Prop Conversion Formula

This formula is good for when you have a good known prop for a particular application, but want to replace it with one with a different number of blades, or a different diameter and pitch.

The more complete formula, which takes the number of prop blades into account is D x D x D x P x Square root (N-1), where N = the number of prop blades. For a 2 bladed prop, the square root of (2-1) is the square root of 1 which is 1, so the term just drops out of the equation.

For a 3-bladed prop, the correction factor is the square root of (3-1) or the square root of 2, which is 1.414.

For a 4 bladed prop, the correction factor is the square root of 3, which is equal to 1.732

So if you have a 3-bladed 9x7 prop, then the load factor is 9 x 9 x 9 x 7 x 1.414, which is 7,216, and this would be roughly equivalent to a 2-bladed 10x7 prop, which has a load factor of 7,000.

If you had a 4-bladed 12x7 prop, then the load factor would be 12 x 12 x 12 x 7 x 1.732 or 20,950 This would be roughly equivalent to a 2-bladed 14x8 prop, which has a load factor of 21,952.

In the end, if the load factor of 2 props is the same, you will get similar RPMs from the two props, and similar performance.

So there you go, hope that helps!