

# « JUST THE FACTS »

## The Aftermarket's Broadest VVT Coverage

With more than 500 SKUs and counting, including more than 100 exclusive units, BWD<sup>®</sup> offers the most comprehensive Variable Valve Timing program in the aftermarket. We're determined to continue broadening our VVT program with increased coverage and expanded manufacturing at our certified facility in Bialystok, Poland.



Irregular oil change service is one of the leading causes of Variable Valve Timing failure

### HIGH TECH

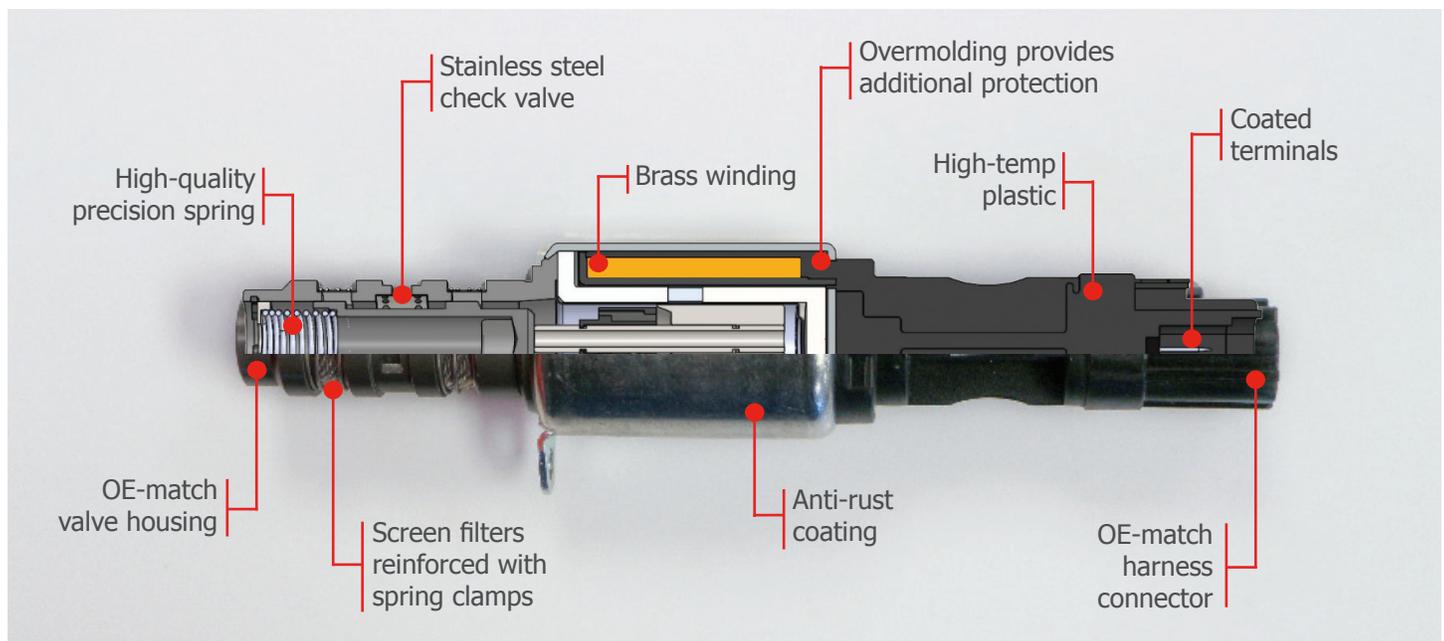
Variable Valve Timing is an extremely high-tech category, which is why premium quality is a must

### 100% TESTED

BWD's VVT line undergoes extensive design and testing to ensure performance and longevity

### Designed and Manufactured for Real-World Conditions

In addition to providing the aftermarket's leading VVT coverage, BWD<sup>®</sup> is committed to supplying professional technicians with the premium quality that's critical for this high-tech category. That's why BWD<sup>®</sup> VVT Solenoids are designed and manufactured using premium components to endure real-world conditions.



# « JUST THE FACTS »

## Variable Valve Timing (VVT) Sprockets

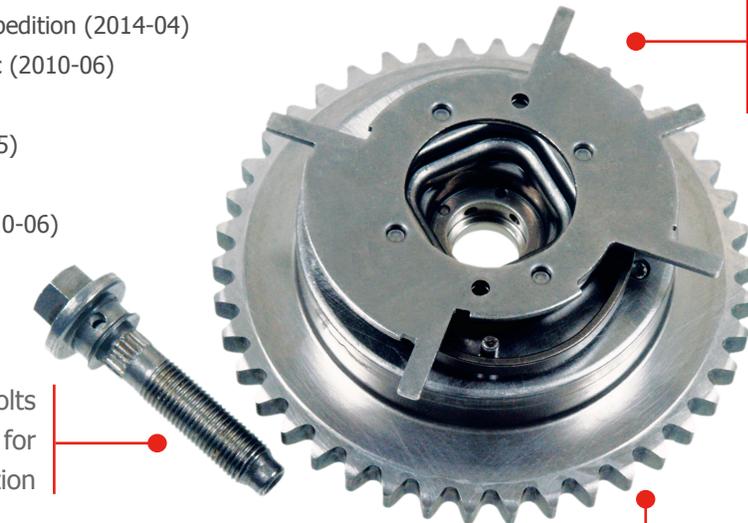
Located on the camshaft, VVT sprockets (also known as cam phasers) help maximize engine horsepower and torque curves while reducing emissions and improving vehicle efficiency. To ensure proper performance for this important category, BWD<sup>®</sup> VVT Sprockets meet tight dimensional tolerances to improve internal sealing, minimize oil drain back, and reduce frequency of PCM correction.

### VV5000

- Ford F-Series Trucks & Expedition (2014-04)
- Ford Explorer & Sport Trac (2010-06)
- Ford Mustang (2010-05)
- Lincoln Navigator (2014-05)
- Lincoln Mark LT (2008-06)
- Mercury Mountaineer (2010-06)

VIO Over 3.2 Million

OE-style installation bolts included with sprockets for ease of installation



Undergoes 100% end-of-line testing to meet or exceed OE performance

Precision-machined to ensure accurate variable valve timing, correct rough idle, and restore drivability

Extensively designed to lower leakage and lash, which improves performance and leads to noise-free operation

OE-Matching sprocket tooth profiles ensure quiet operation

## Variable Valve Timing (VVT) Sprocket Tech Tips:

Replacing the VVT sprocket on a Ford 5.4L engine is an in-depth job. To help you replace it correctly, here are a few repair tips from our VVT Installation Spotlight video. To watch the full installation, visit our YouTube channel.

- Use a pick tool to make a scribe on the timing chain. The scribe will show you where to put the chain with the new sprocket to avoid retiming the engine.
- Remove the entire camshaft. Otherwise, it will be difficult to align the sprocket's dowel pin. If the pin isn't aligned perfectly, it will be sheared off, causing damage to the camshaft.
- Tighten the sprocket bolt to 40Nm, then tighten an additional 90 degrees.
- Torque the camshaft caps to 10Nm, working your way from the center to the outside.

