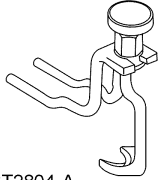
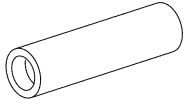


## IN-VEHICLE REPAIR

### Valve Seals

#### Special Tool(s)

 <p>ST2804-A</p>	<p>Compressor, Valve Spring 303-1039</p>
 <p>ST1332-A</p>	<p>Installer, Valve Stem Oil Seal 303-383 (T91P-6571-A)</p>

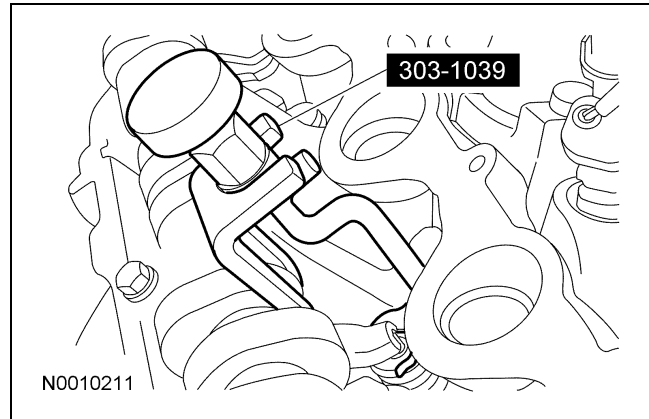
#### Material

Item	Specification
<p>Motorcraft SAE 5W-20 Premium Synthetic Blend Motor Oil XO-5W20-QSP (in Canada Motorcraft SAE 5W-20 Super Premium Motor Oil CXO-5W20-LSP12) or equivalent</p>	<p>WSS-M2C930-A</p>

#### Removal

- Depending on the valve seal being serviced, remove the LH or RH valve cover. For additional information, refer to Valve Cover — LH or Valve Cover — RH in this section.
- Remove the spark plug. For additional information, refer to Section 303-07B.
- Rotate the crankshaft until the piston for the valve seal being serviced is at the top of its stroke with the intake valve and the exhaust valves closed.
- ⚠ CAUTION: If the components are to be reinstalled, they must be installed in the same positions. Mark the components for installation into their original locations.**

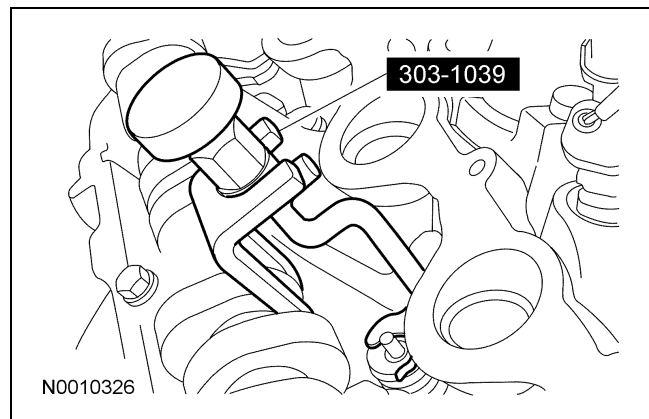
Using the special tool, compress the valve spring and remove the camshaft roller follower.



- Use compressed air in the cylinder to hold both valves in position.
  - Apply a minimum of 965 kPa (140 psi) of compressed air into the cylinder.
- ⚠ CAUTION: If air pressure has forced the piston to the bottom of the cylinder, any loss of air pressure will allow the valve to fall into the cylinder. If air pressure must be removed, support the valve prior to removal.**

**⚠ CAUTION: If the components are to be reinstalled, they must be installed in the same positions. Mark the components for locations.**

Using the special tool, compress the valve spring and remove the valve spring retainer keys.



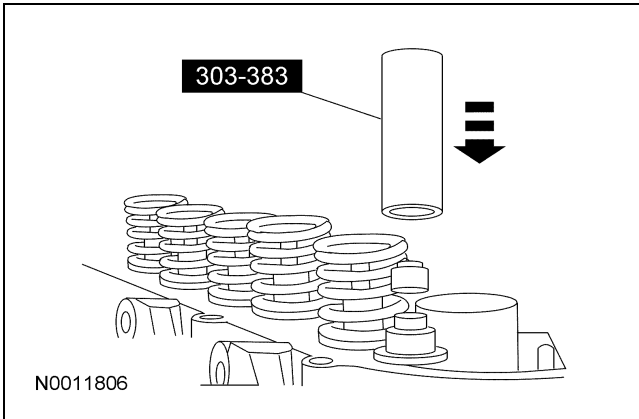
- Remove the valve spring retainer, the valve spring and the valve seal.
  - Discard the valve seal.
- Inspect the components. For additional information, refer to Section 303-00.

## IN-VEHICLE REPAIR (Continued)

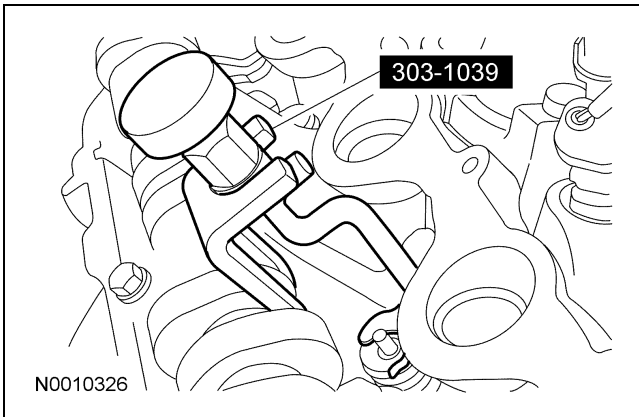
### Installation

1. **NOTE:** Lubricate the valve seal and valve stem with clean engine oil prior to installation.

Using the special tool, install a new valve seal.

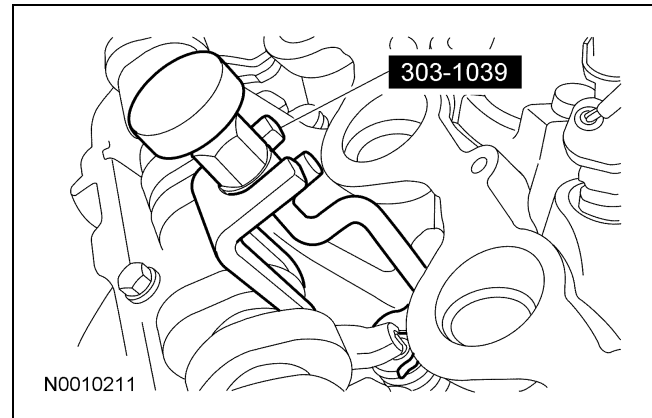


2. Using the special tool, install the valve spring, the valve spring retainer and the valve spring retainer keys.



3. Relieve the air pressure from the cylinder.
4. **⚠ CAUTION: If the components are to be reinstalled, they must be installed in the same positions. Mark the components for installation into their original locations.**

Using the special tool, compress the valve spring and install the camshaft roller follower.



5. Install the spark plug. For additional information, refer to Section 303-07B.
6. Depending on the valve seal being serviced, install the LH or RH valve cover. For additional information, refer to Valve Cover — LH or Valve Cover — RH in this section.