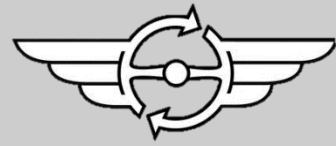


EZ ELECTRIC POWER STEERING

INSTALLATION GUIDE

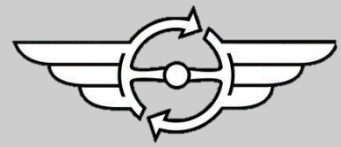
MG RV8





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THE PRODUCT

Thank you for choosing an EZ ELECTRIC POWER STEERING system for its quality, certification and easy assembly. Since 2006 we produce complete steering columns with integrated power steering. All columns are tailor-made for each type of car and we already have 200 types in stock! For more information about our products (power steering systems and replica steering wheels) or to place an order, please visit our website www.ezpowersteering.nl or send an

e-mail to info@ezpowersteering.nl. If you have any questions about the installation, please contact us at workshop@ezpowersteering.nl.

Version C1.1

Date 02-01-2024

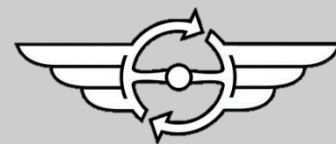
This manual should be read carefully to avoid errors. Check whether all parts of the set are present. This can be done on the basis of the picture in this manual.

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.

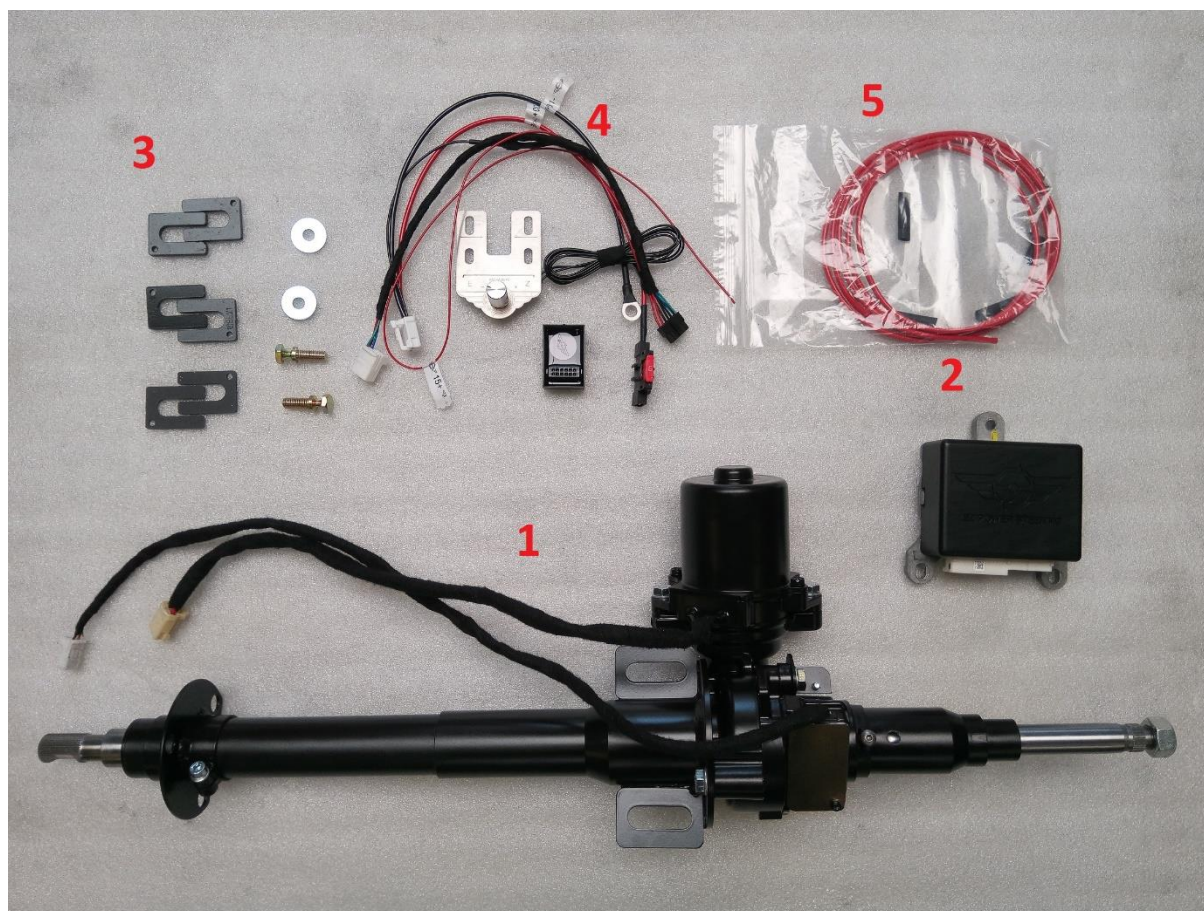
If you do not have the skills or tools to perform the installation, have it performed by a professional. EZ POWER STEERING cannot be held liable for incorrect installation or self-inflicted damage.

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



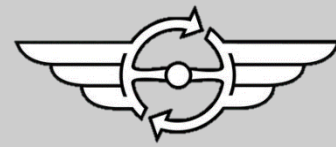
EZMGRV8 - 1. EZ Powersteering Unit

EZMGRV8 - 2. ECU

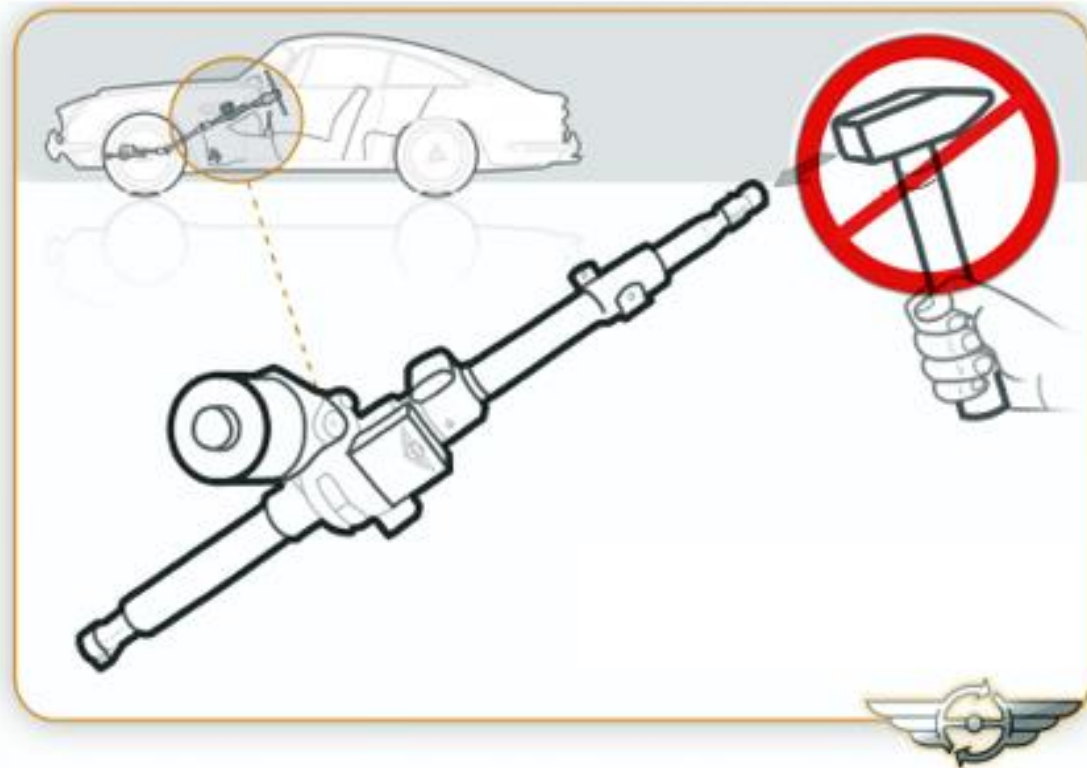
EZMGRV8 - 3. 6x MG shims (2x 2mm, 2 x 3mm en 2 x 5mm)

EZMGRV8 - 4. Wire harness + fuseholder incl. controller (grey)

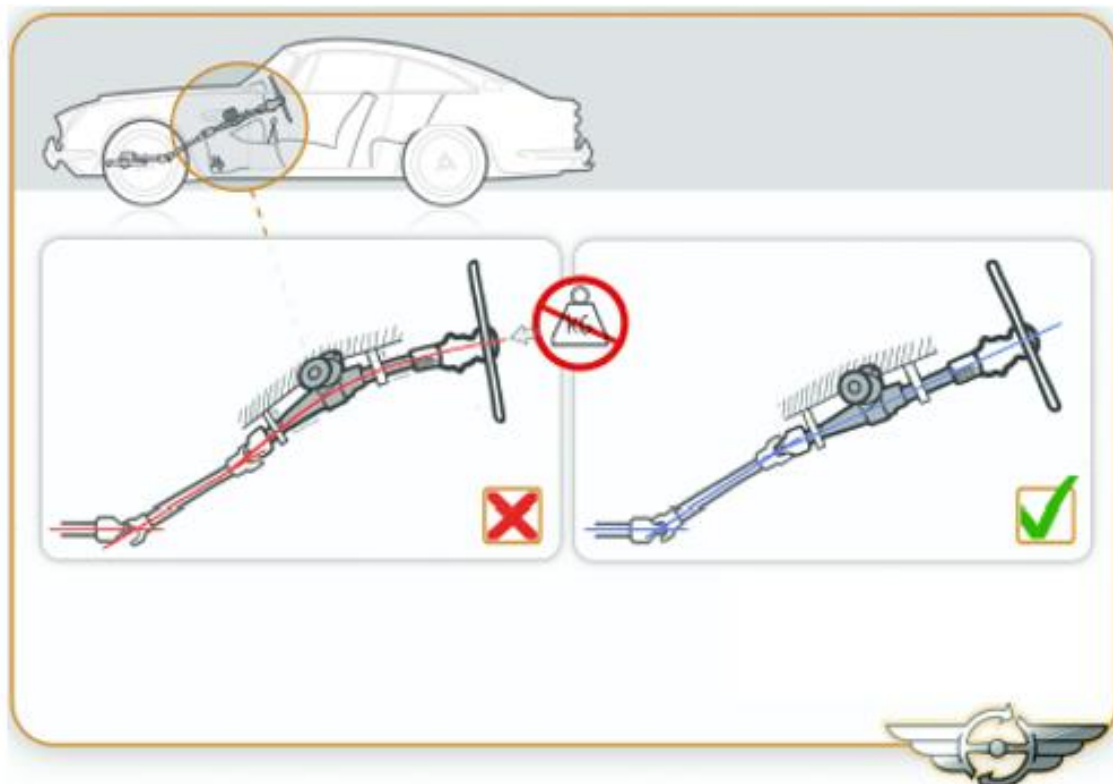
EZMGRV8 - 5. Power cable 6mm²



INSTALLATION



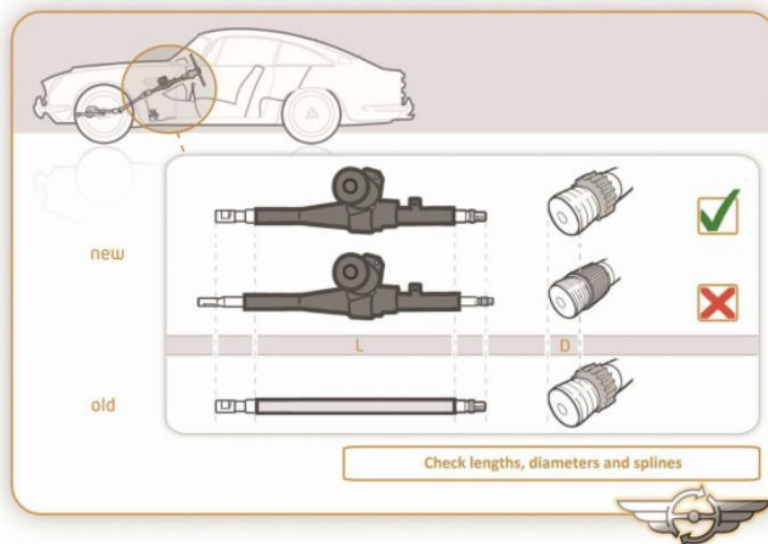
Never hit the input shaft with an object during or after installation. This can negatively affect the sensors.



The steering system must always be fitted tension free and properly aligned.

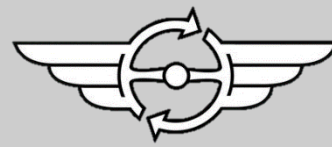
Check length, diameter and splines

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:

	strength class 8.8	strength class 10.9	strength class 12.9
Bolt M6	11	16	19
Bolt M8	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.

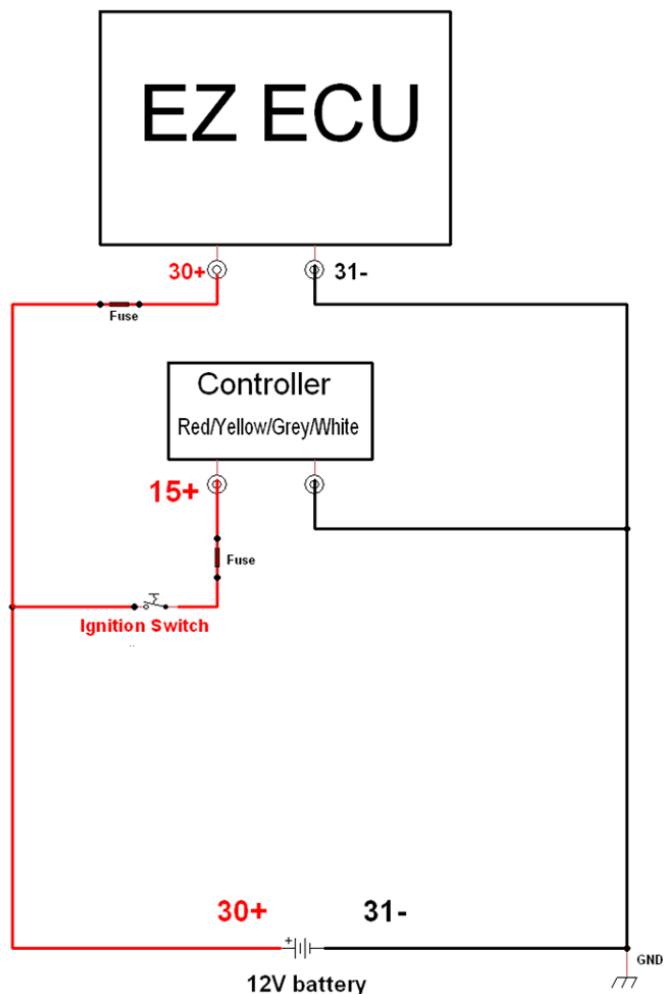
Voltage

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.

The red supply wire (30+) has to be connected directly to the starter relay or the plus terminal of the battery and fused with the supplied 40 Ampere fuse.

Connect the black ground wire (31-) cable eyelet to a suitable earth point (not to the column). If you have a positive earth car (Plus battery terminal connected to the chassis) ensure that you have the correct wiring loom with additional relay

The thin red wire is ignition switched (15+) and should be connected to a fused contact switched power supply. Check the voltage between the ignition switched plus against earth, with switched on ignition, this must be at least 11,5 Volt. If it drops below this the electric power steering will switch off. (When this happens during driving, the vehicle will drive similar as before the EZ conversion).

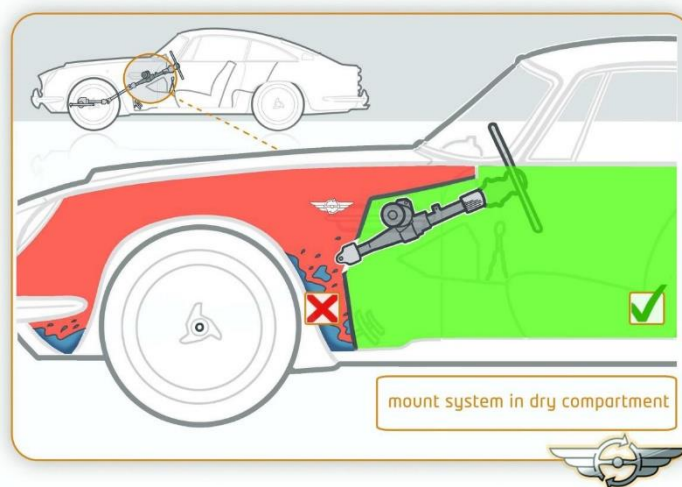




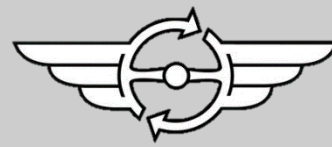
Be sure to measure the voltage under load (with other electrical devices switched on like: cooling fan, windshield wiper or electric window defroster, etc.) and with running engine.

If needed there are electronic devices available, to maintain the correct ignition switched voltage above 11.5V!

Also a simple test of the electronics is to check if you hear a click after switching on the ignition, another click should be heard after 1 or 2 seconds after switching off the ignition



The EZ unit, wiring loom, ECU and other electric components may not be exposed to high temperatures (60 degrees centigrade or higher) or a wet environment.



Step 1.

Inspect the tyre pressure and test drive the car. Check that the steering wheel self-centers. Exeman that the steering and instruments are not defective. If everything this is in order, proceed with the conversion.



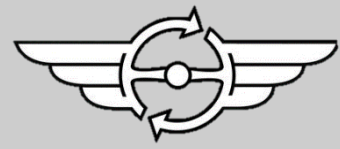
Step 2.

Find a fused power supply switched via the ignition. This is necessary for the power supply of the EZ powersteering unit (see step 16). The switched power supply can either be taken from the ignition switch or from the fuse box. Then disconnect the battery negative terminal lead The battery is hidden under a hatch behind the right front seat.

Step 3.

Remove the horn button. Remove the steering wheel.





Step 4.

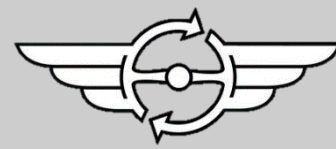
Remove the cover from the lever unit.



Step 5.

Undo the two cables from the steering column.





Step 6.

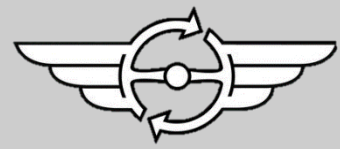
Undo the bolt in the universal joint, found in the engine bay.



Step 7.

Remove the column. Undo the three bolts in the mounting bracket under the fascia panel, then the three bolts in the flange near the bulkhead. Pull the entire steering column from the car.

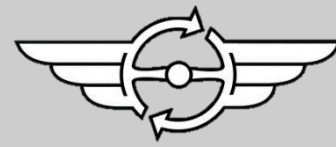




Step 8.

Mount the supplied ring on the EZ unit. This ring will later be used to secure the cover. Use an Allen key to secure the ring. Put it approximately in the right position.





Step 9.

Transfer the ignition lock, the indicator and wiper lever unit, the cables, and the covers to the EZ unit column. The covers need to be modified – use the EZ unit as a template. Also, slightly enlarge the hole in the firewall, so that the universal joint from the EZ unit fits through.



Step 10.

Put the new steering column through the hole in the bulkhead. Fit the steering column to the fascia panel (two bolts) and refit the flange (three bolts). Use some sealant when installing the flange.

CAUTION: It's advised to remove the original universal joint from the steering box and fit it to the EZ unit prior installation of the EZ unit.

Step 11.

Refit the bolt to the universal joint.



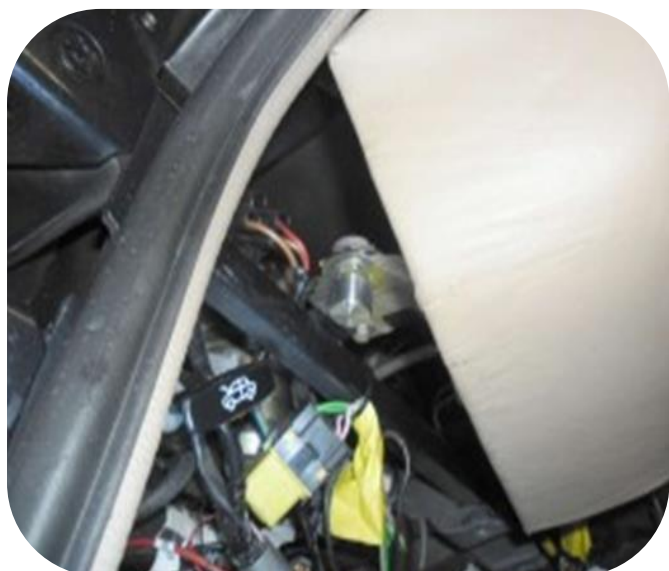
Step 12.

Refit the two cables coming from the steering column.



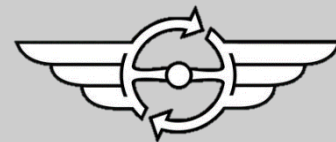
Step 13.

Find a suitable place under the fascia panel to fit the ECU. Connect the cables to the computer.



Step 14.

Find a suitable place for the potentiometer.



Step 15.

Connect the thick red wire (30+) from the fuse holder directly to the positive battery. It is advisable to extra isolate the wire.

Step 16.

Connect the thin red wire (15+) to a fused ignition contact switched power supply (see point 2)

Step 17.

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

Step 18.

Temporarily install the steering wheel.

Step 19.

Connect the previously disconnected battery negative terminal lead. After switching on the ignition a click can be heard from the ECU, the system is now operational, check this by making steering movements. After switching off the ignition a click is heard again after about 3 seconds. The system is now switched off.. Check if the support from the EZ system changes when turning the potentiometer. Check all steering column switches.

Step 20.

Take a test drive and check all systems again. Also check if the position of the steering wheel is correct, if not adjust it. Make sure there is enough length on the horn wire for the possible adjustment of the steering wheel.

Step 21.

Tighten the steering wheel nut and fit horn button.