

# Propeller Tip Speed Chart

Match your RPM on the left to your prop diameter on top; the intersection shows your propeller tip speed in miles per hour. After proper muffler installation (and perhaps soft mounting your engine), prop speed is the next largest factor in reducing aircraft noise. You will want to prop your engine for tip speeds in the mid 300 mph range for quiet operation. A good "red line" would be anything over 400 mph. Note that the new, larger diameter props will present a larger challenge to keep to keep tip speed down; at 10,000 rpm your 17" prop has a tip speed over 500 mph!

Bold numbers within the body of the chart represent a good target for tip speed - probably slower than you'll realistically achieve. As a side effect you will be operating more efficiently, since prop efficiency is lowest at high RPM.

## Propeller Diameter in Inches

RPM	11	12	13	14	15	16	17	18
6000	196.3	214.2	232.0	249.8	267.7	285.5	303.4	<b>321.2</b>
6500	212.7	232.0	251.3	270.7	290.0	309.3	<b>328.7</b>	<b>348.0</b>
7000	229.0	249.8	270.7	291.5	312.3	<b>333.1</b>	<b>353.9</b>	<b>374.8</b>
7500	245.4	267.7	290.0	312.3	<b>334.6</b>	<b>356.9</b>	<b>379.2</b>	401.5
8000	261.7	285.5	309.3	<b>333.1</b>	<b>356.9</b>	<b>380.7</b>	404.5	428.3
8500	278.1	303.4	<b>328.7</b>	<b>353.9</b>	<b>379.2</b>	404.5	429.8	455.1
9000	294.5	<b>321.2</b>	<b>348.0</b>	<b>374.8</b>	401.5	428.3	455.1	481.8
9500	310.8	<b>339.1</b>	<b>367.3</b>	395.6	423.8	452.1	480.4	508.6
10000	<b>327.2</b>	<b>356.9</b>	386.7	416.4	446.1	475.9	505.6	535.4
10500	<b>343.5</b>	374.8	406.0	437.2	468.5	499.7	530.9	562.1
11000	<b>359.9</b>	392.6	425.3	458.0	490.8	523.5	556.2	588.9
11500	376.3	410.5	444.7	478.9	513.1	547.3	581.5	615.7
12000	392.6	428.3	464.0	499.7	535.4	571.1	606.8	642.5
12500	409.0	446.1	483.3	520.5	557.7	594.9	632.0	669.2
13000	425.3	464.0	502.7	541.3	580.0	618.7	657.3	696.0
13500	441.7	481.8	522.0	562.1	602.3	642.5	682.6	722.8
14000	458.0	499.7	541.3	583.0	624.6	666.2	707.9	749.5
14500	474.4	517.5	560.7	603.8	646.9	690.0	733.2	776.3
15000	490.8	535.4	580.0	624.6	669.2	713.8	758.5	803.1
15500	507.1	553.2	599.3	645.4	691.5	737.6	783.7	829.8
16000	523.5	571.1	618.7	666.2	713.8	761.4	809.0	856.6

This chart is a modified version of the chart that appeared in the Spring 2000 K-Factor, page 70.