

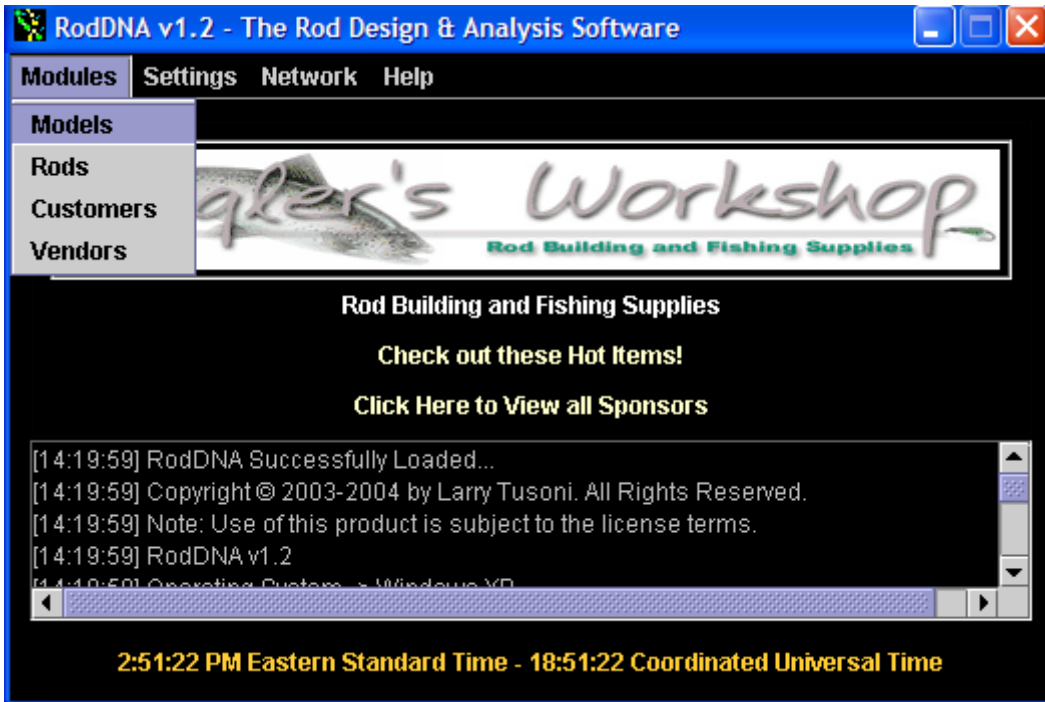
RodDNA – Number Magic – Part Two

This is the fourth in RodDNA Tips and Tricks articles. The first Number Magic article covered one method of inputting a rod taper into RodDNA that was not taken on 5” increments. The purpose of that article was to show how you could put any irregular taken rod tapers into RodDNA. When you have a taper with regular intervals other than the default 5” that is initially displayed in RodDNA there is a handy dandy tip that makes entering that taper easily. The example I used in the first Number Magic was a Hawes taper that was on 3” centers. When you have a taper like this, there is a far faster and easier way to input the taper dimensions into RodDNA. I know, why didn’t I tell you this first! Well the reason is that you have to know both methods. Just like building rods, you got to play with nodes to understand how much easier going nodeless is. It is the same with inputting data. This method is easier for this particular taper.

So let’s look at the Hawes taper again. The Hawes taper is for an 8’ 3piece 5-weight rod. The rod it was taken from had a Leonard Node Pattern (3x3) according to the notes. The taper is as follows:

Station	Tip	Mid	Butt
0	0.058	0.15	0.24
3	0.072	0.154	0.246
6	0.076	0.162	0.252
9	0.082	0.178	0.26
12	0.094	0.184	0.264
15	0.098	0.19	0.278
18	0.102	0.196	0.288
21	0.11	0.208	0.302
24	0.122	0.212	0.332
27	0.134	0.216	0.352
30	0.14	0.23	0.352
33	0.146	0.236	0.352

To begin with, lets assume you have RodDNA open on your computer and select the Models Module menu item to bring up the main models window:



Now you can select a place where you want to insert the new taper into the list of tapers you have displayed. The new taper will be inserted above the taper I have selected. This is exactly the same as described in my last article:

The screenshot shows the 'Models Module' software interface. The main window displays a list of fly rods with columns for ID, Name, LengthInch, ActLngInch, Type, Const Type, and Line Weig. The 'Bogart Blueridge Banty Rod' is selected, and its details are shown in the lower section. Two charts are displayed: 'Rod Stress Curve Chart' and 'Rod Dimension Chart'.

ID	Name	LengthInch	ActLngInch	Type	Const Type	Line Weig
1	Scarborough 8653 3/2	102	92	Fly-Rod	Hex	
2	Don 510/ 22	70	60	Fly-Rod	Hex	
3	Don 510/52	93	83	Fly-Rod	Hex	
4	6"	78	68	Casting-Rod	Hex	
5	6" three bucktail.	78	68	Casting-Rod	Hex	
6	6' 3/8-1/2 lures smaller	78	68	Casting-Rod	Hex	
7	our Sider 7052	84	74	Dry-Fly-Rod	Quad	
8	352	75	65	Fly-Rod	Hex	
9	643	90	80	Fly-Rod	Hex	
10	9 Bernard 7652	90	80	Fly-Rod	Hex	
11	10 Bogart Blueridge Banty Rod	59	49	Fly-Rod	Hex	
12	14 Bogart Chris Shenandoah Supreme Part 1	90	80	Fly-Rod	Hex	
13	15 Bogart Chris Shenandoah Supreme Part 2	90	80	Fly-Rod	Hex	
14	16 Bogart Chris Shenandoah Sweetheart	84	74	Fly-Rod	Hex	
15	17 Bogart Chris Yellow Rose 7022	84	74	Fly-Rod	Hex	
16	18 Bogart Chris Yellow Rose 7023	84	74	Fly-Rod	Hex	
17	19 Bogart Chris Yellow Rose 7033	84	74	Fly-Rod	Hex	
18	13 Bogart Chris Shenandoah Special	114	104	Fly-Rod	Hex	
19	11 Bogart Classic Wet Fly Rod	102	92	Fly-Rod	Hex	

Bogart Blueridge Banty Rod 4' 11" 4wt 3p

A good example of a quick little Banty that will t

Stresses
Rod Stress Curve Chart
The chart shows Stress (psi) on the y-axis (0 to 300,000) versus inches from Tip (Dimensions) on the x-axis (0 to 60). The curve starts at approximately 200,000 psi at 0 inches and decreases to about 100,000 psi at 60 inches.

Dimensions
Rod Dimension Chart
The chart shows Diameter in Inches on the y-axis (0.00 to 0.20) versus inches from Tip (Dimensions) on the x-axis (0 to 60). The diameter starts at approximately 0.15 inches at 0 inches and increases to about 0.20 inches at 60 inches.

As you can see, RodDNA has created a new taper entry in the database:

Models Module

File Edit Print Beveler/Mill Tools Import Network Help

Models Values Compare Values Details Chart Controlled Modification

ID#	DB#	Name	LengthInch	ActLength	Type	Const Type	Line Weig
1	0	Amherst Scarborough 8653 3/2	102	92	Fly-Rod	Hex	
2	1	Anderson Don 510/ 22	70	60	Fly-Rod	Hex	
3	2	Anderson Don 510/52	93	83	Fly-Rod	Hex	
4	3	Baitcast 6'6"	78	68	Casting-Rod	Hex	
5	4	Baitcast 6'6" three bucktail.	78	68	Casting-Rod	Hex	
6	5	Baitcast 6'6' 3/8-1/2 lures smaller	78	68	Casting-Rod	Hex	
7	6	Barnes Four Sider 7052	84	74	Dry-Fly-Rod	Quad	
8	7	Bernard 7352	75	65	Fly-Rod	Hex	
9	8	Bernard 7643	90	80	Fly-Rod	Hex	
10	9	Bernard 7652	90	80	Fly-Rod	Hex	
11	99999	***Please-Rename***	84	84	Dry-Fly-Rod	Hex	
12	10	Bogart Blueridge Banty Rod	59	49	Fly-Rod	Hex	
13	14	Bogart Chris Shenandoah Supreme Part 1	90	80	Fly-Rod	Hex	
14	15	Bogart Chris Shenandoah Supreme Part 2	90	80	Fly-Rod	Hex	
15	16	Bogart Chris Shenandoah Sweetheart	84	74	Fly-Rod	Hex	
16	17	Bogart Chris Yellow Rose 7022	84	74	Fly-Rod	Hex	
17	18	Bogart Chris Yellow Rose 7023	84	74	Fly-Rod	Hex	
18	19	Bogart Chris Yellow Rose 7033	84	74	Fly-Rod	Hex	
19	13	Bogart Chris Shenandoah Special	114	104	Fly-Rod	Hex	

Bogart Blueridge Banty Rod 4' 11" 4wt 3p

A good example of a quick little Banty that will t

Stresses

Rod Stress Curve Chart

Y-axis: PSI (Stress) from 0 to 300,000. X-axis: Inches from Tip (Dimensions) from 0 to 50. The curve shows a peak stress of approximately 250,000 PSI at about 10 inches from the tip, then gradually decreases to about 150,000 PSI at 50 inches.

Dimensions

Rod Dimension Chart

Y-axis: Diameter in Inches from 0.00 to 0.20. X-axis: Inches from Tip (Dimensions) from 0 to 50. The diameter starts at approximately 0.15 inches at the tip and increases to about 0.20 inches at 50 inches.

Now edit the taper name, length (96"), action length (96"), type, construction type line weight, number of sections and comments by clicking on each and entering the value desired:

Models Module

File Edit Print Beveler/Mill Tools Import Network Help

Models Values Compare Values Details Chart Controlled Modification

ID#	DB#	Name	LengthInch	ActLngInch	Type	Const Type	Line Weig
1	0	Amherst Scarborough 8653 3/2	102	92	Fly-Rod	Hex	
2	1	Anderson Don 510/ 22	70	60	Fly-Rod	Hex	
3	2	Anderson Don 510/52	93	83	Fly-Rod	Hex	
4	3	Baitcast 6'6"	78	68	Casting-Rod	Hex	
5	4	Baitcast 6'6" three bucktail.	78	68	Casting-Rod	Hex	
6	5	Baitcast 6'6' 3/8-1/2 lures smaller	78	68	Casting-Rod	Hex	
7	6	Barnes Four Sider 7052	84	74	Dry-Fly-Rod	Quad	
8	7	Bernard 7352	75	65	Fly-Rod	Hex	
9	8	Bernard 7643	90	80	Fly-Rod	Hex	
10	9	Bernard 7652	90	80	Fly-Rod	Hex	
11	99999	Bogart Hawes Rod	96	96	Dry-Fly-Rod	Hex	
12	10	Bogart Blueridge Banty Rod	59	49	Fly-Rod	Hex	
13	14	Bogart Chris Shenandoah Supreme Part 1	90	80	Fly-Rod	Hex	
14	15	Bogart Chris Shenandoah Supreme Part 2	90	80	Fly-Rod	Hex	
15	16	Bogart Chris Shenandoah Sweetheart	84	74	Fly-Rod	Hex	
16	17	Bogart Chris Yellow Rose 7022	84	74	Fly-Rod	Hex	
17	18	Bogart Chris Yellow Rose 7023	84	74	Fly-Rod	Hex	
18	19	Bogart Chris Yellow Rose 7033	84	74	Fly-Rod	Hex	
19	13	Bogart Chris Shenandoah Special	114	104	Fly-Rod	Hex	

Bogart Hawes Rod 8' 0" 5wt 3p

This is a Hawes Taper received from Hal Bacon done on 3" centers with a Leonard Node Pattern.

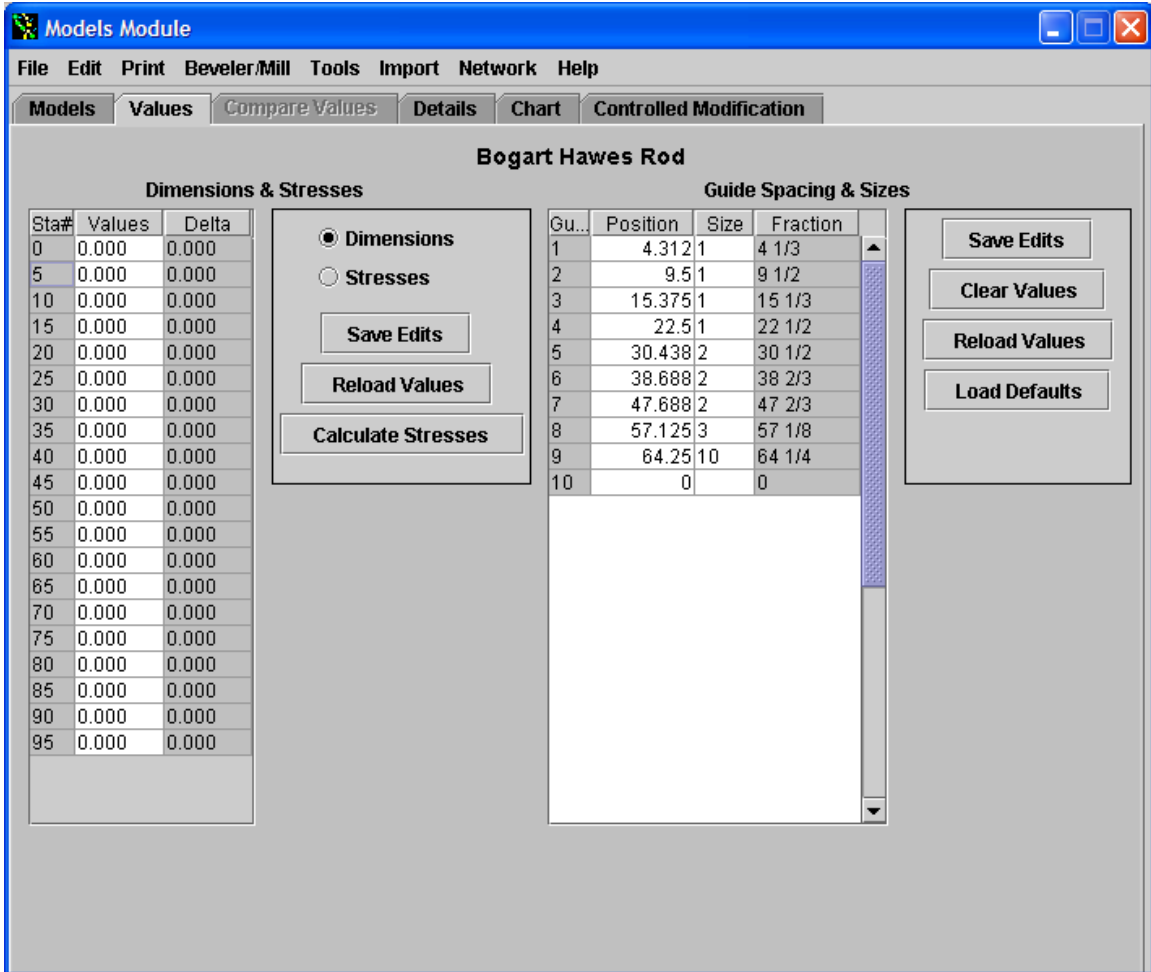
Stresses

Rod Stress Curve Chart

Dimensions

Rod Dimension Chart

Now we are ready for the tip and trick part of the lesson. We have all the essential information on this rod entered except taper values. If we click on the Values tab in the Models Module window you notice that you are prompted to enter the values in 5” increments:

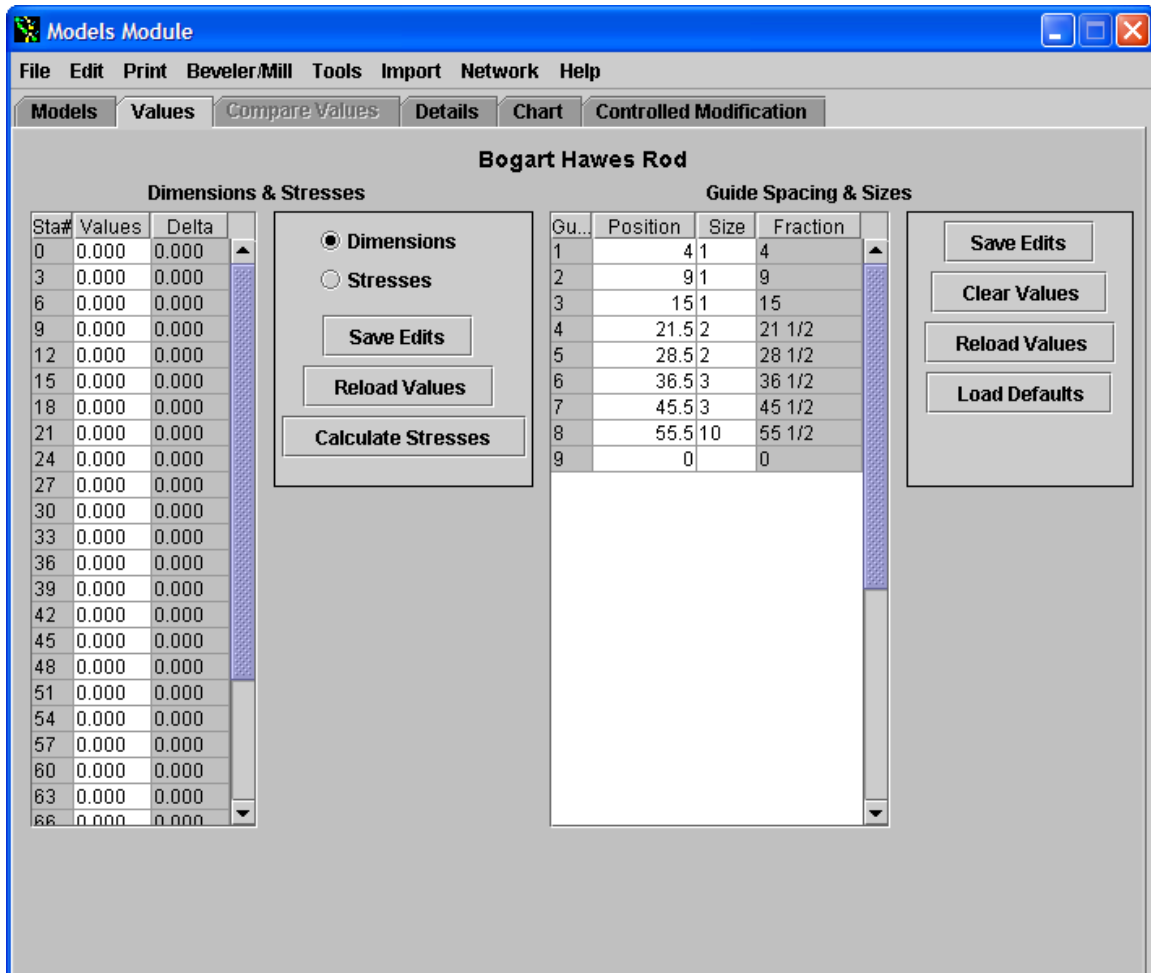


In the first article I had you in the Models tab scroll over to the Dimensions field using the bottom slide bar. That was to first acquaint you with a method to enter a taper with irregular stations. This time we will work a little RodDNA number magic for you. Click back on the Models tab. Now scroll over the “StationIncr” Column. You will notice that the number in your row is 5. Now change that number to 3.

The screenshot shows the 'Models Module' software interface. At the top is a menu bar with 'File', 'Edit', 'Print', 'Beveler/Mill', 'Tools', 'Import', 'Network', and 'Help'. Below the menu bar are several tabs: 'Models', 'Values', 'Compare Values', 'Details', 'Chart', and 'Controlled Modification'. The 'Models' tab is active, displaying a table with the following columns: 'W', 'ImpactFactor', 'BambooDen...', 'Tip Weight', 'StationMul', 'StationBias', and 'StationIncr'. The table contains 18 rows of data. The 12th row is highlighted in blue, showing a 'StationIncr' value of 3. Below the table, the software title 'Bogart Hawes Rod 7' 0" 4wt 2p' is displayed. To the right of the title are two charts: 'Stresses' and 'Dimensions'. The 'Stresses' chart is titled 'Rod Stress Curve Chart' and shows a red curve representing stress (psi) versus distance from the tip (inches). The 'Dimensions' chart is titled 'Rod Dimension Chart' and shows a red line representing diameter (inches) versus distance from the tip (inches).

W	ImpactFactor	BambooDen...	Tip Weight	StationMul	StationBias	StationIncr	
4	4.000	0.668	0.018	1.000	0.000	5	95 is actually 91 station. 5/6 line weight.
7	4.000	0.668	0.018	1.000	0.000	5	Parentage was started by a Leonard #39
5	4.000	0.668	0.018	1.000	0.000	5	7' 9"
8	4.000	0.668	0.018	1.000	0.000	5	one piece 6'-6" grip section planed and a
7	4.000	0.668	0.018	1.000	0.000	5	Grip between 60 and 65 great musky ligh
7	4.000	0.668	0.018	1.000	0.000	5	grip between 60 65 Same as last taper o
9	4.000	0.668	0.018	1.000	0.000	5	This is George Barnes 4 sider rod submi
7	4.000	0.668	0.018	1.000	0.000	5	This is a rod that Bernard built for me to f
1	4.000	0.668	0.018	1.000	0.000	5	
8	4.000	0.668	0.018	1.000	0.000	5	This rod is 7' 6" and throws a 5 wt. line ci
4	4.000	0.668	0.018	1.000	0.000	3	
9	4.000	0.668	0.018	1.000	0.000	5	A good example of a quick little Banty tha
3	4.000	0.668	0.018	1.000	0.000	5	
4	4.000	0.668	0.018	1.000	0.000	5	DT #5/6 wt line
7	4.000	0.668	0.018	1.000	0.000	5	DT #4
7	4.000	0.668	0.018	1.000	0.000	5	This is an excellent taper for a 7' 2/3 wt ro
7	4.000	0.668	0.018	1.000	0.000	5	Truncated Ferrules Tiptop 4.5 DT 2 Wt.
7	4.000	0.668	0.018	1.000	0.000	5	Tip 5/64
2	4.000	0.668	0.018	1.000	0.000	5	

What this field does is tells the Values tab the display Station Increment. The default value is 5. Now click on the Values tab and you will see the input form displayed with 3” increments.



Now you can enter the taper values using 3” increments using this tab:

Models Module

File Edit Print Beveler/Mill Tools Import Network Help

Models Values Compare Values Details Chart Controlled Modification

Bogart Hawes Rod

Dimensions & Stresses

Sta#	Values	Delta
0	0.058	0.000
3	0.072	0.014
6	0.076	0.004
9	0.082	0.006
12	0.094	0.012
15	0.098	0.004
18	0.102	0.004
21	0.110	0.008
24	0.122	0.012
27	0.134	0.012
30	0.140	0.006
33	0.146	0.006
36	0.150	0.004
39	0.154	0.004
42	0.162	0.008
45	0.178	0.016
48	0.184	0.006
51	0.190	0.006
54	0.196	0.006
57	0.208	0.012
60	0.212	0.004
63	0.216	0.004
66	0.236	0.020

Dimensions
 Stresses

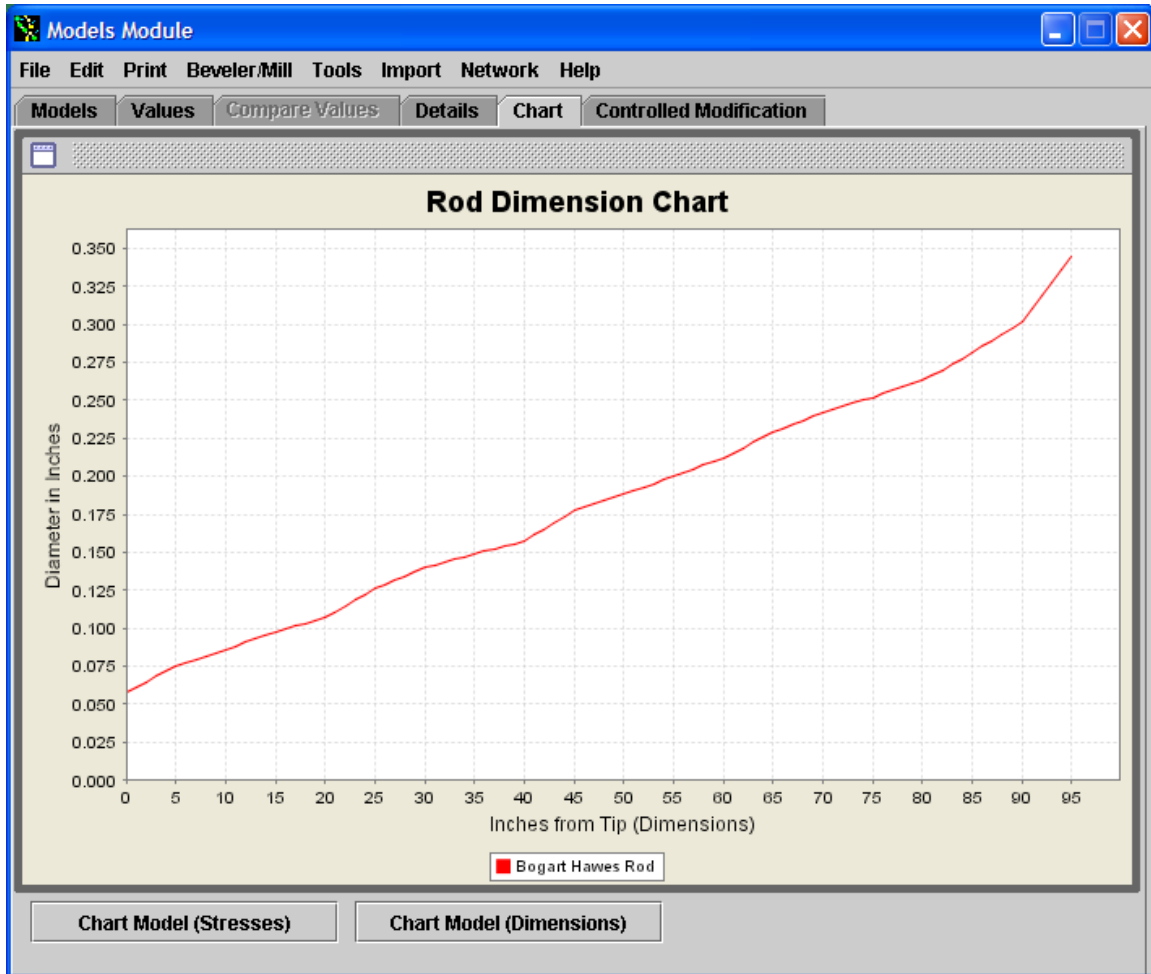
Save Edits
Reload Values
Calculate Stresses

Guide Spacing & Sizes

Gu...	Position	Size	Fraction
1	4	1	4
2	9	1	9
3	15	1	15
4	21.5	2	21 1/2
5	28.5	2	28 1/2
6	36.5	3	36 1/2
7	45.5	3	45 1/2
8	55.5	10	55 1/2
9	0	0	0
10	0	0	0

Save Edits
Clear Values
Reload Values
Load Defaults

Now click Save Edits. If you click on the Chart tab you will be prompted to save them by a pop-up window. Click yes. The taper was entered in 3" increments. But carefully note that Rod Dimension Chart uses 5" increments for its charts. That means that RodDNA has already converted your taper to be displayed at other station increments:



Actually RodDNA converts all tapers to 1" increments. To see this, click on the Details tab.

The screenshot shows a software window titled 'Models Module' with a menu bar (File, Edit, Print, Beveler/Mill, Tools, Import, Network, Help) and a tabbed interface. The 'Details' tab is selected, displaying a table for 'Bogart Hawes Rod'. The table has 11 columns: Pt, Tip, Line, V&G, Ferrule, Bamboo, Total, Dimension, f(b), COG, and CM Factor. The data is organized into 28 rows, with the last row partially cut off.

Pt	Tip	Line	V&G	Ferrule	Bamboo	Total	Dimension	f(b)	COG	CM Factor
0	1.720	0.000	0.010	0.000	0.020	1.744	0.058	74480.0...	0.491	0.000
1	3.430	0.010	0.030	0.000	0.030	3.502	0.061	126472....	0.491	0.000
2	5.150	0.030	0.050	0.000	0.070	5.286	0.065	162908....	0.492	0.000
3	6.860	0.050	0.080	0.000	0.110	7.095	0.068	188048....	0.493	0.000
4	8.580	0.080	0.110	0.000	0.170	8.929	0.071	207905....	0.493	0.000
5	10.290	0.110	0.150	0.000	0.240	10.789	0.074	221882....	0.493	0.000
6	12.010	0.150	0.200	0.000	0.320	12.676	0.077	231390....	0.495	0.000
7	13.720	0.190	0.250	0.000	0.420	14.591	0.079	243526....	0.495	0.000
8	15.440	0.250	0.310	0.000	0.540	16.535	0.082	252979....	0.495	0.000
9	17.150	0.300	0.380	0.000	0.680	18.508	0.084	260220....	0.495	0.000
10	18.870	0.370	0.450	0.000	0.830	20.512	0.086	265635....	0.496	0.000
11	20.580	0.440	0.530	0.000	1.000	22.547	0.089	269541....	0.496	0.000
12	22.300	0.510	0.610	0.000	1.190	24.615	0.091	272201....	0.496	0.000
13	24.010	0.600	0.700	0.000	1.400	26.716	0.093	273830....	0.496	0.000
14	25.730	0.680	0.800	0.000	1.640	28.852	0.096	274607....	0.496	0.000
15	27.440	0.780	0.910	0.000	1.900	31.023	0.098	274681....	0.497	0.000
16	29.160	0.880	1.020	0.000	2.180	33.231	0.100	279711....	0.497	0.000
17	30.870	0.990	1.130	0.000	2.490	35.475	0.101	284110....	0.497	0.000
18	32.590	1.100	1.260	0.000	2.820	37.758	0.103	287947....	0.496	0.000
19	34.300	1.220	1.380	0.000	3.180	40.080	0.106	283093....	0.496	0.000
20	36.020	1.340	1.520	0.000	3.570	42.442	0.108	278185....	0.496	0.000
21	37.730	1.470	1.660	0.000	3.980	44.848	0.111	273270....	0.495	0.000
22	39.450	1.610	1.810	0.000	4.430	47.298	0.115	261428....	0.495	0.000
23	41.160	1.750	1.960	0.000	4.920	49.795	0.118	250429....	0.495	0.000
24	42.880	1.900	2.120	0.000	5.440	52.341	0.122	240204....	0.496	0.000
25	44.590	2.060	2.290	0.000	6.000	54.937	0.125	232534....	0.496	0.000
26	46.310	2.220	2.460	0.000	6.600	57.586	0.129	225289....	0.496	0.000
27	48.020	2.380	2.640	0.000	7.240	60.290	0.132	218445....	0.497	0.000

So now we will complete the Number Magic for this taper. Click on the models tab and scroll back to the StationIncr Column and change the “3” that we put there earlier back to a 5.

Models Module

File Edit Print Beveler/Mill Tools Import Network Help

Models Values Compare Values Details Chart Controlled Modification

LWV	RAV	ImpactFactor	BambooDen...	Tip Weight	StationMul	StationBias	StationIncr	
081	0.294	4.000	0.668	0.018	1.000	0.000	5	95 is actually 91 station. 5/6 li
057	0.277	4.000	0.668	0.018	1.000	0.000	5	Parentage was started by a L
07	0.275	4.000	0.668	0.018	1.000	0.000	5	7' 9"
096	0.398	4.000	0.668	0.018	1.000	0.000	5	one piece 6'-6" grip section pl
11	0.437	4.000	0.668	0.018	1.000	0.000	5	Grip between 60 and 65 great
09	0.397	4.000	0.668	0.018	1.000	0.000	5	grip between 60 65 Same as
067	0.279	4.000	0.668	0.018	1.000	0.000	5	This is George Barnes 4 side
075	0.357	4.000	0.668	0.018	1.000	0.000	5	This is a rod that Bernard buil
07	0.281	4.000	0.668	0.018	1.000	0.000	5	
09	0.288	4.000	0.668	0.018	1.000	0.000	5	This rod is 7' 6" and throws a
0	0.0	4.000	0.668	0.018	1.000	0.000	5	
045	0.329	4.000	0.668	0.018	1.000	0.000	5	A good example of a quick littl
069	0.283	4.000	0.668	0.018	1.000	0.000	5	
073	0.284	4.000	0.668	0.018	1.000	0.000	5	DT #5/6 wt line
069	0.227	4.000	0.668	0.018	1.000	0.000	5	DT #4
058	0.257	4.000	0.668	0.018	1.000	0.000	5	This is an excellent taper for a
058	0.257	4.000	0.668	0.018	1.000	0.000	5	Truncated Ferrules Tiptop 4.5
065	0.247	4.000	0.668	0.018	1.000	0.000	5	Tip 5/64
074	0.302	4.000	0.668	0.018	1.000	0.000	5	

Bogart Hawes Rod 8' 0" 4wt 2p

Stresses

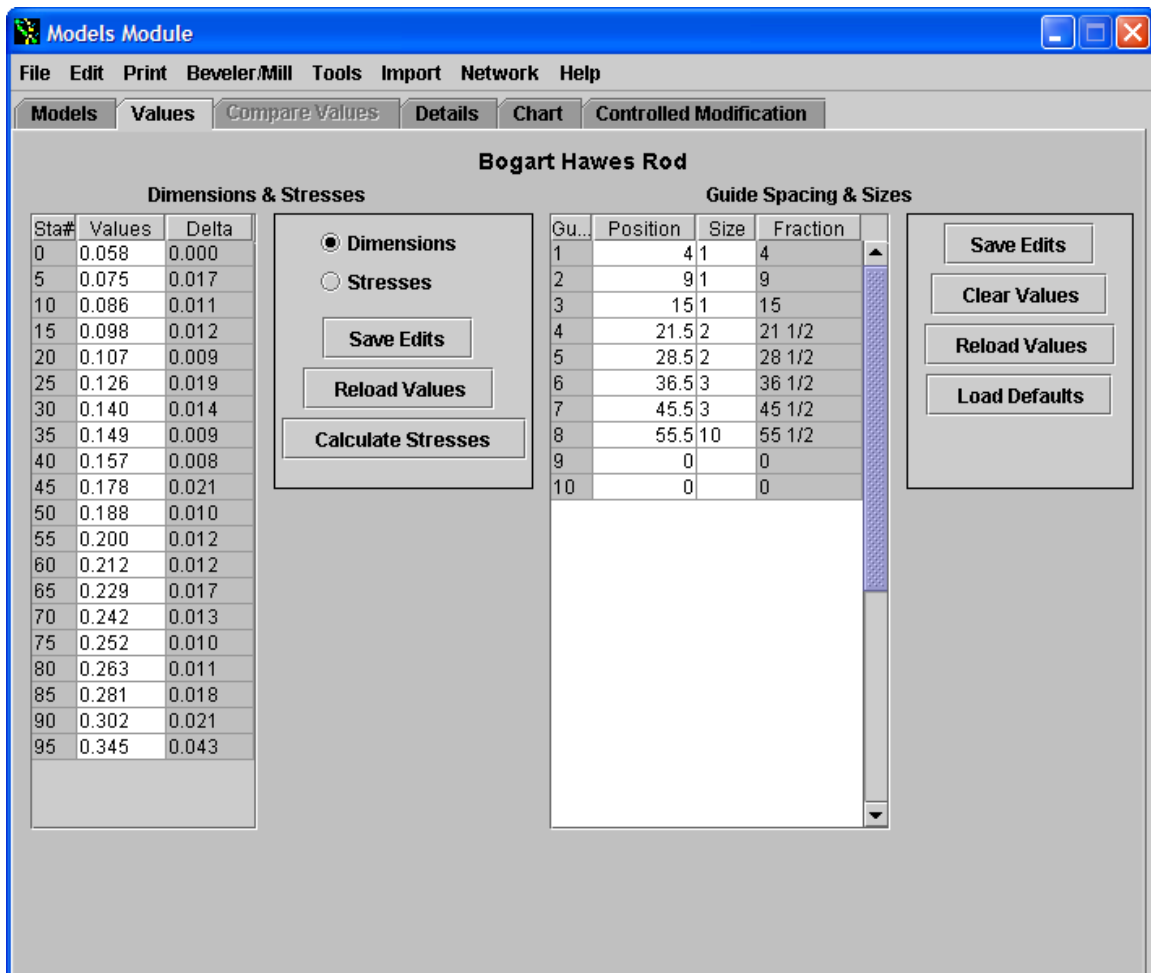
Rod Stress Curve Chart

Dimensions

Rod Dimension Chart

Value/Guide Edits Saved

Now click on the Values tab and you will notice that RodDNA has converted the taper to be displayed in the Values tab on 5" stations. This will allow you to have all your tapers displayed with the same station settings regardless of how you inputted it.



This completes the Number Magic – Part 2 article and now rod makers have two different but powerful ways of inputting taper data depending on the source of the taper information. Regardless, the rod maker can input and normalize the display of all his tapers. I encourage you to further explore this capability for RodDNA to work its Number Magic for you.