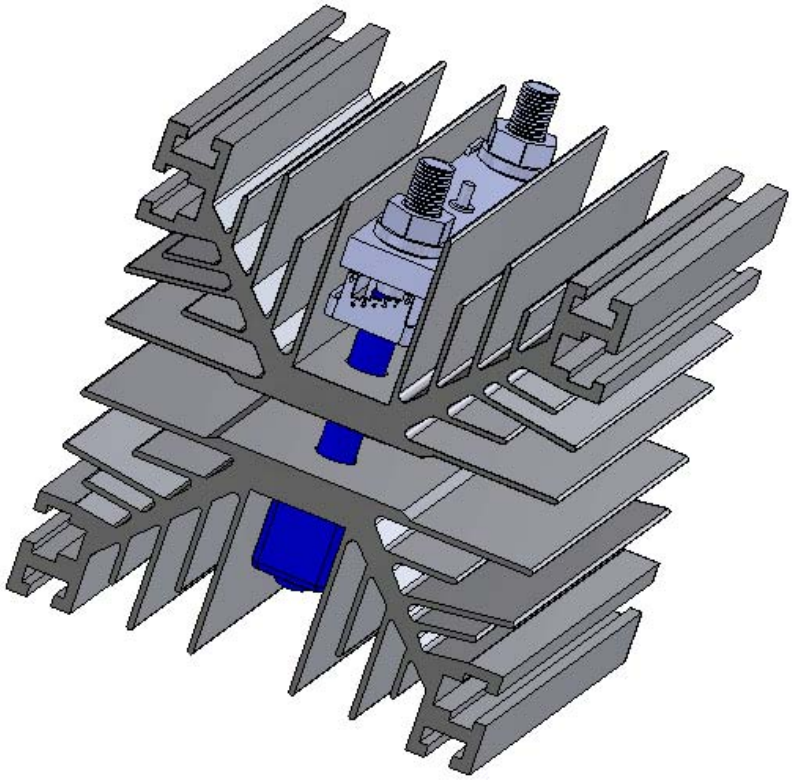
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WAKEFIELD THERMAL SOLUTIONS
ASSEMBLY PROCEDURE FOR PRECISION COMPRESSION MOUNTING CLAMP SYSTEMS

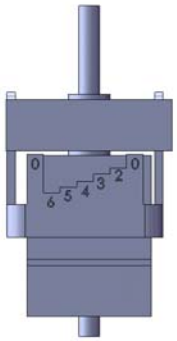


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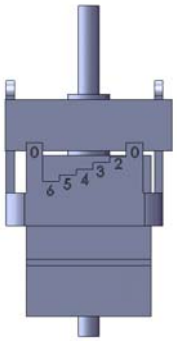
Clamp Assembly Application Procedure

All illustrations assume the following parts: 143 series crossbar, 143-2 spring leaf assembly and one or two 132-5-B9 heat sinks, compression SCR (not a Wakefield product), EJC No. 2 thermal joint compound (not a Wakefield product). Wakefield recommends using two heat sinks, one on each side of the SCR.

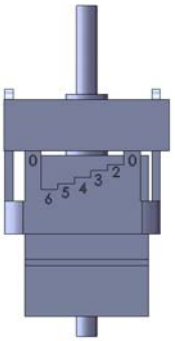
When received, the top edges of the force indicator should be in line with bottom edge of the spring leaf as shown below. This is the zero position. If this is not the case, move it to zero with your hands or a pair of pliers.



Too low

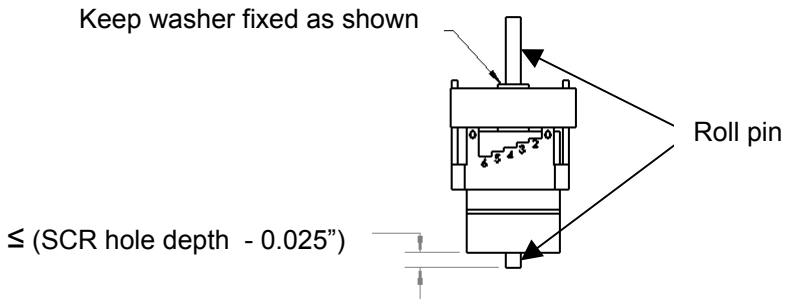


Too high



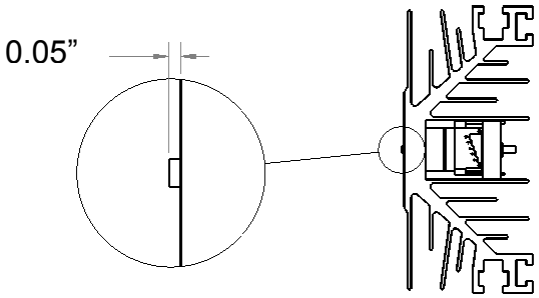
Proper zero position

If using one heat sink only: The roll pin will need to be adjusted to fit into the blind hole of the SCR. Check the depth of the blind hole and allow a clearance of at least 0.025 in (0.65 mm). Care will be needed to ensure that the upper retaining washer is held against the top leaf spring.



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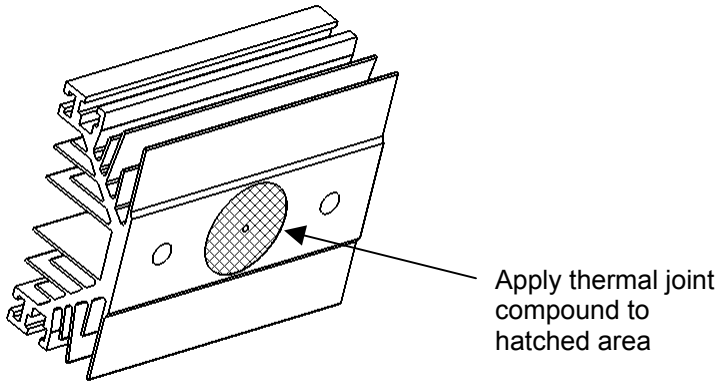
If using two heat sinks on both sides of the component: place the heat sink on a flat surface and put the leaf spring assembly between the fins on center with the roll pin into the hole. With a hammer drive the pin into the hole and through the heat sink, so that the pin comes through the other side and protrudes 0.050 in (1.3 mm). This is helpful in indexing the SCR to keep it concentric to the forces applied when the nuts are tightened. This also holds the spring leaf assembly in place.



Apply a non-silicone based thermal compound to the spotface of the heat sink without the spring leaf assembly/roll pin. It is recommended that Electrical Joint Compound No. 2 (EJC #2) be used, as it contains a fluoride compound that removes the surface oxides on both the heat sink surface and the pole face of the SCR. Do not use Wakefield Type 120 compound, as it will cause a hot spot at this joint. There are many methods for applying the proper thickness of grease with full coverage and without excessive squeeze-out; this should be done by trial and error, removing the SCR and checking the amount of coverage.

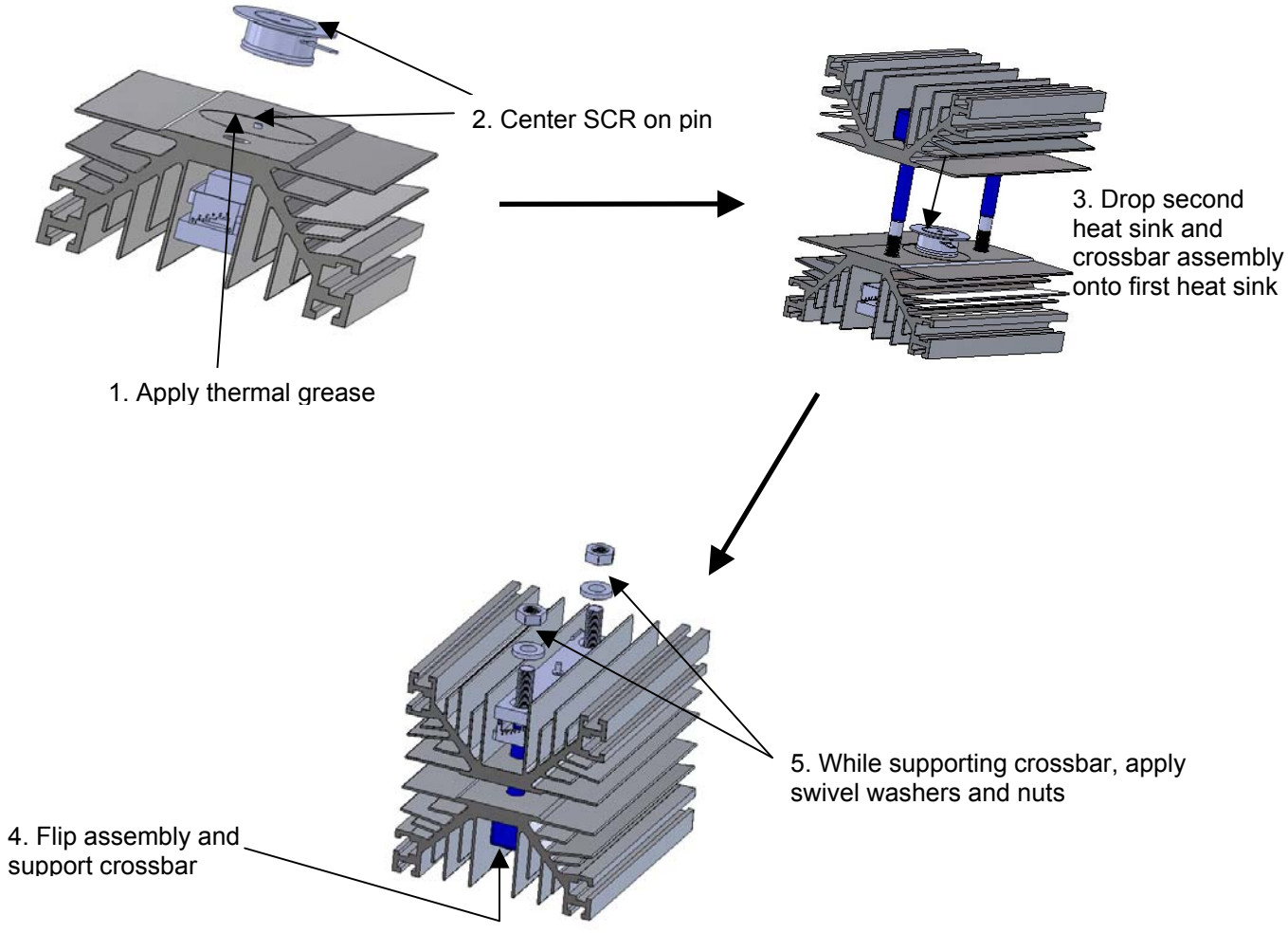
Electrical Joint Compound No. 2 (EJC #2) is supplied by:

ACA Conductor Accessories
www.acasolutions.com
(800) 866-7385



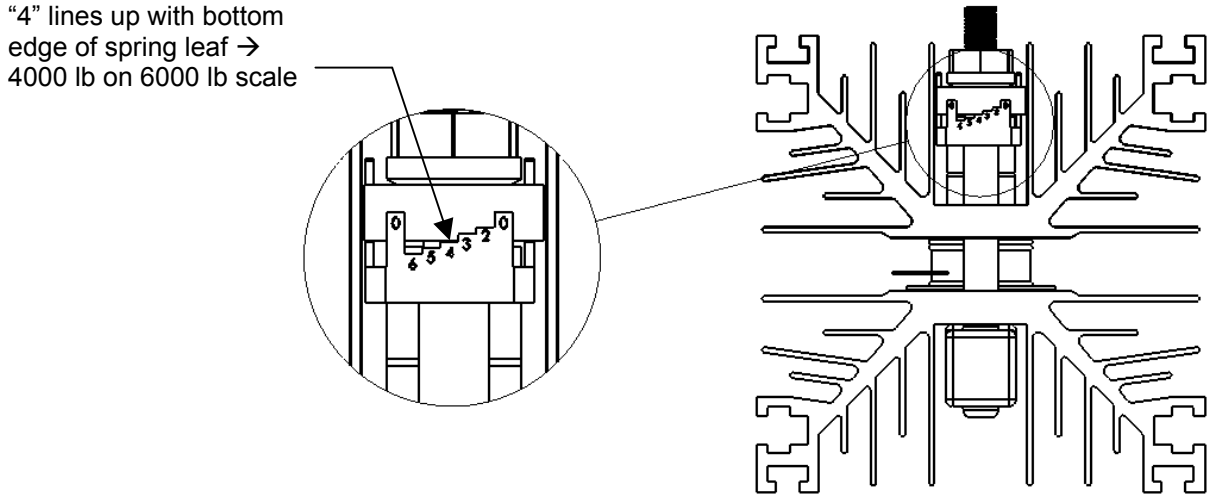
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Apply the thermal compound to the spotface of the heat sink with the spring leaf assembly and place the SCR in position on the spotface, centering the SCR on the roll pin. At this time fit the crossbar studs between the two innermost fins and through the holes of the other heat sink (without the spring leaf assembly). Slowly drop the crossbar studs through the holes in the heat sink with the SCR and spring leaf assembly, making sure that the SCR fits over the spotface on the upper heat sink. Then flip the assembly upside down, supporting the crossbar against the inner surface of the heat sink. Drop the washers over the threaded ends of the studs, and then apply the nuts to the threads and screw on until finger tight.



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Tighten the nuts alternately one-quarter turn each until you have reached the required force recommended for the SCR. This occurs when the edge of the marked step on the force indicator matches the bottom edge of the spring leaf as shown below.



Additional notes:

Avoid short cuts in assembling these components, as it is important that deflection of the spring leaf assembly be given precedence over all other choices of force measuring techniques.

Do not use torque wrenches to set the force level, as torque is not a measure of force on these assemblies. The lubricants and surfaces of the nuts and washers will vary and cause a gross misrepresentation of force if torque is used as a force indicator.

Spotfaces are machined to a minimum depth to provide a flat surface for the SCR to sit on. The pole face of the SCR is only about 0.060 in (1.5 mm) above the surrounding bellows ring that is bonded to the SCR porcelain housing. The pole faces of the SCR deflect slightly as the force is applied to make contact to the silicon dioxide disc inside. If the spotface is too deep on the heat sink, the shoulder of the bellows will make contact to the heat sink, and the proper force required at the pole faces will not be met.

Every clamp/heat sink/SCR assembly will not have the same physical heat sink thicknesses to accommodate, and will require that the customer install small pins into the heat sinks to index the SCRs. The pins in the leaf spring assemblies will not be long enough in most cases and cannot be driven through the thicker heat sinks. In these applications the pin is driven into the heat sink a minimum distance to lock the leaf spring assembly to the heat sink.