

TECHNICAL RECOMMENDATIONS ELECTRIC STEERING RACK

Before any intervention, refer to the manufacturer's manual

- The power steering rack is a safety component; the intervention should only be carried out by **qualified personnel equipped with all the specific tools required for the operation.**
- Ensure that the diagnostic tool supports the vehicle and the intervention on the steering rack.
- Before installation, **check the ordered reference.** Check and compare the exact match in every detail between the removed part and the delivered part.

WARNING:

Before starting the replacement of the steering rack:

Connect the diagnostic device to the car and check for any error codes (record or note them down).

Voltage drops can cause malfunction of the steering rack:

- Check the condition of wiring and fuses.
- Check the condition of the battery. The voltage must be above 12.4V.
- Check the operation of the alternator.
- Before starting the programming, use a power stabiliser (such as CTEK or equivalent) so as to maintain a voltage above 13V.
- Clear the error codes.

Disassembly

1. Lock the steering wheel in the centre position and detach the steering column from the rack. Check that the universal joint of the steering column is still in good condition.
2. Disconnect the battery.
3. Carefully unplug the connectors from the steering rack.
4. Remove the steering rack.
5. **Do not return the old part until the repair is complete.** This will allow you to retrieve the program from the old rack if necessary.

Installation

1. Install the steering rack according to the manufacturer's instructions. **Check the torque on all bolts.**
2. Install new tie rod ends.
3. Connect the steering column shaft to the rack. Use a new bolt and nut.
4. Plug the connectors on the steering rack and reconnect the battery.
5. Check and adjust the alignment. Ensure the positioning of the boots and that the boot clamps are still sufficiently tight. **For Flexray models, refer to page 2.**
6. After performing the necessary basic settings (calibrations, adjustments, etc), clear any remaining error codes.
7. Conduct a thorough road test, then verify the absence of new error codes using the diagnostic device.

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Additional information for replacing a steering rack on a vehicle with a **FlexRay** protocol.

Reference examples:

Audi : AE504 /AE505 /AE508 /AE511 /AE513 /AE516 /AE517 /AE519 /AE522 /AE523

BMW Mini : AE1900 /AE1901 /AE1902 /AE1903 /AE1904 /AE1905 /AE1906 /AE1907 /AE1909 /AE1910 /AE1912 /AE1913 /AE1921 /AE1922 /AE1923 /AE1931 /AE1932 /AE1933 /AE1934 /AE1935 /AE1936 / AE1940

Mercedes : AE2001 /AE2002 /AE2003 /AE2008 /AE2009 /AE2013 /AE2015 /AE2018 /AE2023 /AE2024 /AE2027 /AE2030 /AE2033 /AE2035 /AE2043

The replacement of a steering rack with a Flexray protocol requires reprogramming of the rack on the vehicle.

If the programming fails, it may result in the malfunction of the steering rack, cause its destruction, or have repercussions on other vehicle components such as control units, etc.

Measures to follow before programming

1. Place the vehicle on a flat surface, do not move the vehicle, and do not perform any other intervention.
2. Turn off all electrical devices in the vehicle, including the headlights.
3. Disconnect all external accessories that could interrupt the programming: phone, Bluetooth player, USB drive, etc.
4. Before starting the programming, ensure that the diagnostic tool allows for the reprogramming of the vehicle (presence of the "EPS Commissioning" menu or equivalent).
5. To follow the programming protocol, take the manufacturer's and the diagnostic tool's user manuals.
6. If your diagnostic tool allows it, use a cable rather than a wireless connection with the vehicle.
7. The voltage stabiliser must remain connected for the entire duration of the programming. The use of a conventional battery charger instead of the power stabiliser should be avoided due to voltage disturbances.
8. During the programming, do not disrupt or interrupt the connection between the diagnostic tool and the vehicle.

Attention: If the above instructions are not followed, no warranty return will be granted.

This manual does not replace the manufacturer's instructions.