

# Electric Power Steering Installation

## 1979-2002 VW Vanagon (T3)



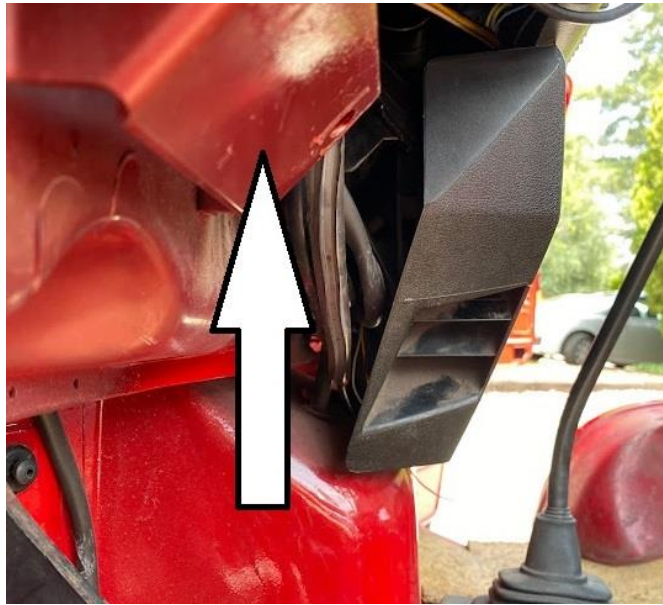
### Please read before you begin:

- Review the [BestPractices.PDF](#) at [www.ePowerSteering.com](http://www.ePowerSteering.com) under Installation. It is regularly updated. You can also find other parts at our online store at [www.ePowerSteering.com/purchase](http://www.ePowerSteering.com/purchase).
- These instructions assume that one already has a basic mechanical understanding of the steering column assembly in a VW Vanagon and knows how to remove the column, including the combination switch assembly, covers and steering wheel.



- The picture above shows what is included and how the entire Miata EPS System will arrive.

1. Power Harness	4. Motor Assembly	7. Upper Column Assembly
2. Firewall Mounting Bracket	5. ECU Mounting Bracket	8. EPS Controller
3. Lower Steering Shaft	6. Steering ECU	
- Remove the “rag” joint from top of the steering gear box. It is not used for this application.



- Remove the above bracket by either drilling out the spot welds or cutting it off with a cut off wheel.
- Install the **Lower Steering Shaft** on the steering gear box. Slide the boot over the **Lower Steering Shaft**.
- First, assemble the **Upper Column Assembly** to the **Motor Assembly**, then mount the **Motor Assembly** to the **Lower Steering Shaft**. Bolt the **Upper Column Assembly** to the dash.



- Mount the ECU onto the **ECU Mounting Bracket**.
- Locate a suitable mounting location for the ECU. See picture below.



- This kit has been designed to connect the **Steering ECU** directly to the battery. Run the **Power Harness** to the battery. Route it safely making sure that the wires will not be pinched or exposed. Don't plug it until the Steering Column completely installed and **Steering ECU** is mounted.
- Tighten down the set screw on the **Lower Steering Shaft** and set screw on the upper shaft. You will be able to see it through the hole in the **Upper Column Assembly**. Use a dab of Blue Loctite on each.
- Connect the 4 plugs to the **Steering ECU**. See above. Power (black plug) in the middle, electric motor (blue plug) on the left end and the controller plug on the right. Connect the DTM4 plugs together. Use the enclosed **DTM Mounting Clip** to secure the plug to your chassis.
- Connect the **EPS Controller** to power. Select a fuse to that is controlled by accessory on. Connect the black wire to ground. Mount the Adjustment Knob anywhere you can reach it.
- Reattach the removed covers, steering wheel, etc.

## Basic System Verification:

- Turn Adjustment Knob fully counterclockwise (left).
- Turn Ignition ON. You should hear the relay click on once.
- Wait about 10 seconds. You should hear the relay click off. You will have no steering assistance.
- Start turning the Adjustment Knob slowly clockwise (right) until you hear the relay click on again. This is the point where you start having steering assistance, but at the minimum. Test to verify.
- Then turn the Adjustment Knob further to the right. This will increase the assistance. Test to verify.

## Adjusting Steering Assistance:

- If you turn the Adjustment Knob fully counterclockwise (left) you will have no steering assistance.
- If you turn the Adjustment Knob fully clockwise (right) you will have the maximum steering assistance.
- Between these two points you have various intermediate steering assistance levels.

## Additional Information:

- When you turn the ignition ON, you will hear the relay on the **Steering ECU** click on. One single click. If you hear it double click, there is something incorrectly installed or not functioning properly.
- While you turn the Adjustment Knob you must wait for the **Steering ECU** to adjust the steering assistance level. The amount of assistance is not immediately felt. There is a very slight delay.
- The steering can feel slightly softer to turn left than right (or the opposite). There is a potentiometer on the **Steering ECU** to adjust this. It is accessible under the round hole in the **Steering ECU** cover. You may need to peel back the cover sticker to gain access. It is EXTREMELY sensitive. Make very small adjustments if you feel that the calibration is off.