



TOOL FACTS

TF-004

ALL ABOUT SIDE ROD SPRINGS

By Andrew Mayer

A very common question in the construction tool industry is... How much should side rod springs on Paving Breakers be tightened? Well, in this edition of “*Tool Facts*,” your question will be answered.

There are many myths about how to tighten these springs. One common way is to tighten them down so there is about two hacksaw blade’s width in between the coils. By the way, this is how I was taught to do it, when I started with APT, 16 years ago. Some of the myths are probably true, but in this *Tool Facts* you will find the exact measurement to use when checking for proper tightness.

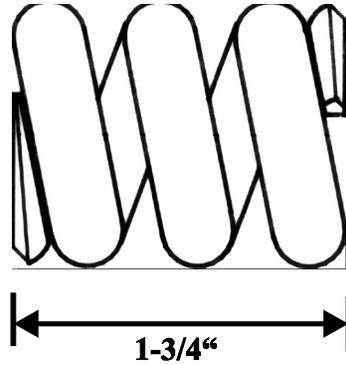
First, let’s talk a little about why the springs should be tightened to an exact measurement at all. The reason is, if the springs are not tightened enough this will allow energy to escape (in other words, the tool will appear to have no power at all), and it can also cause damage to the tappet and the fronthead. If the springs are over tightened, too much pressure is put on them. Spring manufacturers tell us that for every additional fraction of an inch you tighten the springs past the specified limit, you put hundreds of additional pounds of stress on them. If you’ve ever experienced broken springs before, it’s likely been caused by over-tightening. To sum it up, when you add the stress of over-tightening to the common force of prying the concrete that’s often magnified by taking too large a bite, you get broken springs. So, proper spring tension is very important to your tool life and measurement is how you check it.

Why do paving breakers have springs, anyway? For over 75 years of time tested application this design has been industry proven, and perfected, to be the overall best combination for maximum power, durability, and ease of repair. Some manufacturers have chosen to go with a “one-piece” design, viewed by many as a cost saving design. The tools have fewer moving parts, therefore thought to be less costly to repair. Well, having less moving parts may be true, but because of the one-piece design, it can set up a costly repair bill if something were to get lodged inside the cylinder and scar it. The APT “traditional” design has a tappet, tappet bushing, side rods and springs - features that prevent damage to the cylinder. It is also a fact that the springs serve as shock absorbers for some of the energy that is being developed.

Remember keep springs tightened to the correct length and you will prolong the life of your Breaker. You should also remember that the tools are not pry bars, so please try to break up reasonable pieces of concrete at any one time.

Now, the answer you've been waiting for: How tight should the side rod springs be?

THE MODEL 140 PAVING BREAKER:



THE MODEL 160 & 180 PAVING BREAKERS:

