

# Throttle Body Rebuild Instructional – BMW K1 / K75 / K100 / K1100

Thank you for purchasing our **BMW K-Series Throttle Body Rebuild Kit**! We're excited to offer this kit, which is the result of extensive work to improve upon the original components, now discontinued by BING.

Our kit is designed with the **DIY enthusiast** in mind, ensuring you have everything you need for a thorough and successful restoration. Properly rebuilding and tuning your throttle bodies is critical to achieving the best performance from your bike.

Over time, throttle bodies will inevitably fall out of sync due to wear and tear, and vacuum leaks will start to occur as seals dry up and crack. This rebuild will help restore performance and improve the smooth running of your bike.

Follow these instructions carefully to get the most from your **BMW K1, K75, K100, or K1100** throttle bodies.

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## Tools and Supplies Needed:

- **Throttle Body Rebuild Kit** (included)
  - **Carburetor Cleaner**
  - **Dremel Tool**
  - **Ultrasonic Cleaner** (recommended)
  - **Aluminum-Safe Cleaning Solution** (e.g., Simple Green Aircraft Cleaner)
  - **Dow Corning High Vacuum Silicone Grease**
  - **Blue Loctite 243** thread locker
  - Assorted **hand tools** (screwdrivers, wrenches, etc.)
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## Disassembly Instructions:

### 1. Remove External Components:

- Start by removing the **Fuel Pressure Regulator** and **Throttle Position Sensor (TPS)**.
- Remove any **external bracketry, vacuum caps, and the outer end cap**.
- Unscrew and remove the **brass idle adjustment screws**.

### 2. Remove the Throttle Bodies:

- Detach the throttle bodies from the **front and rear support bars**.
- Thoroughly spray the throttle body bores with **carb cleaner** to dissolve carbon, gum, and varnish buildup. This step is important, as buildup can cause binding and scoring during the removal process.

### 3. Remove the Butterflies:

- **Butterfly screws** are often peened or notched to prevent loosening. Use a **Dremel tool** to carefully grind off the peening, which will prevent stripping the screws or damaging the butterfly shaft during removal.
- Once the screws are out, remove the **butterflies**. They are cut on a bias, so be sure to **note the orientation** for reinstallation.

#### 4. Disassemble the Shaft and Choke Mechanism:

- For throttle body #3 (or #2 on the K75), the **shaft nut** has a **reverse thread**. Use a clockwise motion to loosen it.
  - Loosen the nuts on the choke shaft to remove the **lever, guide, and spring**. Early models feature a **shaft sleeve** that can be pushed out using the lip of the shaft. Later models only used O-rings.
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### Cleaning the Throttle Bodies:

#### 1. Preparation for Cleaning:

- Thorough cleaning is essential to ensure the throttle bodies function as intended. The best method is using an **ultrasonic cleaner** filled with an **aluminum-safe solution** like **Simple Green Aircraft Cleaner**. This ensures the aluminum is not damaged, unlike harsher chemicals that can corrode or dull the metal.

#### 2. Cleaning Process:

- Place the throttle bodies in the cleaner and allow the machine to remove all **carbon, gum, and varnish**. Applying heat can help accelerate the process but be mindful not to overdo it as excessive heat could damage the aluminum.
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### Reassembly Instructions:

#### 1. Greasing and Seals:

- Apply **Dow Corning High Vacuum Silicone Grease** to aid movement and prevent vacuum leaks but be sure to use it sparingly.
- Lightly grease the ports where the **O-rings** for the brass idle adjustment screws sit. Once greased, screw the adjustments all the way in, then back them out **1.5 turns** to prepare for synchronization.

#### 2. Installing the Butterfly Shaft Seals:

- Lightly grease the **groove** where the seals sit inside the throttle body. Avoid greasing the portion where the shaft rides, as the shaft has a **Teflon guide** to ensure smooth movement.
- Assemble the throttle body with the **seals first**, followed by the **plastic spring guide, spring, and the shaft**. Finish with the **wave washer and nut**.

#### 3. Installing the Butterflies:

- Reinstall the butterflies in the same orientation as they were removed. Wind up the spring **one full turn** before installing.
- Apply a small amount of **Blue Loctite 243** to the butterfly screws. **Do not use Red Loctite**, as it will prevent future adjustments. Blue Loctite is sufficient to prevent the screws from loosening over time.

#### 4. Positioning the Butterfly:

- Insert the butterfly, ensuring it is properly aligned within the bore. Hold it up to the light to ensure the alignment:
  - If there is a **shadow on the left**, turn the butterfly clockwise.
  - If there is a **shadow on the right**, turn it counterclockwise.
  - The shadow should be centered at the **12 o'clock position**. Once aligned, apply pressure on the shaft to keep the butterfly closed, loosen screws to seat the butterfly, then fully tighten the screws.

## 5. Reassemble the Choke Mechanism:

- Reinstall the choke assembly in reverse order, replacing the metal choke roller with the new **nylon roller** provided in your kit.
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## Final Assembly:

### 1. Reattach the Throttle Bodies:

- Start with throttle body #1 and attach the **front support bar**, but do not fully tighten the bolts yet.
- Continue by installing the second and third throttle bodies, making sure the assembly is aligned on a **flat surface** to prevent twisting. Misalignment may cause vacuum leaks when the throttle bodies are attached to the intake manifolds.
- Firmly hold each throttle body to the surface as you tighten the bolts, ensuring the assembly remains straight.

### 2. Rear Support Bar:

- Follow the same procedure for the **rear support bar**, making sure to hold down the throttle bodies to maintain alignment.

### 3. Install the Throttle Position Sensor (TPS) Bracket:

- On 2-valve models, installing the TPS bracket can be tricky. Ensure the **TPS** is centered over the throttle shaft hole and the outer guides are centered to the screws on the bracket. Proceed with installing the bracket and fastening down to the completed throttle body assembly. Loosen the two screws holding the TPS, as it will need final adjustment after installation.
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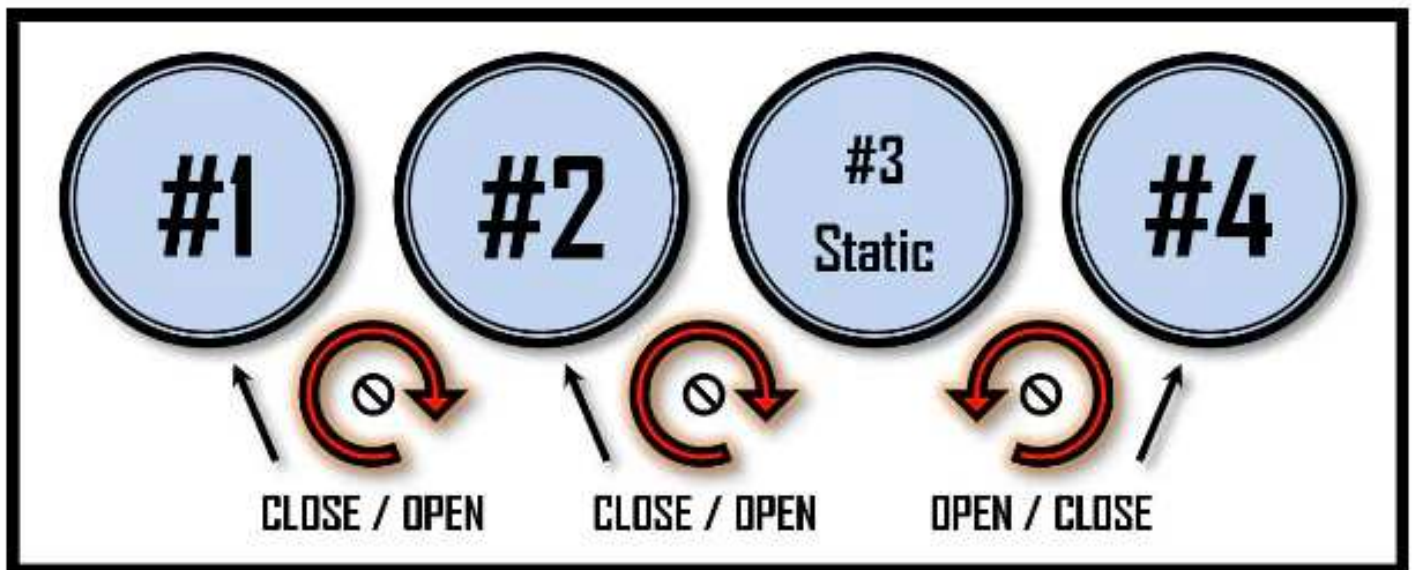
## Synchronizing the Butterflies:

### 1. Initial Setup:

- Before synchronization, adjust the **central idle adjustment screw** to ensure all butterflies are slightly off the idle position.
- Throttle body #3 (or #2 on the K75) is your reference point, as it remains static while the others are adjusted to match it.

### 2. Synchronizing Process:

- Use the supplied **ball bearings** to check synchronization. Each butterfly should open and close simultaneously. If the bearings drop at the same time, the butterflies are in sync. If they drop separately, adjust accordingly. Follow the diagram below for adjustment:



### 3. Idle Adjustment:

- Once synchronization is complete, back out the central idle screw fully, then turn it inward **1.5 turns** just after it touches the idle stop bracket. This will give you enough idle to start the bike and make fine adjustments afterward.

For detailed installation instructions, **TPS adjustment**, and final synchronization, please refer to our **Throttle Body Install and Synchronization Instructions** guide.

Thanks again for trusting our kit with your rebuild. Best of luck, and feel free to reach out if you need any additional support! (Insta @ditstang for more in-depth, personal help)

Sincerely,  
Trevor Ditson & Thom Hellebrekers

