



Installation Instructions for KPMI Part No.: 70-70035

Triumph • T509 / T595 / 955i • 885 & 955 • 1997-2001

Lightweight Racing Valve Spring Kit w/ Shim Under Conversion

A) 70-70035 Kit Includes:

<u>KPMI Part No.</u>	<u>Qty</u>	<u>Application</u>	<u>Description</u>
70-70036	12 - Pcs	Intake / Exhaust	Ti Retainers
70-70037	12 - Prs	Intake / Exhaust	H.T. Steel Keepers
70-70038	12 - Prs	Intake / Exhaust	Chrome Silicon Springs
70-70039	12 - Pcs	Intake / Exhaust	H.T. Steel Basewashers
70-70040	12 - Pcs	Intake / Exhaust	Tappet
70-70041	12 - Pcs	Intake / Exhaust	Spacer* (See Fig. 1)

B) Recommended Installed Height - In / Ex

- | | |
|---------------------------------------|----------------------|
| 1. Installed Height | 1.370"-1.380" |
| 2. Seat Pressure | 68 # |
| 3. Open Pressure at 0.280" lift | 153 # |
| 4. Open Pressure at 0.440" lift | 201 # |
| 5. Max Valve Lift | 0.440" |

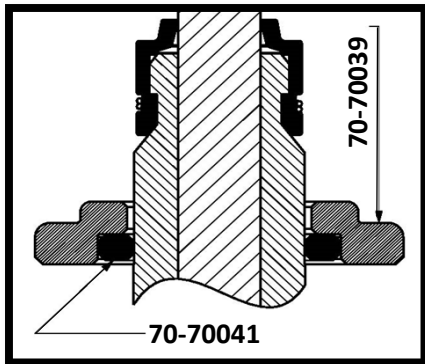


Fig. 1

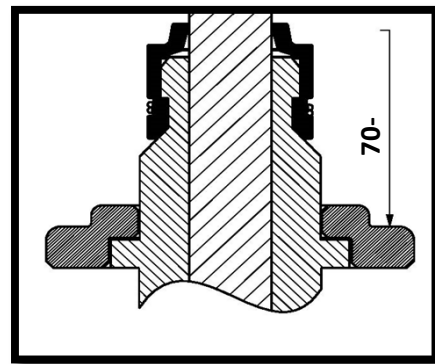


Fig. 2

*Use 70-70041 spacer only when the valve guides do not have a shoulder.
 Spacer installs in the counterbore of the 70-70039 basewasher.

*Guides with shoulders do not require 70-70041 spacers.

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.
- Free-travel should always be gross valve lift +0.060" for safe operation.
- 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

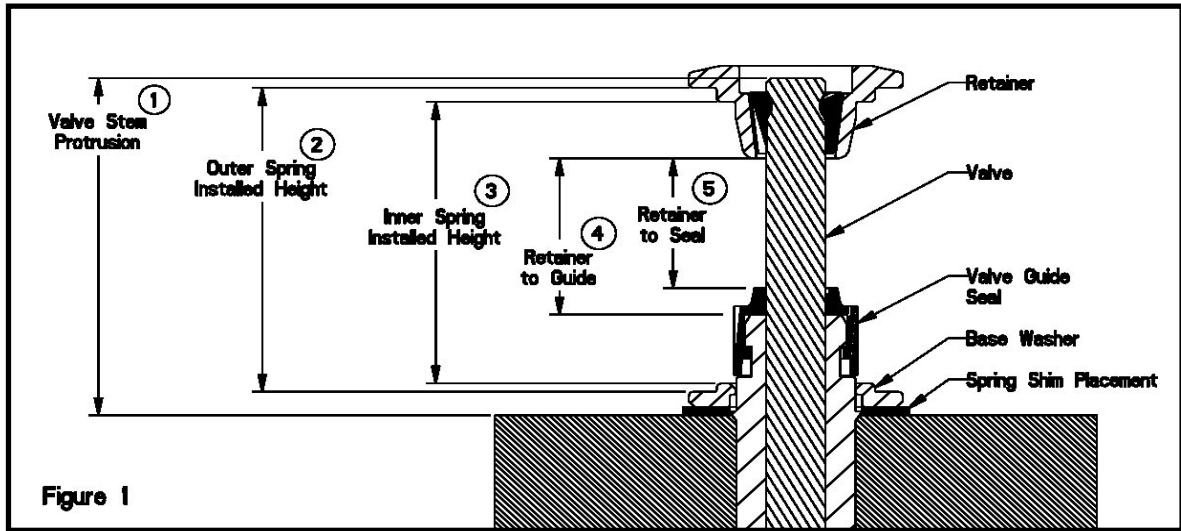


Figure 1

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).

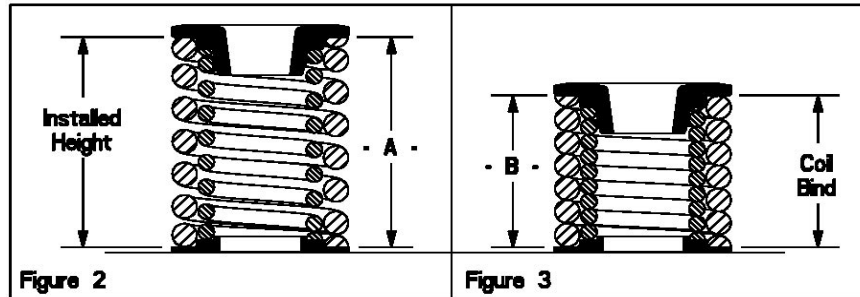


Figure 2

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.