



## Technical Tip

|                    |                                                      |
|--------------------|------------------------------------------------------|
| <b>Topic</b>       | 15-19-01TT - Misfire, Off of Idle or at High RPM     |
| <b>Market area</b> | United States 444 Volkswagen of America, Inc. (6444) |
| <b>Brand</b>       | Volkswagen                                           |
| <b>Date</b>        | March 1, 2019                                        |

## Condition

|                                                             |
|-------------------------------------------------------------|
| <b>ATTENTION:</b>                                           |
| <b>THIS IS A TECH TIP, NOT A TECHNICAL BULLETIN.</b>        |
| <b>TECH TIPS ARE NOT ASSOCIATED WITH WARRANTY CLAIMING.</b> |

### Misfire, Off of Idle or at High RPM

| Model(s)                                                                                    | Year      | Eng. Code                                                               | Trans. Code | VIN Range From | VIN Range To |
|---------------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------|-------------|----------------|--------------|
| Jetta, Golf, GTI, Sportwagen, Beetle, Beetle Convertible, Passat, CC, EOS, Tiguan (Classic) | 2008-2018 | CCTA, CBFA, CPKA, CPRA, CPLA, CZTA, CPPA, CXBA, CXBB, DGXA, DDSA, DDSB, | All         | All            | All          |

## Technical Background

Vehicles experiencing a consistent cylinder specific misfire, primarily off of idle or at high RPM.

Misfires may not occur at idle. A broken valve spring may be the cause.

## Service

- Swap spark plug and ignition coil to other cylinders. Through control module On Board Diagnostic (OBD), clear ECM faults 3 times in a row within 15 seconds and re-evaluate the concern.
- If misfire is still present on the same cylinder, perform compression and leak down testing on all cylinders. Compare the readings with the cylinder of concern. Note percentage of leakage and if the pressure loss is occurring in to the intake, exhaust, or crankcase.
- On the suspect cylinder, compression may be lower or similar to other cylinders. If a broken valve spring is present, leak down results may display less than 15% leakage on all cylinders. If the valve is stuck open, 100% leakage will result on the cylinder with the misfire. Pressure loss through the intake or exhaust can be noted during leak down testing, if this is the case. There are instances where all readings will remain consistent. If so, a running compression test can be performed on the suspect cylinder and another cylinder, for comparison. Results showing a difference of 7 PSI or more (difference between cylinders) indicate a valve train issue. This could be due to a broken spring, spun cam lobe or valve guide (sticking).



- Continue with removing upper cylinder head cover and camshafts. Push on each valve and closely inspect to determine if there is a broken valve spring. If 100 % leakage was found in the leak down test, perform a leak test again while pulling up on the valve found with broken valve spring. If acceptable leakage is then achieved, replace broken valve spring per ELSA procedure. If the valve is damaged, cylinder head replacement will most likely be needed.

## Additional Information

| Revision History |               |                       |
|------------------|---------------|-----------------------|
| Revision Number  | Released Date | Reason For Update     |
| 2054179/1        | 3/1/19        | Original publication. |

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