew the 2 bolts.

STEP 3 - REMOVE EXISTING GASKET

With the old TPS removed, make sure that the gasket is also removed. The OEM and aftermarket gaskets are typically made from a green or blue paper-like material. This will not be needed when using the ACUITY hall effect tps since it is designed to seal using an integral o-ring seal. It is not uncommon for the original paper gaskets to stick to the throttle body during removal. A razor may be used to clean off any pieces of the gasket that stick to the throttle body.

STEP 4 - INSTALL THE ACUITY TPS

Bolt the ACUITY TPS to the throttle body using the two supplied phillips head bolts. Leave the bolts loose enough to allow the TPS to rotate when turned gently by hand. In many applications, accessing the screws can be difficult. ***Use of an offset screwdriver is recommended when screw access is limited.***

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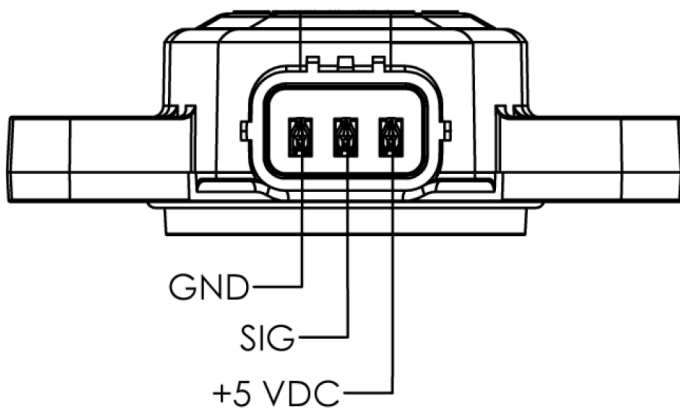
STEP 5 - PLUG IN WIRING HARNESS

Plug the TPS connector from the wiring harness to the ACUITY TPS. If you are calibrating the TPS using the ACUITY 1875 Calibration Jumper Harness, temporarily install it between the TPS and engine harness.

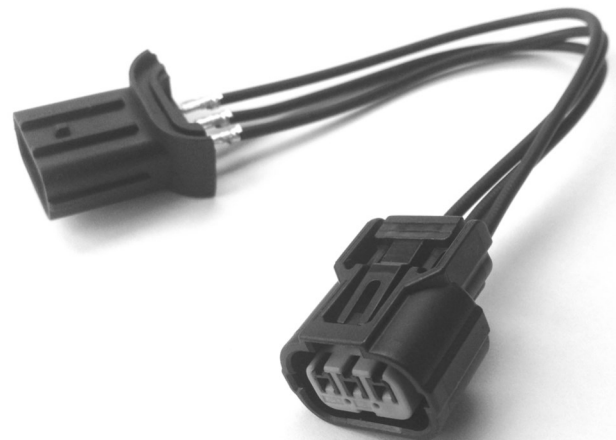
STEP 6 - CALIBRATE THE ACUITY TPS

For those motorcycles equipped with a standalone ECU, please remember to check TPS calibration in your tuning software after installation.

The ECU expects to see a voltage of between 0.48V and 0.5V when the throttle is fully closed. We recommend calibrating the TPS to 0.48V when closed. If throttle response is poor when gently stepping on the gas, it may be necessary to calibrate to 0.49V or 0.5V when the throttle is closed. The center wire on the wiring harness is the signal wire (as shown in Figure 1 below).



1878 Pinout Diagram



1875 Calibration Jumper Harness

STEP 6 - (Continued)

You must measure the voltage in this wire (Sig) relative to the ground wire using a multimeter. If the multimeter has several DC voltage measuring ranges, set it to the lowest range that is higher than 5VDC. Finding a point to measure the voltage on this wire can be difficult. ACUITY recommends using the 1875 Calibration Jumper Harness during calibration. The 1875 Calibration Jumper Harness provides exposed pins which can be used to gain access to the signal and ground pins. A pin or wire tap can be used to tap into the wire so that the signal can be measured, but ACUITY does not recommend this method as it can damage the strands and insulation of the wire. While common practice is to find a bare piece of metal in the engine bay to use as a ground for the multimeter, this is not recommended. The ground wire to the TPS may have a slightly different voltage than the chassis ground. For this reason, ACUITY recommends measuring the signal voltage against the TPS ground wire only.

To calibrate the TPS, the sensor must have a 5VDC power supply from the ECU. Do not turn the engine on as it will not run properly until the TPS has been calibrated. Instead, turn the ignition to the Accessory position without turning over the engine. This will send power to the sensor, allowing it to be calibrated. Place the negative voltmeter probe on the tap into the ground wire and the positive voltmeter probe on the tap into the signal wire. Rotate the TPS until you read 0.48V. Rotating the TPS clockwise will increase voltage, counterclockwise will decrease voltage.

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STEP 7 - Test Drive

After installation, a quick test drive is recommended to inspect throttle response. Remove the 1875 Calibration Jumper Harness before performing a test drive. Throttle response should be smooth and peppy. Engine RPM should respond very quickly to pedal inputs. If you find a slight lag during tip-in (the initial movement of the pedal as you depress it), it may be that the closed voltage is too low. In some vehicles, 0.48V may be too low when the throttle is closed. If this occurs, calibrate the TPS to 0.49V or 0.50V and repeat the test drive.

STEP 8 - TIGHTEN THE MOUNTING BOLTS

Once you have achieved the desired voltage, tighten the two #2 phillips head bolts. Do not exceed 3N-m (2.2 ft-lbs) of torque on each screw.

This product is eligible for a 1 year warranty against manufacturer defect with valid proof of purchase.

6 Revision History

Rev 1.0

Date: June 11, 2015

Change: Document Published