



Installation Instructions for KPMI Part No: **82-82060**

Polaris • Sportsman 800 • 2006-'14

Lightweight Racing Valve Spring Kit

A) 82-82060 Kit Includes:

<u>Qty</u>	<u>Application</u>	<u>Description</u>
4 - Pcs	Intake / Exhaust	Titanium Retainers
4 - Prs	Intake / Exhaust	Chrome Silicon Springs
2 - Pcs	Intake	H.T. Steel Basewashers
2 - Pcs	Exhaust	H.T. Steel Basewashers
2 - Pcs	Intake	Viton Seal*

*Note: Supplied seals are intended to replace the OEM "tophat" style intake seal. These seals are designed to have minimal clearance or even contact with the top of the supplied basewasher. If necessary to add spring shims to adjust installation height, the seal must be allowed at least 0.250" of contact area on the guide body.

B) Recommended Installed Height - Intake/Exhaust

1. Installed Height	1.490"-1.500"
2. Seat Pressure	65 #
3. Open Pressure at 0.465" lift	223 #
4. Open Pressure at 0.500" lift	235 #
5. Max Valve Lift	0.500"

C) Notes:

- The difference between the installed height and the coil bind height is considered "Free-Travel"
The coil bind height is determined by compressing the spring(s) with the Retainer and Basewasher in place (a vice can be used for this operation). Once springs are compressed, measure the distance between the Retainer and Basewasher where the Outer Spring contacts them.
- Retainer-to-Seal / Guide clearance should also be gross valve lift +0.060" for safe operation.
- Failure to check valve train clearances can result in serious damage to an engine

TECH TIPS

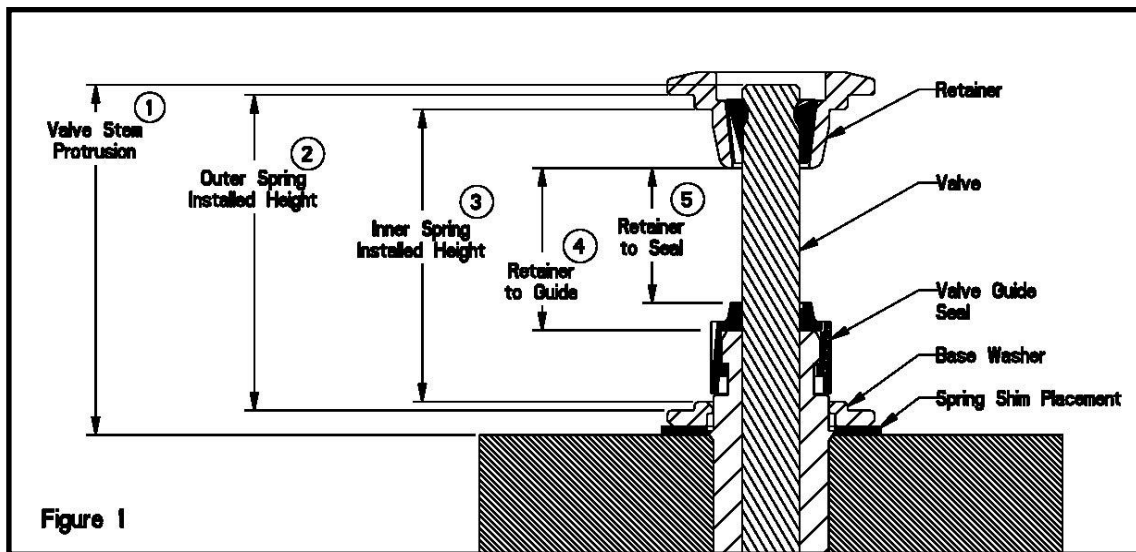


Figure 1

Valve Train Terminology

1. Stem Protrusion is measured from the tip of the valve stem to the cylinder head. See Figure 1.
2. Outer spring installed height is measured where the outer spring contacts the Retainer and Basewasher when assembled (See Figure 1).
3. Inner spring installed height is measured where the inner spring contacts the Retainer and Basewasher when assembled (See Figure 1).
4. Retainer-to-Guide clearance is the distance between the Valve Guide (w/o the seal) and the bottom of the Retainer, with the Valve in the closed position (See Figure 1 and Notes 3 & 4).
5. Retainer-to-Seal clearance is the distance between the Valve Stem Seal and the bottom of the Retainer, with the Valve in the closed position (See Figure 1 and Notes 3 & 4).

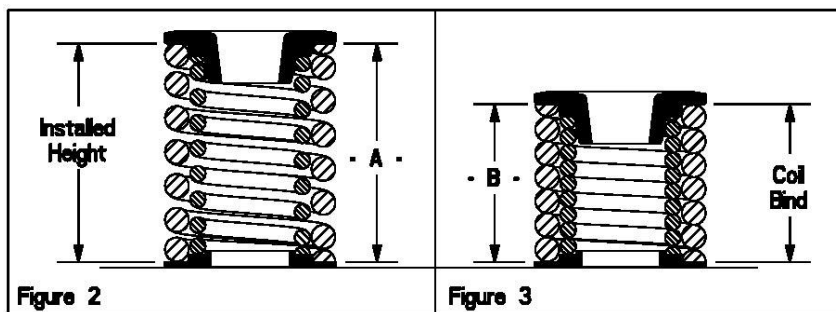


Figure 2

Figure 3

Installed Height

1. In Figure 2 the installed height is measured from where the Outer Spring contacts the Retainer and the Basewasher. This measurement is taken when the Valve, Basewasher, Retainer, and Keepers are assembled in the cylinder head.

Coil Bind / Solid Height:

1. In Figure 3 the coil bind height is determined by compressing the Spring(s) with the Retainer and Basewasher in place (a vice can be used for this operation). Once springs are compressed, measure the distance between the retainer and basewasher where the Outer Spring contacts them.

Notes:

1. The difference between the installed height and the coil bind height is considered "Free-Travel"
2. Free-travel should always be gross valve lift +0.060" for safe operation.
3. Retainer-to-Seal / Guide clearance should also be gross valve lift +0.060" for safe operation.
4. Failure to check valve train clearances can result in serious damage to an engine.