ICC INTERNATIONAL MOTORfax
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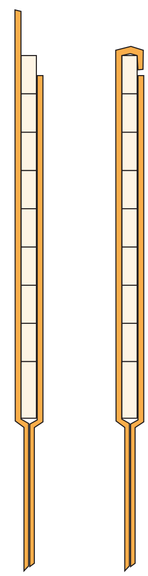
How can asking for a change in commutator riser style save you time on your next rewind?

By giving your winder the style that works best for personal preference... and by knowing where you can safely make changes, and where you can't.

Inserted risers come in many different styles... from open, to closed, to straight blade, and with a large number of foldover configurations.

Different winders have different preferences, and generally speaking, risers can be designed to meet those preferences; as long as the overall material remains the same for current carrying capacity and stability in operation.

When working with foldover tabs, the biggest challenge can be in placing the coils. Though it may seem that the top coil should fall entirely between the two sides of the riser, in fact, the short side of the riser should come only halfway up the top coil. This original OEM design may cause problems in aftermarket rewinding, since you'll end up working with a very small amount of the long side of the risers which can be difficult to bend.



Note coil placement in foldover tab per most OEM designs. The top coil sits only halfway up the short side of the riser, leaving little material on the long side to bend.

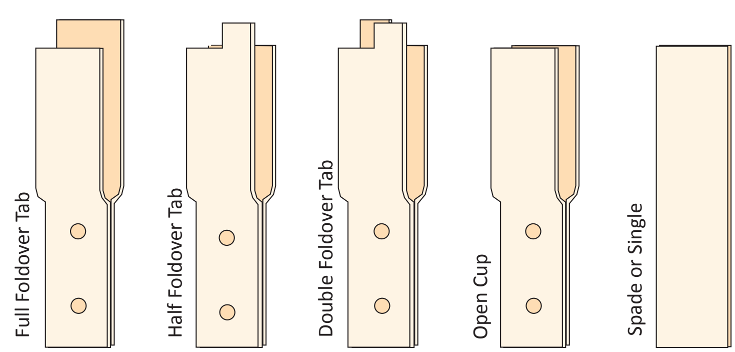
The solution? Have your commutator manufacturer make an adjustment to the design. Some of the conversions available, shown to the right, may fit better within your winders' preferred work scope and may save time in the rewind as a result. Also, if you choose to stay with a full foldover, you can always instruct your comm manufacturer to increase the length of the long side of the riser to make it easier to bend.

Should you change riser material thickness?

Not if it means going thinner. By going from 0.060" to 0.040", you reduce the current carrying capacity of the copper, and also reduce the strength of the material. However, the reverse (0.040" to 0.060" is typically possible, and it is also possible to convert from a double inserted riser of 0.040" material to a single inserted riser of 0.093".

Can I do anything to stop inserted risers from cracking in operation?

Riser cracking is typically due to one of two causes. Vibration can be addressed in some cases by adding a row of lashing to help minimize the effect. Hydrogen embrittlement is seen in copper which contains oxygen. Over time, it will react with the hydrogen in the air and cause the copper to Become brittle and crack. Using Oxygen-free copper for inserted risers will solve this problem, and should be specified for virtually all inserted riser commutators.



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