

Electric Power Steering Installation

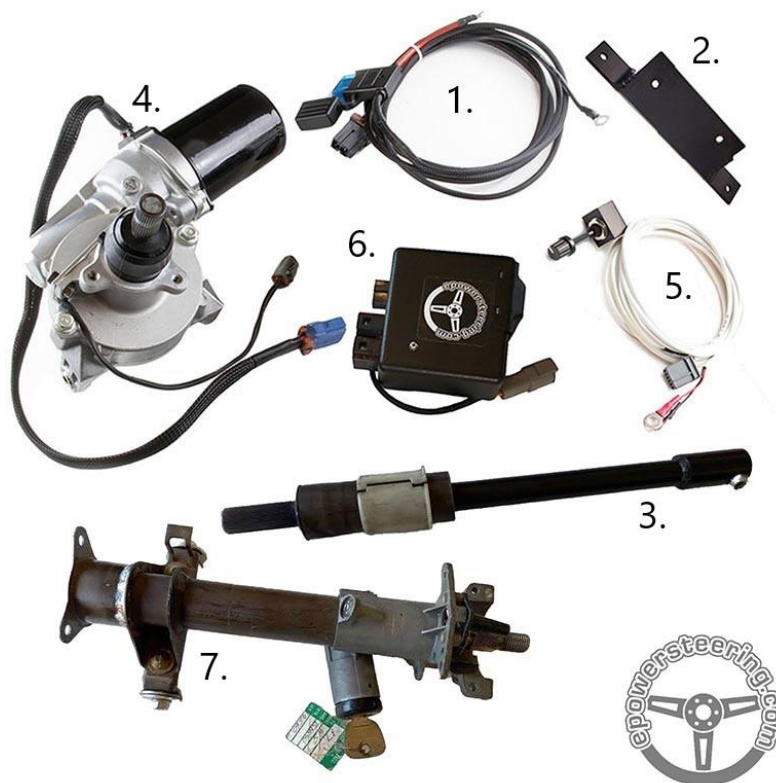
BMW E30 (non-air bag)

2002-07 Saturn Vue / 2005-06 Chevrolet Equinox



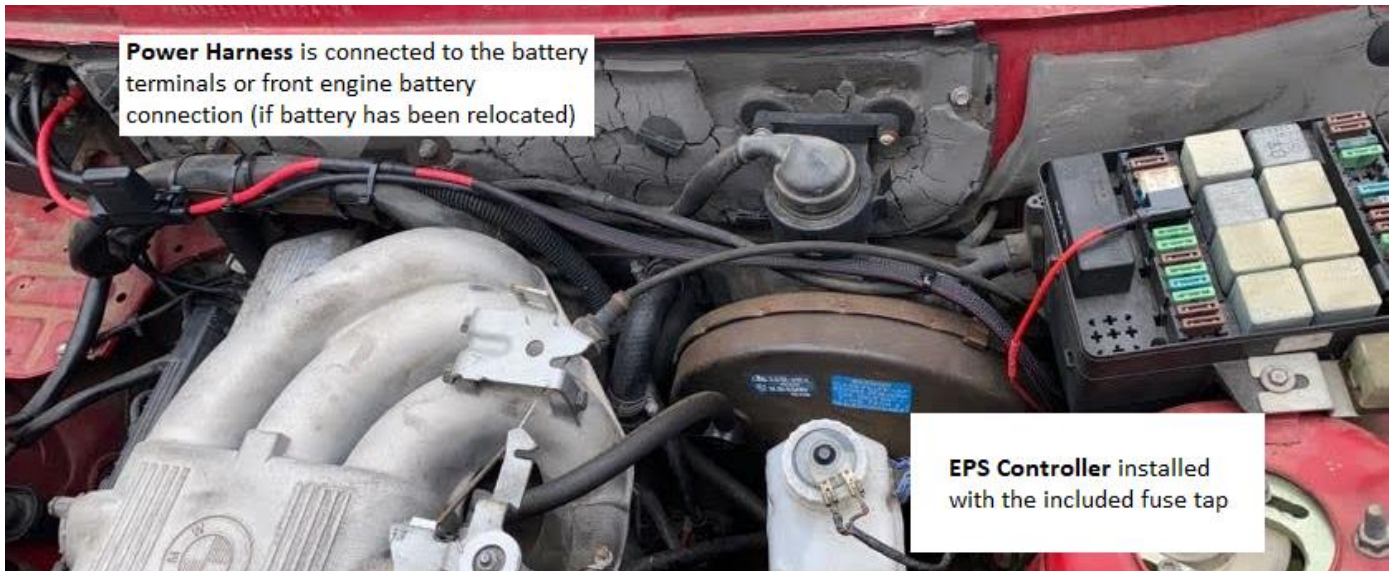
Please read before you begin:

- Review the [BestPractices.PDF](#) at www.ePowerSteering.com under Installation. It is regularly updated. You can also find other parts at our online store at www.ePowerSteering.com/purchase.
- These instructions assume that one already has a basic mechanical understanding of the steering column assembly in the BMW E30 and knows how to remove the column, including the switch assembly, covers and air bag.

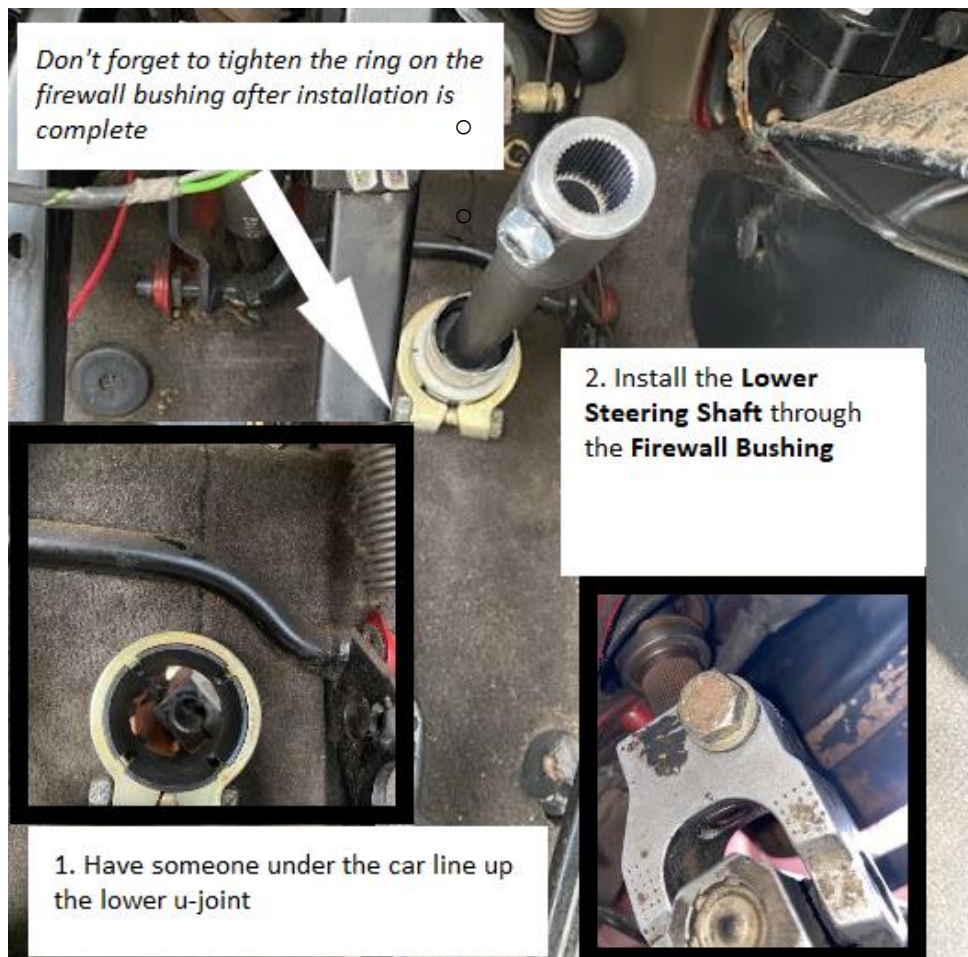


- The picture above shows what is included and how the entire E30 EPS System will arrive.
 1. Power Harness
 2. ECM Mounting Bracket
 3. Lower Steering Shaft
 4. Motor Assembly
 5. EPS Controller
 6. Steering ECM
 7. Upper Column Assembly

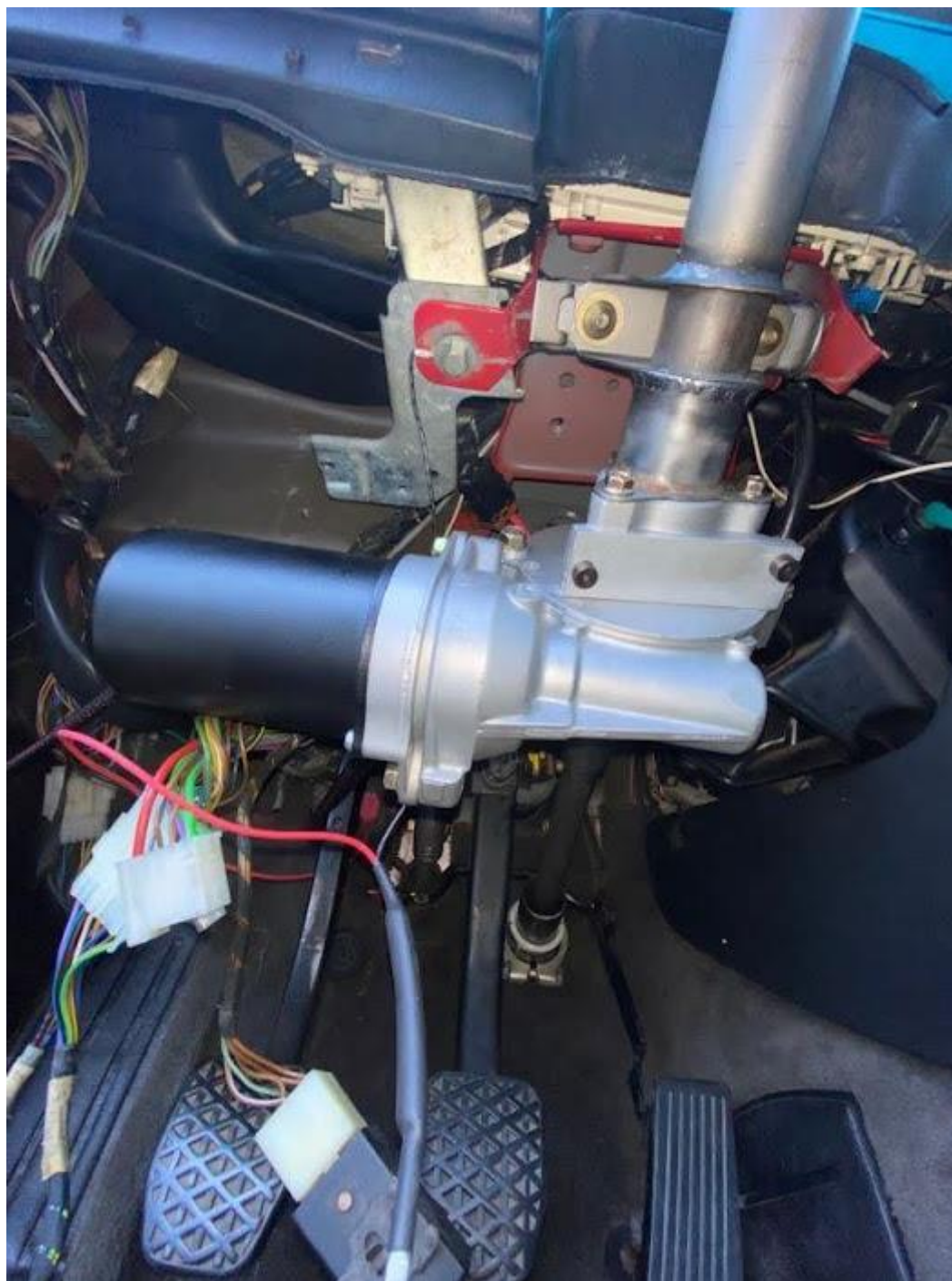
- This kit has been designed to connect the **Steering ECM** directly to the battery terminals in the engine bay. Run the **Power Harness** and **EPS Controller** to the battery terminals in the engine bay. Route it safely making sure that the wires will not be pinched or exposed. Don't plug into the **Steering ECM** until the entire assembly is mounted securely under the dash.



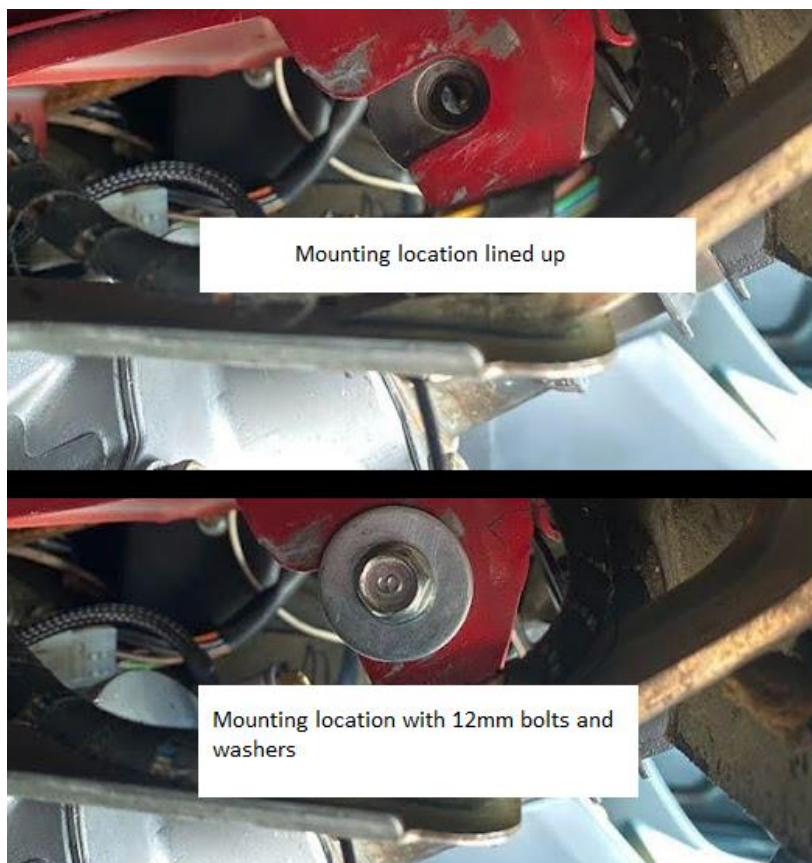
- Loosen the set screw on the **Lower Steering Shaft**. Insert the **Lower Steering Shaft** through the **Firewall bushing** and have someone under the car verify the **Lower Steering Shaft** spline fitting is set in the U joint. Insert the **Lower Steering Shaft** into the u-joint. Put the bolt through the u-joint.



- Connect the **Upper Column Assembly** to the **Motor Assembly**. The Electric motor will be facing to the left.



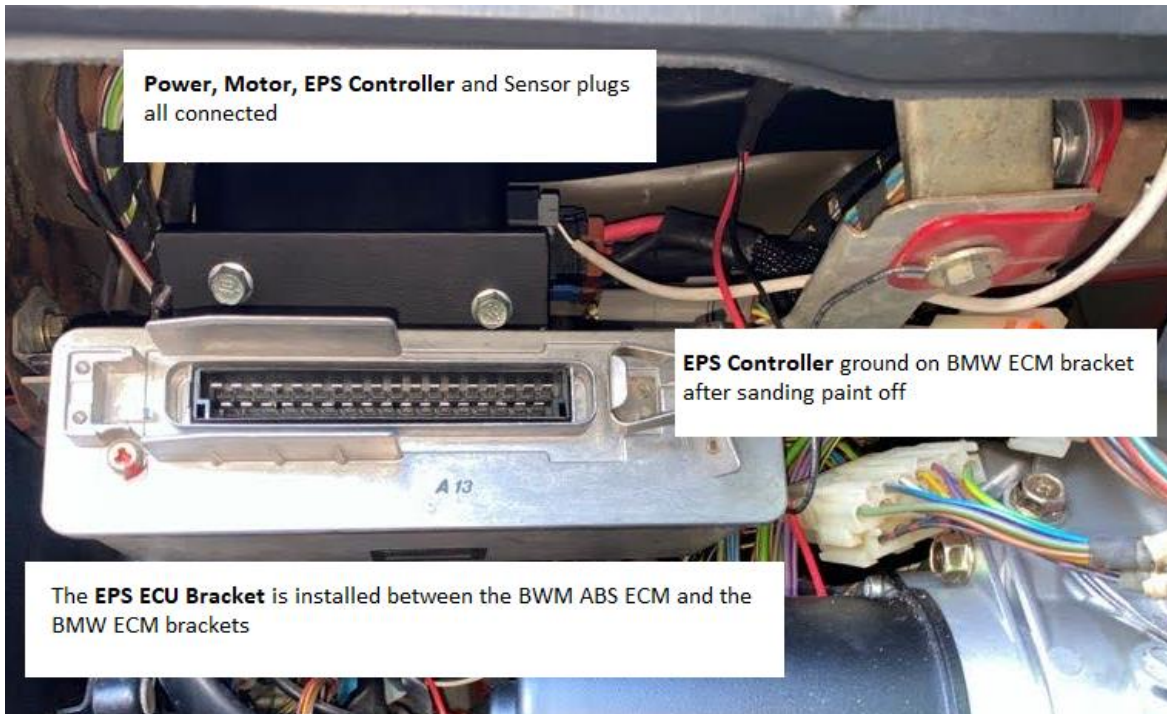
- Mount the **Upper Column and Motor Assemblies** under the dash. Insert the output shaft of the **Motor Assembly** to the **Lower Steering Shaft**. Raise the **Upper Column and Motor Assemblies** up to the dash and secure the (2) 12mm bolts and washers that fit to the original steering column bracket.



- Tighten down the **Firewall Bushing**. Tighten down the set screw on the **Power Steering Shaft** (Note: Use a dab of Blue Loctite on the set screw). Tighten down all associated column bolts and double check everything to make sure everything is tight.



- Remove and drill out the hole shown above on the original ABS ECM mounting bracket with a ¼ inch bit for the included replacement mounting hardware. You will also need to pry off the tab the original coarse thread screw fastens to on the left side mounting bracket.
- Mount the ECM onto the **ECM Mounting Bracket** like the next picture shows



- Connect the 4 plugs to the **Steering ECM**. See above. Power (black plug) in the middle, electric motor (blue plug) on the left end, black or grey controller plug on the right, and the grey sensor 4-pin plug connecting the **Steering ECM** and **Motor Assembly**. It is important to secure all the cables with clips or zip ties.
- Connect the **EPS Controller**. Select a fuse to pull out that is controlled by accessory on. Insert the pulled fuse to the fuse tap attached to the **EPS Controller**. Connect the ground to the original ECM bracket after sanding off some of the paint for good contact. Mount the Adjustment Knob anywhere you can reach it.
- Reattach the removed signals, covers, and steering wheel.

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.