CRANE Cams®

TECH BULLETIN

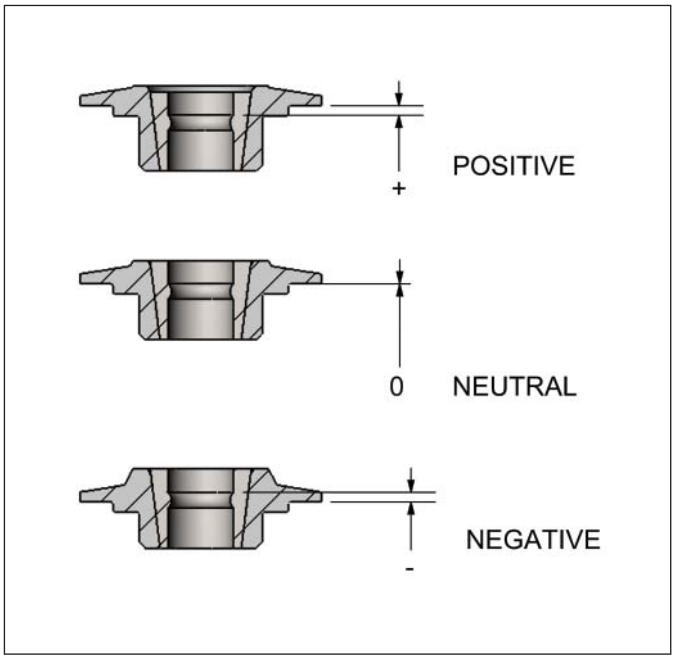
Valve Spring Retainer Height Chart

To be able to achieve the proper valve spring height, while using the minimum amount of valve spring shims, can be challenging when working with applications that use other than stock components. There has never been an industry standard to compare the relationship of retainer heights with each other, although we have previously listed our retainer heights by comparing them with each other. This has been somewhat helpful if you have at least one of our retainers on hand for comparison purposes, but doesn't properly address the variations of valve stem diameters, valve stem lock thicknesses, and taper angles.

With this new listing, we are providing a measurable dimension that can be easily checked for the cylinder head and valve combination you're working with. No sample retainers or fixtures are needed. The Retainer Height dimensions listed indicate the relationship of the outer step of the retainer that the outer valve spring sets against, with the top of the valve stem lock groove in the valve stem.

If the dimension on the chart is .000", the outer retainer step, and the top of the lock groove are at the same height. If the dimension is positive, such as .060", then the outer retainer step is .060" above the top of the lock groove. If the dimension is negative, such as -.040", then the outer spring step is .040" below the top of the lock groove. Check the accompanying drawings for a visual explanation.

This will enable you to measure from the valve spring seat on the cylinder head, to the top of the lock groove in the valve, then compare that dimension to your desired valve spring assembly height (see the Valve Spring Retainer Dimension pages 350-351, and the Valve Spring to Retainer Cross Reference pages 355-357 for additional information). If you need an assembly height that's .060" higher than your measured dimension, check the listings for the applicable retainers for your valve springs, and look for a height figure close to .060".



The standard height Crane Cams valve stem lock part numbers are listed with each diameter valve stem (where applicable) to achieve these figures. Remember, most of our valve stem locks are also available in +.050" and -.050" heights (see pages 360-361), to extend the available height combinations that can be created.

The retainers are listed by material, then by lock configuration.

The valve stems are listed by diameter and lock groove configuration.

Certain unique specific retainers are listed using their usual valve locks, such as the Buick 11 degree, and the Ford Modular items.

We hope this will make choosing your components easier, and provide a more reliable valve spring retainer/valve stem lock combination for your application.