

## ANSWER KEY TO CHALLENGE SHEET

### GENERAL ENGINE DIAGNOSIS CHALLENGE

**Customer's Concern:** My minivan emits a large cloud of blue exhaust when it is first started. It runs fine afterwards.

**Customer Vehicle:** Dodge Caravan.

#### Possible Causes of This Challenge:

1. Intake or exhaust valve seals have lost their elasticity.
2. Valve guides worn due to infrequent oil changes/maintenance.
3. Valve stems worn due to infrequent oil changes/maintenance.

#### Safety First Practices to Follow:

1. Wear safety glasses at all times.
2. Follow safety guidelines when using compressed air to pressurize cylinders.
3. Follow all safety rules when using hand tools.

#### Tools and Equipment Required:

1. Hand tools.
2. Cylinder leakdown hose and adapter.
3. Valve spring compressor.
4. Magnetic pickup tool.