

Skip to content

Shop Info F.A.Q. Download/Update Manual Upgrades Literature

Search:

# Throttle Body Alignment (TBA)

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This procedure details how to perform a Throttle Body Alignment (TBA) on many VW/Audi vehicles. This procedure cycles the motorized throttle body through various states (idle, part throttle, WOT) to relearn their positions. Some examples of reasons to perform a TBA:

- The vehicle's battery has been disconnected and re-connected
- The ECU has been removed and reinstalled
- The Throttle Body has been cleaned or removed and reinstalled
- The Accelerator Pedal has been removed and reinstalled

In some vehicles, the car will not run correctly, or may not run at all without performing a TBA after one of the above operations. The TBA can be performed on both Drive-By-Wire (DBW or E-gas) as well as Cable-throttle cars as long as there is no Idle Stabilization Valve (ISV). If there is an ISV, then there is no motorized control of the throttle at all. Typically, '96-'99 VW/Audi have motorized Cable-throttle, and '00+ VW/Audi have DBW. Obviously, there are some exceptions. This should be obvious but TDI's do not have throttle bodies.

There are certain test conditions that must be met before doing a TBA:

- No DTC's in the Engine Controller
- Battery voltage at least 11.5 V
- Throttle must be at idling position (keep your foot off the gas pedal)
- Throttle body part must not be dirty (carbonized).
- Coolant temperature must be between 5 and 95C

## Contents

- 1 Cable-Throttle Engines
- 2 Drive-by-Wire (DBW) Engines using KW-1281

- 3 Drive-by-Wire (DBW) Engines using KWP-2000 or CAN
  - 3.1 Special Notes

## Cable-Throttle Engines

(These are engines with a physical cable between the accelerator and the throttle, but WITHOUT an ISV.)

Turn the key on but do not start the car.

- [Select]
- [01 - Engine]
- [Measuring Blocks - 08]

Enter Group **098** (Note: Some SIMOS or Marelli ECU's use Group 001 such as ADY & AEE engines)

- [Go!]
- [Switch to basic settings]

Once you do this you will see the top right display say ADP RUN. The TB adaptation is being done as soon as you switch to basic settings. You will see the values change and hear the TB cycle for the first few seconds then it will stop. Leave it in Basic Settings for about 30 seconds.

- Click the [Switch to Meas. Blocks] button and you're all set.

Be sure not to touch the accelerator and make sure the engine is NOT running when you do this!

## Drive-by-Wire (DBW) Engines using KW-1281

(These are engines WITHOUT a physical cable between the accelerator and the throttle. Check to see if the engine speaks KW-1281 by looking in the top left of the Open Controller Screen Some examples of KW-1281 engine controllers are 2000+ Golf/GTI/Jetta/New Beetle/Audi TT 1.8T)

Turn the key on but do not start the car.

- [Select]
- [01 - Engine]
- [Measuring Blocks - 08]

Enter Group **060**

- [Go!]
- [Switch to basic settings]

Once you do this you will see the top right display say ADP RUN. The TB adaptation is being done as soon as you switch to basic settings. You will see the values change and hear the TB cycle for the first few seconds then it will stop. Leave it in Basic Settings for about 30 seconds.

- **[Switch to Meas. Blocks]** button and you're all set.

Be sure not to touch the accelerator and make sure the engine is NOT running when you do this!

## Drive-by-Wire (DBW) Engines using KWP-2000 or CAN

(These are engines WITHOUT a physical cable between the accelerator and the throttle. Check to see if the engine speaks KWP-2000 or CAN by looking in the top left of the Open Controller Screen. An example of a KWP-2000 engine controller is the 2002+ B6 Audi A4 1.8T. Some examples of CAN engine controllers are the Mk5 Golf 2.0T FSI)

Turn the key on but do not start the car.

- **[Select]**
- **[01 - Engine]**
- **[Basic Settings - 04]**
- Group **060**
- **[Go!]**

It should say "Basic Settings: OFF" on the top of your screen.

- Click **[ON/OFF/Next]** to turn on Basic Settings.

It should now say "Basic Settings: ON" on the top of your screen. Once you do this you will see the top right display say ADP RUN. The TB adaptation is being done as soon as you switched basic settings on. You will see the values change and hear the TB cycle for the first few seconds then it will stop. Leave it in Basic Settings for about 30 seconds.

- Click **[ON/OFF/Next]** to turn off Basic Settings.

It should now say "Basic Settings: OFF" on the top of your screen

- Click the **[Done, Go Back]** button and you're all set.

Be sure not to touch the accelerator and make sure the engine is NOT running when you do this!

If it did not complete, or resulted in Error, see the Special Notes below.

## Special Notes

- In some engines, before doing a TBA, it may be necessary to cycle the ignition off and back on after clearing faults.
- On vehicles that use Cable-Throttle systems, an over adjusted (or sticky) throttle cable can cause the TBA to fail, or symptoms like no CCS (Cruise Control System) operation.
- On vehicles that use Cable-Throttle systems the idle may be erratic after the TB has been removed and cleaned, even after a successful TBA. It may be necessary to drive the vehicle normally for a while until the system has re-adapted.

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