EZ ELECTRIC POWER STEERING

INSTALLATION GUIDE

Volvo 444/544/210

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The Product

Thank you for choosing an EZ ELECTRIC POWER STEERING product for its quality, it's performance, type approval and its straightforward assembly. Since 2006 we have been manufacturing complete steering columns with integrated electrical assistance. All columns are tailor made for each type of car and we have over 200 different types in stock. For more information about our products (power steering systems and replica steering wheels) or to place an order, visit our website www.ezpowersteering.com or send an e-mail to info@ezpowersteering.nl. If you have any questions of a technical nature please contact workshop@ezpowersteering.nl.

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This manual should be read carefully to avoid errors. Check whether all parts of the set are present. This can be done on the basis of the picture in this manual. Before installation, compare the EZ POWER STEERING column with the original column. Check that the dimensions are the same. Also fit the steering wheel to the column.

If you do not have the skills or tools to perform the installation, have it performed by a professional. EZ POWER STEERING cannot be held liable for incorrect installation or self-inflicted damage. The manuals are generally based on a left-hand-drive vehicle. In most cases, the right-hand drive version is the mirror image of the installation of a left-hand drive vehicle.

If you think that any changes are needed in this manual, we would like to receive your pictures and comments. With your feedback we can improve our manuals!

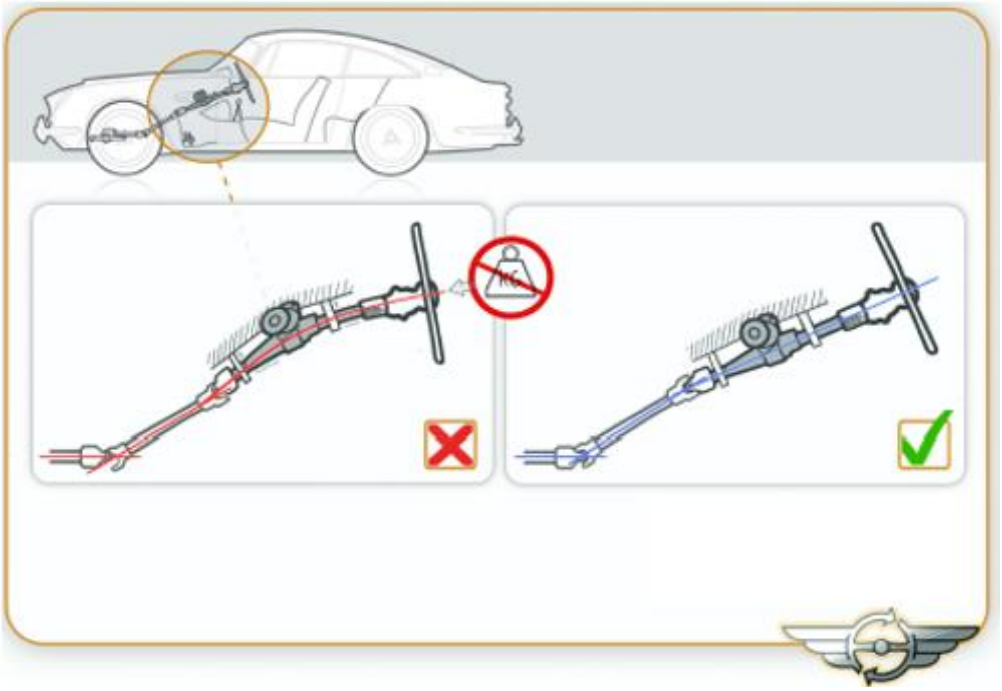
Overview of the kit

1-P544: EPS unit.

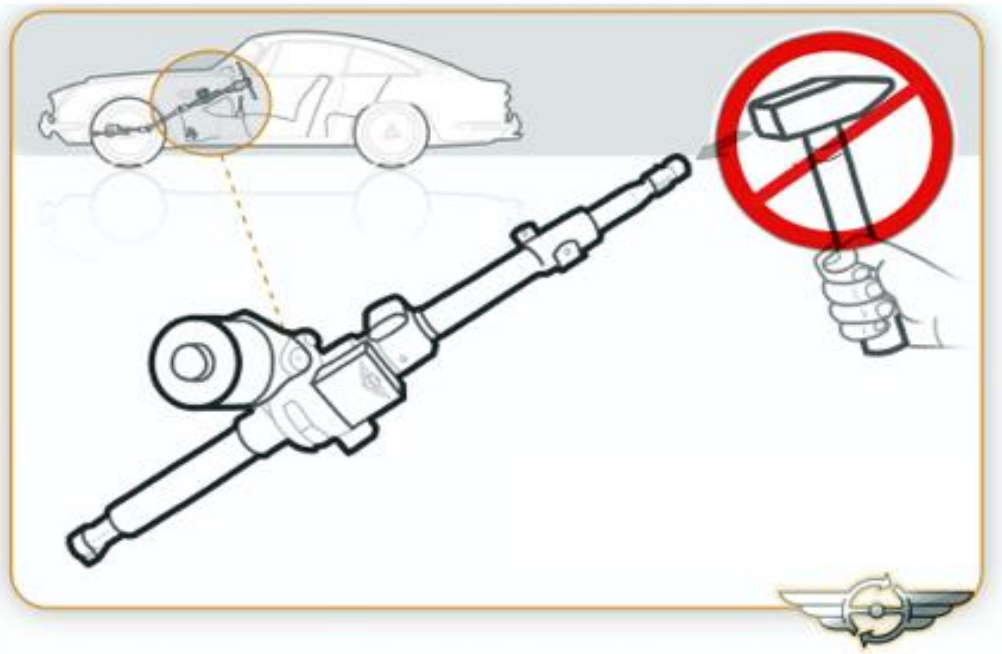
2-P544: Power cable.

3-P544: Wire harness + potentiometer

4-P544: Output tube + clamp



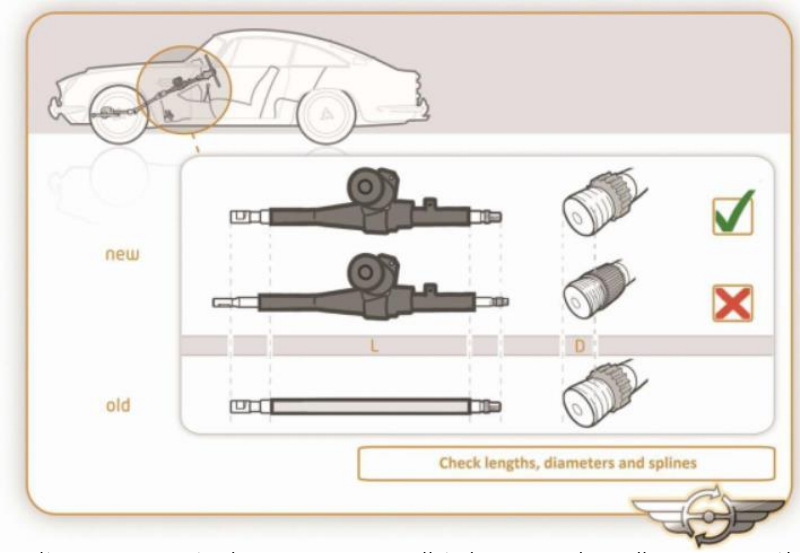
The steering system must always be properly aligned and mounted without tension.



Never strike the input shaft with an object during or after assembly. This can adversely affect the sensors.

Check length, diameter and splines

Compare the EZ Power Steering Column (EZ-unit) with the original steering column before installing it. Check if the splines on the top and bottom, the diameter of the steering tube and the length of the column are all the same as the original steering column. When in doubt you can use the original steering wheel to check the top splines for fit. Never hammer on the steering shaft of the EZ unit!



In the car industry its common to have some small tolerances in spline connections. In very exceptional cases connecting a new shaft from the EZ-unit in the original (old) U-joint could cause a tight fitting. This is sometimes relatively easy to solve by sanding only about 0,2mm (0,007 inch) in the inner part of the U-joint and also the spline on the output shaft on the EZ-unit.

Torque tightening values in Nm.

When the new steering column is being fitted hand tighten all the bolts and check if everything turns smoothly before tightening to required Torque, use torque tightening table below:

	Alu	8.8	10.9	12.9
M6	6	11	16	19
M8	15	27	40	47

The system works with a torsion bar into the unit, this measures the amount of torque/load on the steering shaft while steering, the torque sensor measures this and sends a voltage to the ECU. The ECU uses this signal together with the speed signal to control the electric motor from the EZ-unit

Voltage

The basic EZ-unit, is a 12V system with negative earth! There are extra wiring sets available, so that the kit will work with a 6V or 24V system and/or positive earth. Check your vehicle setup before fitting the EZ-unit.

Installation

Step 1.

Check the tire pressure and take a test drive with the car. Check whether the steering wheel returns to the straight-ahead position. Check whether the controls and instruments are defective. If everything is OK then continue with the conversion.

Step 2.

Find a power supply connected via the contact. This is necessary for controlling the power steering unit (see point 12). Then disconnect the earth cable from the battery and put the front wheels in the straight-ahead position. Mark this position.

Step 3.

Remove the horn cap, steering wheel and the switches from the original steering column. Pull the original horn wire back into the engine compartment and feed it back into the car via the bulkhead.

Step 4.

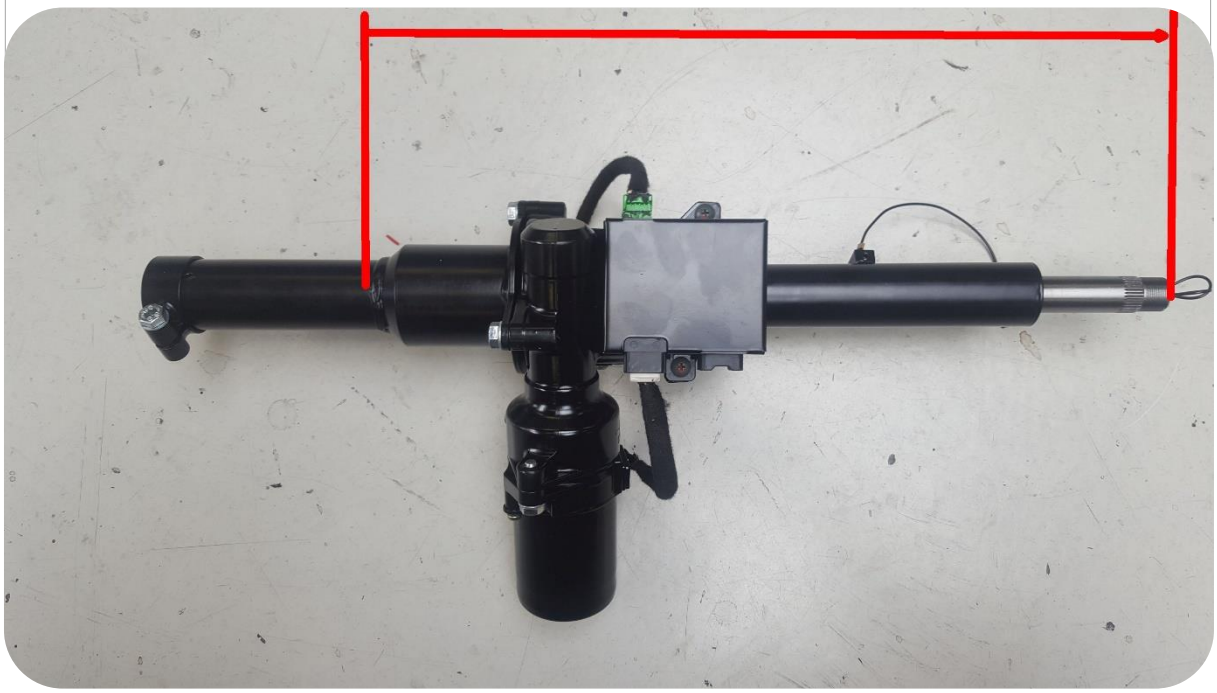
Loosen the two bolts under the dashboard.

Step 5.

Use the EZ unit to determine where the original column should be cut. Measure it back from the top.

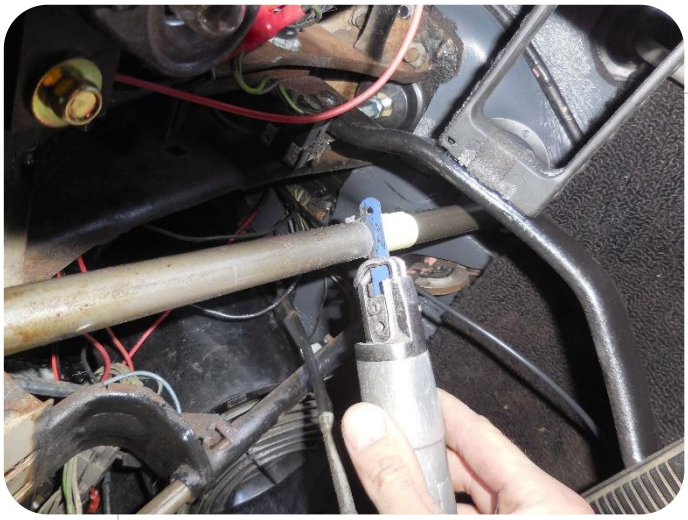
Step 6.

Measure the length for the steering tube.



Step 7.

Disassemble the tube at the rear of the column. This makes the welding adapter visible. Measure the length back from the top, taking into account the bore in the adapter. PAY ATTENTION! This is not the unit of a Volvo, but the idea is similar.



Step 8.

Mark the length and cut the original steering shaft to the correct length. PAY ATTENTION! Make a straight cut, also prevent sharpening of the original steerer tube. Masking with tape is sufficient to prevent this.

Step 9.

Now it is wise to try if everything has been cut correctly, so mount the EZ unit and tighten the two bolts under the dashboard again, but do not yet weld the two parts together! If everything is correct, it can be welded with the EZ unit in place. This gives the best chance for a successful and not crooked assembly.

Step 10.

Leave the end piece / adapter. The rest can be dismantled again.

Step 11.

Now mount the end piece / trumpet over the adapter. After this, the entire unit can be mounted again.

Step 12.

Reconnect the battery. Then find a contact-controlled voltage to connect the thin red wire (15+).

Step 13.

Connect the thick red wire (30+) directly to the battery plus via the fuse holder.

Step 14.

Connect the black wire (31-) with a suitable ground point.

Step 15.

After switching on the ignition, a click can be heard from the ECU, the system is now operational, check this. After switching off the ignition, a click is heard after approximately 4 seconds. The system switches off after a delay.

Step 16.

Re-install the steering wheel of the car. Take a test drive and check all systems again. Also check if the position of the steering wheel is correct.

Step 17.

The end result.