Mazda CX5 - Alternator control lamp comes on

Data sheet	
Manufacturer	Mazda
Vehicle model	CX 5 (KE)
Engine code	2.2 16V CDI Skyactiv-D
Year of manufacture	2011-2017
Symptoms	Charging system malfunction | I-stop warning lamp flashes | Alternator control lamp lights up | Overrunning alternator pulley defective

Important safety note

Error message "Charging system malfunction - engine stop possible" is displayed on the Mazda CX5

If the error message "Charging system malfunction - engine stop possible" is displayed in the instrument cluster on the above-mentioned vehicle model, one cause for this may be a defective overrunning alternator pulley. In our case study, the defect occurred immediately after the engine had been started. The alternator control lamp also came on and the i-stop warning lamp started to flash.

After opening the bonnet and the carrying out of a visual inspection, a damaged V-ribbed belt was immediately diagnosed as the cause. After more troubleshooting, pronounced rubber abrasion on the alternator's belt pulley was detected, which could ultimately be traced back to a defective overrunning alternator pulley.

A stuck overrunning alternator pulley leads to load change reactions on the belt drive and can lead to damage or, as in our case, to a tear in the V-ribbed belt.

Defective overrunning alternator pulley with torn V-ribbed belt

Repair notes

In the case of this engine variant, the water pump is also driven by the V-belt. Continuing to drive with a defective V-ribbed belt can lead to overheating and engine damage. After the repair, the relevant error memory entries in the control units must be deleted.

Maintenance information

The overrunning alternator pulley, also called the alternator freewheel, must be checked regularly to ensure the functioning of the accessory drive and to avoid damage. A defective freewheel is noticeable as a result of an unsteady rotation of the accessory drive unit and the resulting noise. An alternator with an intact freewheel should come to a delayed stop when the engine is switched off.

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