

		Test results		
1	CHECK USING DIAGNOSTIC EQUIPMENT	All OK	Problems encountered	Operation
	Connect the Examiner diagnosis equipment and check, in the Electric Steering Node "Parameter Reading" environment, that there are no errors and that the parameters are present.	Go to Step 10	Impossible to connect to the control unit. Presence of errors. Low battery voltage parameter reading.	Go to Step 2 Go to Step 6 Go to Step 9
2	ELECTRICAL POWER SUPPLY CHECK	All OK	Problems encountered	Operation
	Check that the electrical power supply to the "Electric Steering Node" is correct. With the panel off, check for a voltage of around 12.5 V at the blue power supply connector. With the panel on, check for the same voltage at PIN 1 of the black connector for the CAN line signals.	Go to Step 3	Battery voltage faulty. Fault in positive electrical supply and/or earth.	Go to Step 8 Replace the component causing the problem (in the case of a fuse, find out what caused the intervention)
3	ELECTRICAL CONNECTIONS CHECK	All OK	Problems encountered	Operation
	Check the electrical connections for the "Electric Steering Node" and the "Body Computer", searching for any loose connections creating occasional breaks in the power supply. In particular, make sure that every PIN is correctly connected and fitted in place. Take GREAT care over the positive battery terminal leading to the 70 A fuse for electric steering (left terminal). If it is secured but NOT correctly fitted in place, disconnect it and fasten it correctly.	Go to Step 4	Electrical connections not working.	Restore the damaged electrical connections.
4	NO RESIDUAL VOLTAGE CHECK	All OK	Problems encountered	Operation
	Start the engine and then switch it off. At this point, with the panel off, check that the voltage at PIN 1 of the black connector for the CAN line signals is effectively 0 V.	Go to Step 5	The voltage at PIN 1 with the panel off is more than 0 V.	DO NOT replace the "Electric Steering" unit. Electrical equipment problem
5	CHECK USING DIAGNOSTIC EQUIPMENT	All OK	Problems encountered	Operation
	Recheck the possibility of connecting to the "Electric Steering Node" using Examiner.	Go to Step 1	Impossible to connect to the control unit.	Replace the "Electric Steering" unit. <a href="#">Op. 4110D20 STEERING ELECTRICAL CONTROL DEVICE - R R</a>
6	ERROR CHECK	All OK	Problems encountered	Operation
	Check for the presence of one or more of the following errors using Examiner in the Electric Steering Node environment: - C1214, incorrect end of line configuration. - C1001, internal control unit error. - C1002, steering column torque/position sensor error. - C1008, position sensor calibration	Go to Step 7	Error C1214 detected Internal control unit or electric motor error detected (C1001). Steering column torque/position sensor error (C1002). C1008 Position sensor not calibrated.	DO NOT replace the "Electric Steering" unit. This is not an error but the normal system configuration and does not lead to hardening of the steering. Go to Step 7 Replace the "Electric Steering" unit. <a href="#">Op. 4110D20 STEERING ELECTRICAL CONTROL DEVICE - R R</a> Go to Step 11 Go to Step 15
7	ERROR CHECK	All OK	Problems encountered	Operation
	Check for the presence of the following errors using Examiner in the Electric Steering Node environment: - C1003, vehicle speed error. - C1005, electric steering warning light error.	End of diagnosis	Intermittent fault(s) detected. Fault warning light error detected.	Go to Step 8 DO NOT replace the "Electric Steering" unit. Vehicle signal problem
8	PRACTICAL TEST	All OK	Problems encountered	Operation
	Check and clean masses, delete the error(s) and carry out a road test, checking that the fault is no longer present.	End of diagnosis	The error occurs again.	DO NOT replace the "Electric Steering" unit. Vehicle signal problem
9	BATTERY ELECTRICAL CHECK	All OK	Problems encountered	Operation
	Check the following, in order: - Battery voltage correct. - Battery wiring correctly fixed.	Go to Step 10	Service battery voltage faulty. Loose connections detected in the "Electric Steering Node" power supply circuit.	Restore the correct operation of the battery. Restore the correct wiring
10	ELECTRICAL CONNECTIONS CHECK	All OK	Problems encountered	Operation
	Check the electrical connections for the Electric Steering Node, searching for any loose connections that may create occasional interruptions in the power supply. In particular, make sure that every individual PIN is correctly connected and fitted in place.	End of diagnosis	Electrical connections not working.	Restore the damaged electrical connections
11	CHECK USING DIAGNOSTIC EQUIPMENT	All OK	Problems encountered	Operation
	Using Examiner in "Electric Steering Node" environment, after having confirmed the presence of the error, enter the "Details" screen and locate the "Temporary Electric Steering Error" item.	Go to Step 14	Temporary Electric Steering Error 23. Temporary Electric Steering Error 19.	Go to Step 12 Go to Step 13
12	ELECTRICAL CONNECTIONS CHECK	All OK	Problems encountered	Operation
	Check that the leads are correctly fastened at the battery terminals, in particular the earth lead at the negative pole.	Go to Step 14	Wiring defective.	Restore the correct operation of the wiring
13	ELECTRICAL CONNECTIONS CHECK	All OK	Problems encountered	Operation
	Thoroughly clean the Electric Steering Node earths, also checking the condition of the wiring and making sure that every single PIN is correctly inserted and securely fastened.	Go to Step 15	Dirty earths or loose contacts detected.	Go to Step 14
14	CHECK USING DIAGNOSTIC EQUIPMENT	All OK	Problems encountered	Operation
	After cleaning the earths and checking the wiring, with Examiner in "Electric Steering Node" environment, delete the error and carry out a road test.	End of diagnosis	The problem occurs again.	Replace the Electric Steering assembly. <a href="#">Op. 4110D20 STEERING ELECTRICAL CONTROL DEVICE - R R</a>
15	CHECK USING DIAGNOSTIC EQUIPMENT	All OK	Problems encountered	Operation
	Using Examiner, in the "Electric Steering Node" environment, select the "Position sensor calibration" configuration and check the result of the operation.	End of diagnosis	Impossible to calibrate the position sensor, because different from 0°.	Got to Step 16 (this procedure is carried out on vehicles equipped with VDC/ESP).
16	CHECK USING DIAGNOSTIC EQUIPMENT	All OK	Problems encountered	Operation
	The EPS could have been connected to the I-shaft with the position sensor turned to a position other than central (offset by 360° or 720° either to the left or the right). Proceed as follows: if the Examiner does not allow the calibration of the position sensor from the position where we are currently located, and the result is therefore negative, disconnect the intermediate shaft from the steering box side (vehicle with straight wheels), disconnect the steering column switch unit (to avoid damaging the clock spring), turn the steering wheel to a central position and then by 360 degrees to the right. Supply a current the panel and try to calibrate the position sensor with Examiner. If the result is again negative, switch off the panel, carry out another complete turn to the right then repeat the procedure described above. If the result is again negative, retry the same procedure carrying out 3 left turns and, if the operation is still unsuccessful, turn once more to the left. The system may be fitted offset by up to 2 turns to the right or to the left.	End of diagnosis	Impossible to calibrate the position sensor.	Replace the Electric Steering assembly. <a href="#">Op. 4110D20 STEERING ELECTRICAL CONTROL DEVICE - R R</a>

The customer complains of failed operation (hard steering) and electric steering failure warning light on