

## Model Flight Performance Chart

The accompanying chart displays wing area, weight, wing loading and Wing Cube Loading of a variety of model airplanes.

*Wing Cube Loading* is a number developed by Frank Reynolds and a group of modelers to give a better indication of a model's potential flying characteristics than just wing loading. It is calculated by dividing the model weight in ounces by the wing area in square feet raised to the 1.5 power. By calculating this number, you can get a good idea of how a model will fly based on its weight and wing area, and help you determine if you really want to build or buy that model.

In general, the lower the number, the more gentle and forgiving flying characteristics can be expected. As the number increases, more concentration will be required to fly the model. As the number rises above 10 or 11, it will be necessary to be aware of its heavier flying characteristics; that is, keep the speed up, land with power and be careful to keep it flying all the way to the runway.

I have arbitrarily divided the selected models into categories based on my observation and experience flying several of the planes. The "Gentle Planes" are forgiving, float around the sky and land softly, and are not good to fly in strong winds. The "Nice Flying Planes" are the enjoyable ones, handle well, and can be flown by most people after solo. The "Getting More Advanced" planes are for the more experienced flyers, but are still very good flying planes; they just require more concentration. The "Heavy Iron" will be noticeably less forgiving; they fly fine, but need to be well managed at all times and do not expect a gentle flair and light touchdown without pilot skill. The "Lead Sleds" are even more so.

The chart is a Microsoft Excel Spreadsheet. You must have Excel Spreadsheet on your computer to be able to use this chart. If you want to evaluate a different model to see what *Wing Cube Loading* it has, you can use any model line and substitute in your wing area and flying weight and it will calculate wing loading and *Wing Cube Loading*. If you don't know your wing area, use a line having span and chord numbers entered, enter your span and chord in inches and your flying weight in ounces in place of those numbers, and everything else will calculate.

Reference: *MODEL AVIATION*, July 2002, pg. 93 ff. "Small Field Flying", By Paul Bradley

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