



PEANUT calculations

Here to help you save time to tackle other endeavors!

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BY THE WAY HERE'S PEANUT

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DIRECTIONS FOR THE SAG LOW METHOD SAG PROGRAM

TO ALL USERS,

We would like to thank you for your purchase and use of this program and the other programs in this series. We have set a goal at Peanut Calculations to save the person in charge of these job tasks in the field time. Because we know your time is valuable and if your like me there's not enough of it. With a few values entered from the sag charts, names, job name, company names, date, and temperatures all the calculations and reports are ready to print. A lot of the job, personnel names, company names and P.O. numbers only have to be entered once at the beginning of a project. If you have any questions or ideas about something you would like to see in this program or others please leave us a message at support@peanutcalculations.com or e-mail me at norman@peanutcalculations.com. We are here to support and help you with these programs and your ideas to make your job easier. But please remember these programs have copy rights so please use for your benefit but don't give unauthorized copies to others. If there is anyway we can support or help please contact us.

THANK YOU
NORMAN S. JAYJOHN
PRESIDENT OF PEANUT CALCULATIONS

PLEASE KEEP ONE COPY OF EACH PROGRAM IN A FILE TO MAKE A COPY FOR EACH PROJECT WORKED.

Disclaimer,

Please double check your input data and finished data to make sure program is working correctly. Peanut Calculations excepts no liability for miss information from our programs.

SHEET 1

DATA INPUT & SAG SHEET

With this sheet you enter known data in the yellow highlighted cells and the program does the calculations and report for you. The known data is, who's line, job name, contractor or crew name, P.O. or job number, who the sagger are and the high and low temperatures and sag in feet for the high and low temperatures for the span or spans you have chose to sag in from the engineers sag chart. Enter the line section being sagged, the span being sagged, the span length, ruling span length, sag chart number, and finally the ambient temperature at the time of sag. The sag calculations are complete and with a few more data items entered for each sag point you are using your printable measurement sheet and sag report will be complete and ready to print.

figure 1 --

sample conductor sag chart from project engineer											
											sag chart 11 of 31
											ruling span 2,480.77
Structure Number	Span Length Ahead (ft)	Temperature									
		(-20)F	(-10)F	0 F	10 F	20 F	30 F	40 F	50 F	60 F	70 F
		Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)
153	1887.00	83.09	83.64	84.20	84.75	85.31	85.86	86.42	86.97	87.53	88.08
154	2721.60	172.84	173.99	175.15	176.30	177.46	178.61	179.77	180.92	182.08	183.23
155	2234.00	116.46	117.24	118.02	118.79	119.57	120.35	121.13	121.90	122.68	123.46
156	1815.20	76.89	77.40	77.92	78.43	78.94	79.46	79.97	80.48	81.00	81.51
157	3187.60	237.10	238.68	240.27	241.85	243.43	245.02	246.60	248.18	249.77	251.35
158	2122.80	105.15	105.85	106.55	107.26	107.96	108.66	109.36	110.07	110.77	111.47
Tension	(lbs)	5860.32	5823.41	5786.49	5749.58	5712.67	5675.75	5638.84	5601.93	5565.01	5528.10

figure 2 --

sample shield wire sag chart from project engineer											
											sag chart 11 of 31
											ruling span 2,480.77
Structure Number	Span Length Ahead (ft)	Temperature									
		(-20)F	(-10)F	0 F	10 F	20 F	30 F	40 F	50 F	60 F	70 F
		Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)	Sagin (ft)
153	1887.00	64.11	64.58	65.05	65.53	66.00	66.47	66.94	67.42	67.89	68.36
154	2721.60	133.36	134.34	135.32	136.30	137.28	138.27	139.25	140.23	141.21	142.19
155	2234.00	89.85	90.51	91.17	91.84	92.50	93.16	93.82	94.49	95.15	95.81
156	1815.20	59.32	59.76	60.19	60.63	61.07	61.50	61.94	62.38	62.81	63.25
157	3187.60	182.94	184.29	185.63	186.98	188.33	189.67	191.02	192.37	193.71	195.06
158	2122.80	81.13	81.62	82.10	82.59	83.08	83.56	84.05	84.54	85.02	85.51
Tension	(lbs)	1874.56	1861.62	1848.68	1835.74	1822.80	1809.86	1796.92	1783.98	1771.04	1758.10

1. Press the DATA INPUT & SAG tab at the bottom of the program to activate the sheet. Then enter names, job number, sag section structure numbers, weather conditions, ruling span length and sag chart number in yellow highlighted area's. Example used in figure 3

WHO'S LINE	GEORGIA POWER COMPANY		JOB NAME	McGraw FORD TO CRESTVIEW 500 KV LINE		figure 3
DATE	12/22/2007					
CONTRACTOR	WILSON CONSTRUCTION		JOB # or P.O-----	P7891		
WHO'S SAGGING	1	NORMAN JAYJOHN	AMBIENT TEMPERATURE-----			
	2	KENNETH MITCHAM				
	3	JACK LYONS				
LINE SECTION TO BE SAGGED: -----STRUCTURE-----			153	TO STRUCTURE-----	159	WEATHER-- cold/windy
1. SAG SPAN-----			SPAN LENGTH-----	HIGH TEMPERATURE USED FROM SAG CHART-----		
CONDUCTOR SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART-----				LOW TEMPERATURE USED FROM SAG CHART-----		
CONDUCTOR SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART-----						
ACTUAL SAG IN FEET NEEDED FOR CONDUCTOR-----				answer		
SHIELD WIRE SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART-----						
SHIELD WIRE SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART-----						
ACTUAL SAG IN FEET NEEDED FOR SHIELD WIRE-----				answer		
2. SAG SPAN-----			SPAN LENGTH-----	RULING SPAN LENGTH-----		2480.77
CONDUCTOR SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART-----				SAG CHART NUMBER-----		11 of 31
CONDUCTOR SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART-----						
ACTUAL SAG IN FEET NEEDED FOR CONDUCTOR-----				answer		
SHIELD WIRE SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART-----						
SHIELD WIRE SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART-----						
ACTUAL SAG IN FEET NEEDED FOR SHIELD WIRE-----				answer		

Figure 3 was shortened one sag location to save space, the third one on the data input page works the same as the other two.

2. After you finish with data above, look at your sag chart and enter the high temperature and the low temperature listed on the chart and enter temperatures in the proper yellow highlighted cells. This program will work with any temperature range given on the sag charts. The total temperature range works fine as long as the engineers sag chart follows a linear progression. If his chart doesn't you will have to use a smaller range. Like 40 to 60 degrees. You will have to check and see if this program is following the sag chart. When you enter 70 degrees and -20 degrees with this sample sag chart, you can check any published sag in feet from the chart. Like -10, 0, 10, 20, 30, 40, 50, 60, or 70 degrees. Check your sag chart the same way.

example temperature range from figures 1 & 2-----

Temperature										
(-20)F	(-10)F	0 F	10 F	20 F	30 F	40 F	50 F	60 F	70 F	
HIGH TEMPERATURE USED FROM SAG CHART-----									70	
LOW TEMPERATURE USED FROM SAG CHART-----									-20	

from figure 3-----

3. The next step we will work on is entering the sag span, span length, conductor sag in feet for the high and low temperature on the sag chart, and shield wire sag in feet for the high and low temperature on the sag chart.

Chosen sag spans and sag in feet for high and low temperatures in red.

figure 1 --

sample conductor sag chart from project engineer											sag chart 11 of 31	
											ruling span 2,480.77	
Structure Number	Span Length Ahead (ft)	Temperature										
		(-20)F	(-10)F	0 F	10 F	20 F	30 F	40 F	50 F	60 F	70 F	
		Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	
153	1887.00	83.09	83.64	84.20	84.75	85.31	85.86	86.42	86.97	87.53	88.08	
154	2721.60	172.84	173.99	175.15	176.30	177.46	178.61	179.77	180.92	182.08	183.23	sag point 1
155	2234.00	116.46	117.24	118.02	118.79	119.57	120.35	121.13	121.90	122.68	123.46	
156	1815.20	76.89	77.40	77.92	78.43	78.94	79.46	79.97	80.48	81.00	81.51	
157	3187.60	237.10	238.68	240.27	241.85	243.43	245.02	246.60	248.18	249.77	251.35	sag point 2
158	2122.80	105.15	105.85	106.55	107.26	107.96	108.66	109.36	110.07	110.77	111.47	
Tension	(lbs)	5860.32	5823.41	5786.49	5749.58	5712.67	5675.75	5638.84	5601.93	5565.01	5528.10	
		low temperature					high temperature					

Chosen sag spans and sag in feet for high and low temperatures in red.

figure 2 --

sample shield wire sag chart from project engineer											sag chart 11 of 31	
											ruling span 2,480.77	
Structure Number	Span Length Ahead (ft)	Temperature										
		(-20)F	(-10)F	0 F	10 F	20 F	30 F	40 F	50 F	60 F	70 F	
		Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	Sag in (ft)	
153	1887.00	64.11	64.58	65.05	65.53	66.00	66.47	66.94	67.42	67.89	68.36	
154	2721.60	133.36	134.34	135.32	136.30	137.28	138.27	139.25	140.23	141.21	142.19	sag point 1
155	2234.00	89.85	90.51	91.17	91.84	92.50	93.16	93.82	94.49	95.15	95.81	
156	1815.20	59.32	59.76	60.19	60.63	61.07	61.50	61.94	62.38	62.81	63.25	
157	3187.60	182.94	184.29	185.63	186.98	188.33	189.67	191.02	192.37	193.71	195.06	sag point 2
158	2122.80	81.13	81.62	82.10	82.59	83.08	83.56	84.05	84.54	85.02	85.51	
Tension	(lbs)	1874.56	1861.62	1848.68	1835.74	1822.80	1809.86	1796.92	1783.98	1771.04	1758.10	
		low temperature					high temperature					

If the engineer has you adding or subtracting sag corrections you need to add or subtract from the sag in feet from your sag chart before you enter them in the DATA INPUT & SAG sheet.

Data Input & Sag sheet with sag data entered from sag charts.

				HIGH TEMPERATURE USED FROM SAG CHART-----	70				
1. SAG SPAN-----	154-155	SPAN LENGTH-----	2721.60	LOW TEMPERATURE USED FROM SAG CHART-----	-20				
CONDUCTOR SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART-----				183.23					
CONDUCTOR SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART-----				172.84					
ACTUAL SAG IN FEET NEEDED FOR CONDUCTOR-----					answer				
SHIELD WIRE SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART---				142.19					
SHIELD WIRE SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART---				133.36					
ACTUAL SAG IN FEET NEEDED FOR SHIELD WIRE-----					answer				
<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>RULING SPAN LENGTH-----</td> <td>2480.77</td> </tr> <tr> <td>SAG CHART NUMBER-----</td> <td>11 of 31</td> </tr> </table>						RULING SPAN LENGTH-----	2480.77	SAG CHART NUMBER-----	11 of 31
RULING SPAN LENGTH-----	2480.77								
SAG CHART NUMBER-----	11 of 31								
figure 3 with data entered									
2. SAG SPAN-----	157-158	SPAN LENGTH-----	3187.60						
CONDUCTOR SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART-----				251.35					
CONDUCTOR SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART-----				237.10					
ACTUAL SAG IN FEET NEEDED FOR CONDUCTOR-----					answer				
SHIELD WIRE SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART---				195.06					
SHIELD WIRE SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART---				182.94					
ACTUAL SAG IN FEET NEEDED FOR SHIELD WIRE-----					answer				

4. The last step for this page is to input the ambient temperature and the program will do all the calculations for you.

Now on the data input & sag sheet, enter the ambient temperature at this time.

AMBIENT TEMPERATURE-----	-12
--------------------------	-----

figure 4

If temperature at time of sag is -12 F enter here on the data input & sag sheet

A. YOU HAVE TO CLICK OUTSIDE THE LAST CELL DATA WAS ENTERED IN FOR IT TO TAKE AFFECT AND WORK.

B. You have to stay within the sag charts temperature range or your answers will zero their selves as a safety factor. This forces you the user to stay within the engineers issued charts and alleviates any errors in what is wanted by the engineer. Try it by using values used here, 70 for high and -20 for low then enter -21 degrees or 71 degrees in the ambient temperature and all sag values turn to zero. This program will work on any temperature range. What ever temperatures in Fahrenheit the issued sag chart is using.

There is no need to print this page. All the figures you should need for this program are on the sag report or the printable measurement sheet.

WHO'S LINE	GEORGIA POWER COMPANY		JOB NAME	McGraw FORD TO CRESTVIEW 500 KV LINE		figure 3
DATE	12/22/2007					
CONTRACTOR	WILSON CONSTRUCTION		JOB # or P.O-----	P7891	complete and answered	
WHO'S SAGGING	1	NORMAN JAYJOHN				
	2	KENNETH MITCHAM	AMBIENT TEMPERATURE-----		-12	
	3	JACK LYONS				
LINE SECTION TO BE SAGGED: -----STRUCTURE-----			153	TO STRUCTURE-----	159	WEATHER-- cold/windy
			HIGH TEMPERATURE USED FROM SAG CHART-----		70	
1. SAG SPAN-----			154-155	SPAN LENGTH-----	2721.60	LOW TEMPERATURE USED FROM SAG CHART-----
						-20
CONDUCTOR SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART-----					183.23	
CONDUCTOR SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART-----					172.84	
ACTUAL SAG IN FEET NEEDED FOR CONDUCTOR-----					173.76	answer
SHIELD WIRE SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART---			142.19			
SHIELD WIRE SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART---			133.36			
ACTUAL SAG IN FEET NEEDED FOR SHIELD WIRE-----			134.14			answer
RULING SPAN LENGTH-----					2480.77	
SAG CHART NUMBER-----					11 of 31	
2. SAG SPAN-----			157-158	SPAN LENGTH-----	3187.60	
CONDUCTOR SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART-----					251.35	
CONDUCTOR SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART-----					237.10	
ACTUAL SAG IN FEET NEEDED FOR CONDUCTOR-----					238.37	answer
SHIELD WIRE SAG IN FEET FOR THE HIGH TEMPERATURE FROM CHART---			195.06			
SHIELD WIRE SAG IN FEET FOR THE LOW TEMPERATURE FROM CHART---			182.94			
ACTUAL SAG IN FEET NEEDED FOR SHIELD WIRE-----			184.02			answer

Figure 3 was shortened one sag location to save space, the third one on the data input page works the same as the other two.

1. SAG LOCATION 1, 2, & 3 are sheets that calculate your sag low measurements for three different sag points. After entering some more data these sheets will calculate sag low measurements for the use of sag low boards or ribbon locations, for conductor and shield wire or either one on their own. By entering a proposed ambient temperature you can make sag low boards with 30 degrees of spread in five degree increments so you can set them on the ground before you sag. Here is an example of one of these sheets and the data you need to enter.

SAG POINT 1 FROM PAGE 1

SAG SPAN-	154-155	ELEVATION DIFFERENCE FROM LOW TO HIGH STRUCTURE-		INSTRUMENT DISTANCE BELOW BOTTOM OF WIRE GROOVE IN THE BLOCK IS YOUR SAG LOW							
SAGGER---	NORMAN JAYJOHN	INSTRUMENT AT LOW STRUCTURE---		POINT, TAKE A LEVEL SHOT FOR SAG, AT THE STATIC MEASUREMENT THEN THE CONDUCTOR							
PROPOSED AMBIENT TEMPERATURE FOR TIME OF SAGGING, TO 5 DEGREE'S, 70, 75, 80, ECT,-----					CONDUCTOR SAG AT PROPOSED AMBIENT TEMPERATURE---			0.00			
TEMPERATURE RANGE IS 15 DEGREES LOWER AND 15 DEGREES HIGHER THAN PROPOSED AMBIENT.					SHIELD WIRE SAG AT PROPOSED AMBIENT TEMPERATURE---			0.00			
TEMPERATURE RANGE PROPOSED-----				-15	-10	-5	0	5	10	15	answer
CONDUCTOR SAG LOW MEASUREMENT BELOW BOTTOM OF WIRE GROOVE											
IN THE BLOCK FOR EACH TEMPERATURE USED IN THE RANGE ABOVE IN FEET-----				0.00	0.00	0.00	0.00	0.00	0.00	0.00	answer
CONDUCTOR MEASUREMENT BETWEEN EACH 5 DEGREES FOR YOUR SAG LOW RANGE											
BOARD, FROM YOUR LOW TEMPERATURE TO YOUR HIGH TEMPERATURE PROPOSED-----				START TOP	0.00	0.00	0.00	0.00	0.00	0.00	answer
SHIELD WIRE SAG LOW MEASUREMENT BELOW BOTTOM OF WIRE GROOVE											
IN THE BLOCK FOR EACH TEMPERATURE USED IN THE RANGE ABOVE IN FEET-----				0.00	0.00	0.00	0.00	0.00	0.00	0.00	answer
SHIELD WIRE MEASUREMENT BETWEEN EACH 5 DEGREES FOR YOUR SAG LOW RANGE											
BOARD, FROM YOUR LOW TEMPERATURE TO YOUR HIGH TEMPERATURE PROPOSED-----				START TOP	0.00	0.00	0.00	0.00	0.00	0.00	answer
MEASUREMENT TO PUT LOW TEMPERATURE MARK OF SAG LOW BOARD IF USED FOR CONDUCTOR, BELOW BOTTOM OF WIRE GROOVE IN BLOCK-----				0.00						answer	
MEASUREMENT TO PUT LOW TEMPERATURE MARK OF SAG LOW BOARD IF USED FOR SHIELD WIRE, BELOW BOTTOM OF WIRE GROOVE IN BLOCK-----				0.00						answer	
CONDUCTOR SAG LOW LOCATION FOR ACTUAL AMBIENT TEMPERATURE FOR YOUR SAG REPORT-----				0.00	answer	ACTUAL AMBIENT TEMPERATURE---		-21			
SHIELD WIRE SAG LOW LOCATION FOR ACTUAL AMBIENT TEMPERATURE FOR YOUR SAG REPORT-----				0.00	answer	SPAN LENGTH-----		2721.60			

figure 5 without data entered

2. Enter the data ask for in the yellow highlighted areas, these are which structure you plan to put your transit, elevation difference from the lower structure your transit is set at to the higher structure in elevation, or zero if no elevation difference, and your proposed ambient temperature for the time of day you will be sagging.

SAG POINT 1 FROM PAGE 1											
SAG SPAN--	154-155	ELEVATION DIFFERENCE FROM LOW TO HIGH STRUCTURE--	75.00	INSTRUMENT DISTANCE BELOW BOTTOM OF WIRE GROOVE IN THE BLOCK IS YOUR SAG LOW							
SAGGER---	NORMAN JAY JOHN	INSTRUMENT AT LOW STRUCTURE---	154	POINT, TAKE A LEVEL SHOT FOR SAG, AT THE STATIC MEASUREMENT THEN THE CONDUCTOR							
PROPOSED AMBIENT TEMPERATURE FOR TIME OF SAGGING, TO 5 DEGREE'S, 70, 75, 80, ECT-----			0	CONDUCTOR SAG AT PROPOSED AMBIENT TEMPERATURE---						175.15	
TEMPERATURE RANGE IS 15 DEGREES LOWER AND 15 DEGREES HIGHER THAN PROPOSED AMBIENT.											
TEMPERATURE RANGE PROPOSED-----				-15	-10	-5	0	5	10	15	answer
CONDUCTOR SAG LOW MEASUREMENT BELOW BOTTOM OF WIRE GROOVE											
IN THE BLOCK FOR EACH TEMPERATURE USED IN THE RANGE ABOVE IN FEET-----				137.94	138.51	139.09	139.66	140.23	140.80	141.37	answer
CONDUCTOR MEASUREMENT BETWEEN EACH 5 DEGREES FOR YOUR SAG LOW RANGE											
BOARD, FROM YOUR LOW TEMPERATURE TO YOUR HIGH TEMPERATURE PROPOSED-----				START TOP	0.57	0.57	0.57	0.57	0.57	0.57	answer
SHIELD WIRE SAG LOW MEASUREMENT BELOW BOTTOM OF WIRE GROOVE											
IN THE BLOCK FOR EACH TEMPERATURE USED IN THE RANGE ABOVE IN FEET-----				98.98	99.46	99.94	100.42	100.90	101.38	101.86	answer
SHIELD WIRE MEASUREMENT BETWEEN EACH 5 DEGREES FOR YOUR SAG LOW RANGE											
BOARD, FROM YOUR LOW TEMPERATURE TO YOUR HIGH TEMPERATURE PROPOSED-----				START TOP	0.48	0.48	0.48	0.48	0.48	0.48	answer
MEASUREMENT TO PUT LOW TEMPERATURE MARK OF SAG LOW BOARD IF USED FOR CONDUCTOR, BELOW BOTTOM OF WIRE GROOVE IN BLOCK-----										137.94	answer
MEASUREMENT TO PUT LOW TEMPERATURE MARK OF SAG LOW BOARD IF USED FOR SHIELD WIRE, BELOW BOTTOM OF WIRE GROOVE IN BLOCK-----										98.98	answer
CONDUCTOR SAG LOW LOCATION FOR ACTUAL AMBIENT TEMPERATURE FOR YOUR SAG REPORT-----				138.29							answer
SHIELD WIRE SAG LOW LOCATION FOR ACTUAL AMBIENT TEMPERATURE FOR YOUR SAG REPORT-----				97.01							answer
ACTUAL AMBIENT TEMPERATURE---										-12	
SPAN LENGTH-----										2721.60	

figure 5 with data entered

3. These sheets are your reference points for sag setup. They are all independent of each other. If you go outside of the sag chart temperature range on these sheets with your proposed ambient temperature they will show the high temperature, or the low temperature more than once in the temperature range and the target measurements forcing you to stay in that range. If the high temperature entered on the DATA INPUT & SAG sheet is 70 degrees and the low is -20 like the example used above the highest temperature you could use in the proposed ambient temperature would be 55 degrees and the lowest temperature you could use in the proposed ambient temperature would be -5 degrees. This is because the program is calculating temperatures and target measurements 15 degrees above and 15 degrees below the proposed ambient temperature.

HERE ARE A COUPLE OF EXAMPLES OF TO HIGH AND TO LOW OF A PROPOSED AMBIENT TEMPERATURE USED
TO HIGH OF A PROPOSED AMBIENT TEMPERATURE

SAG POINT 1 FROM PAGE 1											
SAG SPAN-	154-155	ELEVATION DIFFERENCE FROM LOW TO HIGH STRUCTURE-	75.00	INSTRUMENT DISTANCE BELOW BOTTOM OF WIRE GROOVE IN THE BLOCK IS YOUR SAG LOW							
SAGGER---	NORMAN JAYJOHN	INSTRUMENT AT LOW STRUCTURE---	154	POINT, TAKE A LEVEL SHOT FOR SAG, AT THE STATIC MEASUREMENT THEN THE CONDUCTOR							
PROPOSED AMBIENT TEMPERATURE FOR TIME OF SAGGING, TO 5 DEGREE'S, 70, 75, 80, ECT-----				65	CONDUCTOR SAG AT PROPOSED AMBIENT TEMPERATURE----				182.65		
TEMPERATURE RANGE IS 15 DEGREES LOWER AND 15 DEGREES HIGHER THAN PROPOSED AMBIENT.				SHIELD WIRE SAG AT PROPOSED AMBIENT TEMPERATURE----				141.70			
TEMPERATURE RANGE PROPOSED-----				50	55	60	65	70	70	answer	
CONDUCTOR SAG LOW MEASUREMENT BELOW BOTTOM OF WIRE GROOVE											
IN THE BLOCK FOR EACH TEMPERATURE USED IN THE RANGE ABOVE IN FEET-----				145.36	145.94	146.51	147.08	147.65	147.65	147.65	answer
CONDUCTOR MEASUREMENT BETWEEN EACH 5 DEGREES FOR YOUR SAG LOW RANGE											
BOARD, FROM YOUR LOW TEMPERATURE TO YOUR HIGH TEMPERATURE PROPOSED-----				START TOP	0.57	0.57	0.57	0.57	0.00	0.00	answer
SHIELD WIRE SAG LOW MEASUREMENT BELOW BOTTOM OF WIRE GROOVE											
IN THE BLOCK FOR EACH TEMPERATURE USED IN THE RANGE ABOVE IN FEET-----				105.23	105.72	106.20	106.68	107.16	107.16	107.16	answer
SHIELD WIRE MEASUREMENT BETWEEN EACH 5 DEGREES FOR YOUR SAG LOW RANGE											
BOARD, FROM YOUR LOW TEMPERATURE TO YOUR HIGH TEMPERATURE PROPOSED-----				START TOP	0.48	0.48	0.48	0.48	0.00	0.00	answer
MEASUREMENT TO PUT LOW TEMPERATURE MARK OF SAG LOW BOARD IF USED FOR CONDUCTOR, BELOW BOTTOM OF WIRE GROOVE IN BLOCK-----								145.36	answer		
MEASUREMENT TO PUT LOW TEMPERATURE MARK OF SAG LOW BOARD IF USED FOR SHIELD WIRE, BELOW BOTTOM OF WIRE GROOVE IN BLOCK-----								105.23	answer		
CONDUCTOR SAG LOW LOCATION FOR ACTUAL AMBIENT TEMPERATURE FOR YOUR SAG REPORT-----				138.29	answer	ACTUAL AMBIENT TEMPERATURE---		-12			
SHIELD WIRE SAG LOW LOCATION FOR ACTUAL AMBIENT TEMPERATURE FOR YOUR SAG REPORT-----				97.01	answer	SPAN LENGTH-----		2721.60			

figure 5 Notice 70F shown 3 times keeping you in the sag chart.

TO LOW OF A PROPOSED AMBIENT TEMPERATURE

SAG POINT 1 FROM PAGE 1											
SAG SPAN-	154-155	ELEVATION DIFFERENCE FROM LOW TO HIGH STRUCTURE-	75.00	INSTRUMENT DISTANCE BELOW BOTTOM OF WIRE GROOVE IN THE BLOCK IS YOUR SAG LOW							
SAGGER---	NORMAN JAYJOHN	INSTRUMENT AT LOW STRUCTURE---	154	POINT, TAKE A LEVEL SHOT FOR SAG, AT THE STATIC MEASUREMENT THEN THE CONDUCTOR							
PROPOSED AMBIENT TEMPERATURE FOR TIME OF SAGGING, TO 5 DEGREE'S, 70, 75, 80, ECT.-----				-10	CONDUCTOR SAG AT PROPOSED AMBIENT TEMPERATURE---				173.99		
TEMPERATURE RANGE IS 15 DEGREES LOWER AND 15 DEGREES HIGHER THAN PROPOSED AMBIENT.				SHIELD WIRE SAG AT PROPOSED AMBIENT TEMPERATURE----				134.34			
TEMPERATURE RANGE PROPOSED-----				-20	-20	-15	-10	-5	0	5	answer
CONDUCTOR SAG LOW MEASUREMENT BELOW BOTTOM OF WIRE GROOVE IN THE BLOCK FOR EACH TEMPERATURE USED IN THE RANGE ABOVE IN FEET-----				137.37	137.37	137.94	138.51	139.09	139.66	140.23	answer
CONDUCTOR MEASUREMENT BETWEEN EACH 5 DEGREES FOR YOUR SAG LOW RANGE BOARD, FROM YOUR LOW TEMPERATURE TO YOUR HIGH TEMPERATURE PROPOSED-----				START TOP	0.00	0.57	0.57	0.57	0.57	0.57	answer
SHIELD WIRE SAG LOW MEASUREMENT BELOW BOTTOM OF WIRE GROOVE IN THE BLOCK FOR EACH TEMPERATURE USED IN THE RANGE ABOVE IN FEET-----				98.50	98.50	98.98	99.46	99.94	100.42	100.90	answer
SHIELD WIRE MEASUREMENT BETWEEN EACH 5 DEGREES FOR YOUR SAG LOW RANGE BOARD, FROM YOUR LOW TEMPERATURE TO YOUR HIGH TEMPERATURE PROPOSED-----				START TOP	0.00	0.48	0.48	0.48	0.48	0.48	answer
MEASUREMENT TO PUT LOW TEMPERATURE MARK OF SAG LOW BOARD IF USED FOR CONDUCTOR, BELOW BOTTOM OF WIRE GROOVE IN BLOCK-----				137.37						answer	
MEASUREMENT TO PUT LOW TEMPERATURE MARK OF SAG LOW BOARD IF USED FOR SHIELD WIRE, BELOW BOTTOM OF WIRE GROOVE IN BLOCK-----				98.50						answer	
CONDUCTOR SAG LOW LOCATION FOR ACTUAL AMBIENT TEMPERATURE FOR YOUR SAG REPORT-----				138.29	answer	ACTUAL AMBIENT TEMPERATURE---		-12			
SHIELD WIRE SAG LOW LOCATION FOR ACTUAL AMBIENT TEMPERATURE FOR YOUR SAG REPORT-----				97.01	answer	SPAN LENGTH-----		2721.60			

figure 5 Notice -20F shown twice keeping you in the sag chart.

If the high temperature on the chart is 120 degrees the highest proposed temperature you should use is 105 degrees and lets say the low temperature on the chart is - 20 degrees the lowest proposed temperature you should use is - 5 degrees. The 15 degree rule.

PRINTABLE MEASUREMENT SHEET

1. The Printable Measurement sheet will give you and your personnel the field data you need to set up your instruments and targets. This information is calculated from the different data sheets you should have completed to this point. Here's you an example from the sag data supplied above in the previous examples in these directions. This sheet has measurements and information for up to three sag points. The program will also work with only conductor or shield wire if only stringing or sagging one or other.

SAG POINT 1

INSTRUMENT STRUCTURE	154	SAG LOW MEASUREMENT FOR LOWEST PROPOSED AMBIENT TEMPERATURE		MEASUREMENT FOR FIVE DEGREES OF TEMPERATURE
		CONDUCTOR	137.94	
		SHIELD WIRE	98.98	
		SAGGER	NORMAN JAYJOHN	
				MEASUREMENT FOR ONE DEGREE OF TEMPERATURE
				CONDUCTOR
				0.57
				SHIELD WIRE
				0.48
				CONDUCTOR
				0.114
				SHIELD WIRE
				0.096
		MEASUREMENTS IN FEET, TENTHS, HUNDRETHS, & THOUSANDS		

SAG POINT 2

INSTRUMENT STRUCTURE	157	SAG LOW MEASUREMENT FOR LOWEST PROPOSED AMBIENT TEMPERATURE		MEASUREMENT FOR FIVE DEGREES OF TEMPERATURE
		CONDUCTOR	208.84	
		SHIELD WIRE	154.84	
		SAGGER	KENNETH MITCHAM	
				MEASUREMENT FOR ONE DEGREE OF TEMPERATURE
				CONDUCTOR
				0.79
				SHIELD WIRE
				0.67
				CONDUCTOR
				0.158
				SHIELD WIRE
				0.134
		MEASUREMENTS IN FEET, TENTHS, HUNDRETHS, & THOUSANDS		

SAG POINT 3

INSTRUMENT STRUCTURE		SAG LOW MEASUREMENT FOR LOWEST PROPOSED AMBIENT TEMPERATURE		MEASUREMENT FOR FIVE DEGREES OF TEMPERATURE
		CONDUCTOR		
		SHIELD WIRE		
		SAGGER	JACK LYONS	
				MEASUREMENT FOR ONE DEGREE OF TEMPERATURE
				CONDUCTOR
				SHIELD WIRE
				CONDUCTOR
				SHIELD WIRE
		MEASUREMENTS IN FEET, TENTHS, HUNDRETHS, & THOUSANDS		

figure 6

This chart will work with one to 3 saggings and with conductor or shield wire only. There was only two sag points used in the examples provided in these directions.

SAG REPORT

1. After the data input & sag sheet and the input & targets, sag point sheets that you need are complete and answered all you have to do is click on the SAG REPORT tab at the bottom of this program and click print. Your sag data is complete and ready to sign and turn in. Any information that is zero on the data input & sag sheets will not show up on the sag report. This example is not showing a third sagger for this reason.

Example SAG REPORT: This example is smaller than the actual sag report that you will print.

<u>GEORGIA POWER COMPANY</u>		<u>McGRAW FORD TO CRESTVIEW 500 KV LINE</u>		<u>CONTRACTOR: WILSON CONSTRUCTION COMPANY</u>						
<u>RULING SPAN LENGTH: 2480.77</u>		<u>SAG CHART #: 11 of 31</u>		<u>JOB # OR P.O. P7891</u>						
<u>CONDUCTOR SAG REPORT</u>										
<u>DATE:</u>	<u>SAG SECTION</u>	<u>SAGGER</u>	<u>SPAN SAGGED</u>	<u>SPAN LENGTH</u>	<u>TEMPERATURE</u>	<u>SAG IN FEET</u>	<u>SAG LOW FOOTAGE</u>	<u>ELEVATION DIFFERENCE</u>	<u>INSTRUMENT STRUCTURE</u>	<u>WEATHER</u>
12/22/2007	153 TO 159	NORMAN JAYJOHN KENNETH MITCHAM	154-155 157-158	2721.6 3187.6	+12 +12	173.75 238.37	138.29 209.31	75.00 60.00	154 157	cold/windy cold/windy
<u>SHIELD WIRE SAG REPORT</u>										
<u>DATE:</u>	<u>SAG SECTION</u>	<u>SAGGER</u>	<u>SPAN SAGGED</u>	<u>SPAN LENGTH</u>	<u>TEMPERATURE</u>	<u>SAG IN FEET</u>	<u>SAG LOW FOOTAGE</u>	<u>ELEVATION DIFFERENCE</u>	<u>INSTRUMENT STRUCTURE</u>	<u>WEATHER</u>
12/22/2007	153 TO 159	NORMAN JAYJOHN KENNETH MITCHAM	154-155 157-158	2721.6 3187.6	+12 +12	134.14 184.02	97.01 153.30	75.00 60.00	154 157	cold/windy cold/windy
FOREMAN: _____										
REPRESENTATIVE: _____										

figure 7

Directions for a complete Project Sag Report workbook

1. All you have to do is make a new Microsoft excel workbook file and name it after the project, job number or P.O. number or anything you would like. Next copy and paste a copy of the Sag Report sheet from this program each time you finish a sag set up in this program to this new excel file. Please do not use copies of this file to send data. This will violate your user agreement with Peanut Calculations.

2. Drawing shows how you should be sighting with your transit.

Please remember we are here to support you, and keep checking our web site for updates and new programs. Check www.peanutcalculations.com and any questions or problems you have will be answered.