# THE NEW FEATURES OF NEW SCORPION S30II-Series MOTOR

**The new SII-30mm motors have undergone several design improvements over the original model motors.**
**These include:**

**1** A re-designed front housing with a centrifugal style blower fan, similar to that used in the Scorpion helicopter motors. This fan works equally well in either direction of motor rotation, so that if you use the motor in a reverse pitch prop or pusher application, the cooling fan still works well.

**2** The Stator laminations are made from a new material that has better magnetic qualities, and the shape of the stator has been modified to concentrate more of the magnetic force towards the magnets, where it can do more work.

**3** The material used in the flux ring has changed, and the thickness modified to contain more of the magnetic flux field. This increases the efficiency of the motor as well as the power output.

**4** The above changes work together to make the motor more efficient, but they also lower the Kv of the motor. To compensate for this, the new motors actually have fewer turns of wire to get the desired Kv. For example the original 3014-18 motor had 18 turns per pole pair and had a Kv of 1064. The motor that replaces it, the SII-3014-1040 motor has a similar Kv, but uses only 16 turns of wire per pole pair. This difference lowers the Rm of the motor and increases it's current handling ability and its power output.

**5** The final change is the actual part number of the motor. Instead of having the -number be the number of turns, it is now the Kv value of the motor. Here is a listing of the old style motor mart number and Kv, along with the new replacement motor part number, which contains the Kv.

| Series I 30mm | SeriesII 30mm Equivalent |
|---|---|
| SC3008-28 = 1253kv | SC3008-1220kv |
| SC3008-32 = 1090kv | SC3008-1090kv |
| SC3014-16 = 1187kv | SC3014-1220kv |
| SC3014-18 = 1064kv | SC3014-1040kv |
| SC3014-22 = 892kv | SC3014-830kv |
| SC3020-12 = 1088kv | SC3020-1110kv |
| SC3020-14 = 931kv | SC3020-890kv |
| SC3020-16 = 812kv | SC3020-780kv |
| SC3026-8 = 1212kv | SC3026-1190kv |
| SC3026-10 = 980kv | SC3026-890kv |
| SC3026-12 = 830kv | SC3026-710kv |
| SC3032-8 = 988kv | SC3032-990kv |
| SC3032-10 = 823kv | SC3032-880kv |
| SC3032-12 = 686kv | SC3032-690kv |


Here is a side by side photo of the original 3014-18 motor and it's replacement, the Scorpion SII-3014-830 motor so you can see the difference.