



Condition

ATTENTION:

THIS IS A TECH TIP, NOT A TECHNICAL BULLETIN.

TECH TIPS ARE NOT ASSOCIATED WITH WARRANTY CLAIMING.

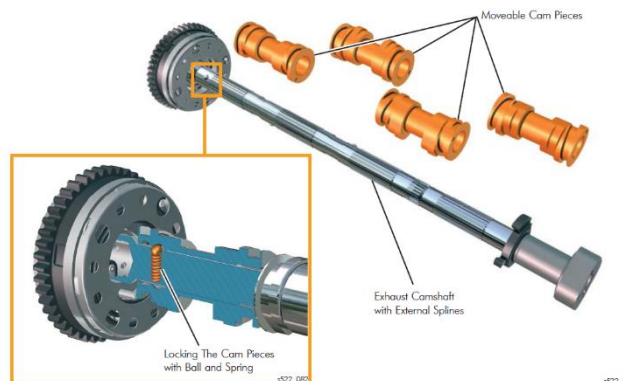
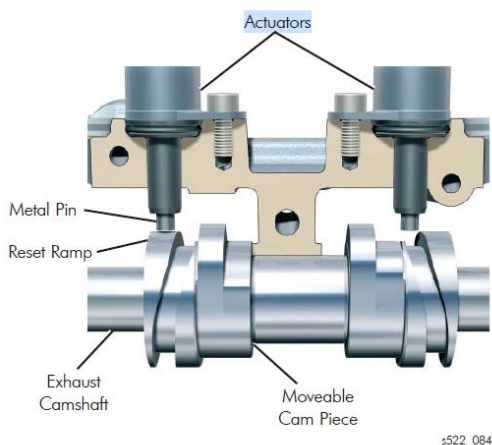
Applicable Vehicles					
Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
GTI	2015-2019	1.8L-2.0L (CXBA, CXBB,CXCA,CXCB)	All	All	All
Tiguan LWB, Passat, Beetle, Beetle Convertible,	2018-2019	2.0L (DGUA, DDSA,DDSB)	All	All	All

Revision Table			
Instance Number	Published Date	Version Number	Reason For Update
2057833/1	11/22/19	15-19-XXTT	Original publication.

Technical Background

Diagnostic aid for cam shift actuator mechanical failure and misfire diagnosis on B cycle engines with cam shift technology.

Cam shift actuators, when mechanically malfunctioning can produce misfire faults due to resulting differences in air volume between cylinders. Electrical diagnosis of these actuators is relatively simple with each actuator receiving a constant 12V and ground side switching controlled by the ECM. They require approximately 3 amps to operate. If no circuit faults exist and misrouted actuator connectors can be ruled out, then a mechanical defect is a likely cause.





Actuators can fail for a variety of reasons such as:

- Binding actuator rod in the solenoid housing.
- Missing or stuck detent ball in movable cam pieces.
- Oil pressure issues resulting in actuator rod being stuck down in the movable cam piece groove.

Any failure resulting in an actuator being left on a different cam profile than all the others will likely not set a fault at idle or even be detectable during a running compression test due to the relatively low RPM not obviously showing the difference in air volume. Typically, the misfire will be recorded on a higher load and RPM range.

An examination of the actuators for physical defects or damage should be performed first and if found, look for corresponding damage to the camshaft and movable cam pieces. If there is no visible damage move both actuators to a different cylinder and drive the vehicle under the same conditions when the fault set. Returning faults following the actuators for that cylinder should result in actuator replacement.

Additional Information

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