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# Performing a Leakdown Test on an Off-Road Vehicle or Slingshot

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## Applicable Models

| PRODUCT LINE      | MODEL YEAR | MODEL | APPLICATION              |
|-------------------|------------|-------|--------------------------|
| ATV               | All        | All   | All                      |
| GENERAL           |            |       |                          |
| Polaris XPEDITION |            |       | Excluding XP Kinetic, EV |
| RGR               |            |       | All                      |
| RZR               |            |       |                          |
| SLG               |            |       |                          |

## Required Tools and Supplies

- Leakdown tester
- Air compressor
- Spark plug wrench
- Breaker bar (optional)
- Soapy water (for detecting leaks)

## Procedure

### 1. Preparation

- Ensure the engine is cold before starting the leakdown test.
- Remove any necessary parts to access the spark plug, such as the fuel tank or fairings.

### 2. Remove the Spark Plug

- Use a spark plug wrench to remove the spark plug from the cylinder you are testing.

### 3. Set the Cylinder to Top Dead Center (TDC)

- This ensures all valves are closed. Refer to the Service Manual (<https://service.polarisportal.com/STOP/Files/Index/3>) for the specific procedure to find TDC on the compression stroke.
- You can find TDC by rotating the engine and feeling for air pressure at the spark plug hole.

### 4. Attach the Leakdown Tester

- Thread the leakdown tester's adapter into the spark plug hole (make sure that the Schrader valve is removed).
- Connect the tester to the adapter.

## 5. Connect the Air Compressor

- Attach the air compressor hose to the leakdown tester.
- Set the compressor to the recommended pressure (90 psi/620 kPa).

## 6. Perform the Test

- Open the valve on the leakdown tester to allow air to flow into the cylinder.
- Observe the gauge on the tester to see the percentage of leakage.

## 7. Interpret the Results

- 0-5% leakage: Engine is in good condition.
- 5-15% leakage: Engine is in good condition but may need minor repairs soon.
- 15% or more leakage: Engine has significant leaks and requires repairs.

## 8. Diagnose Leaks

- Intake valve: Listen for air escaping at the carburetor or throttle body.
- Exhaust valve: Listen for air escaping through the exhaust pipe.
- Piston rings: Listen for air escaping through the crankcase breather hose or oil fill cap.
- Head gasket: Look for bubbles in the radiator coolant or spray soapy water around the cylinder head.

## Tips

- Use soapy water to detect small leaks by spraying it around suspected areas and looking for bubbles.
- If the engine rolls over from TDC due to high pressure, use a breaker bar to hold it in place.

## Related Articles

Performing a Compression Test (<https://ask.polarisdealers.com/Home/ViewArticle?articleNumber=KA-06536>)

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