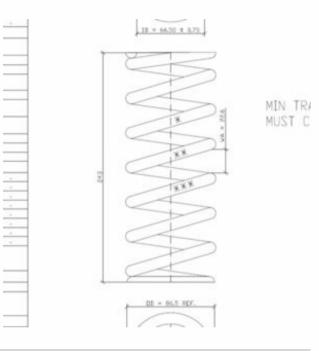


## Why use Factory Connection Springs?

## Design

The spring design is a collaboration between Factory Connection and the spring manufacturer. We start by measuring the components and creating the design parameters by which the manufacturer will follow to produce the springs. These parameters are unique to Factory Connection and one of the reasons why we are considered a leader in fit and finish in the industry. We design each spring to fit without modification. We do not use one spring for multiple applications that require the use of spacers. We design springs that are "drop in" ready.



### Material Manufacturer

The use of high performance quality materials and an understanding of how to work with these materials is a key component to building a spring that performs well and is reliable. This is why Factory Connection has a stringent vetting process of manufacturers and can offer a lifetime warranty against spring failures due to defects in material and manufacturing process. It is important for Factory Connection to work with companies that have many years of experience working with the type of material that we require.

#### **Heat Treating**

After winding the springs, they go through a heat-treating process. This process allows the spring to hold their shape and removes some of the stresses. Because of the High tensile material that is used the heat-treating process has to be completed at a specific time, temperature and duration. Understanding these parameters is critical when working with the type of high performance material that we use. Many manufacturers do not understand this process because they do not use this material. All springs and manufacturers are not created equally.

### **Shot Peening**

Shot peening is another critical area in the process. Shot peening is a process that blasts small metal particles through a pressurized gun at the springs. This removes a small layer of material on the surface of the spring, removing small imperfection that can lead to failures. The type of shot peening material, duration of the process, intensity of the shot and the equipment used are all important factors in the process. Again, experience and testing are very important.

## **Pre-setting**

When the springs are compressed the first time the free length will shrink a bit. This is known as taking a set. Because of this the springs are made on the long side and go through a pre-setting process that allows the spring to settle into its designed free length. This allows the spring to maintain its free length without further shrinkage.

## Validation

Validating the process is done through cycle testing. The springs are run on a piece of equipment that compresses the spring hundreds of thousands of times. This insures that the manufacturing process is solid and the springs will hold up to their lifetime of use.



# **Quality Control**

Double quality control inspection. What does this mean? As each batch of springs are made they go through a quality control check at the manufacturer. When the springs arrive at Factory Connection they go through another quality control inspection by our own staff. This process of checking and re-checking insures a high level of quality and creates a constant flow of information between Factory Connection and the manufacturer. Communication is a key factor to success.

