



# Academy of Model Aeronautics

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[www.modelaircraft.org](http://www.modelaircraft.org)

## EXHIBIT A RULES CHANGE PROPOSAL FORM

PROPOSAL NO. CLPA 19-02  
(To be inserted by Headquarters)

RECEIVED DATE 5/2/17  
(To be inserted by Headquarters)

REVISE DATE \_\_\_\_\_  
(To be inserted by Headquarters)

VERSION NUMBER \_\_\_\_\_  
(To be inserted by Headquarters)

### RULES CHANGE PROPOSAL FORM

Send to AMA Headquarters via e-mail at: [ruleschanges@modelaircraft.org](mailto:ruleschanges@modelaircraft.org) A copy will be forwarded to the appropriate Contest Board Chairman.

#### USE BLACK INK

PROPOSAL TYPE (Check One):  Basic  Cross  
 Urgent/Safety/Emergency  Interpretation

Indicate Original Proposal Number CL AEROBATICS 19-0

- General Section  Executive Council  Outdoor FF  Indoor FF  CL Speed
- CL Racing  CL Navy Carrier  CL Aerobatics  CL Combat  CL Special Events  RC Aerobatics
- RC Scale Aerobatics  RC Pylon Racing  RC Helicopter  RC Soaring  Scale  Electric
- Special Events  RC Combat

Brief summary of the proposed change:

TO PERMIT USE OF SPECTRA LINES  
IN CLPA.

Exact wording proposed for the rule book: (List paragraph numbers where applicable. Example: Change "quote present rule book wording" to "exact wording required.")

SEE ATTACHMENT "A"

- AMENDED -

Logic behind proposed change, including alleged shortcomings of the present rules. State intent for future reference.

SEE ATTACHMENT "B"

New event test data/information (new events only), please provide what testing of this new event has taken place to include number of participants and number of contests.

N/A

Effect, if any, on current AMA records.

N/A

Note: The Contest Board Chairman may, in coordination with the submitter of the proposal, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and to avoid ambiguity provided the proposal intent is not changed.

1. Proposer SEE ATTACHED AMA # \_\_\_\_\_

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430 GREENWICH ST.

City BELVIDERE State NJ Zip 07823

Day Telephone (908) 475 5787 Evening Telephone( ) \_\_\_\_\_

E-Mail address TH31919@GMAIL.COM Date 3.19.2017

Signature SEE ATTACHED

ATTACHMENT "A"

4. CONTROL LINES (as per the charts)

4.1

Refer to the Control line general rules for control line materials and construction. Events 322-326 do not have a requirement for the lines to meet the ASTM Tensile Strength Standards. Spectra lines, also known as GSUMP (Gel Spun Ultra high Molecular weight Polyethylene) shall be permitted for CLPA competition. This shall not affect the use of stainless steel lines; either material may be used at the flier's option.

5. PULL TEST

The lines shall be of the following diameters/rated strengths:

Model Weight (kg)	Required Minimum Diameter of Each Line (mm)			
	Single Strand		Multi Strand	GSUMP
	1 Line	2 Lines	2 Lines	2 Lines Rated Strength (Nominal Diameter)
0-0.396	0.356	0.203	0.203	20 lb (0.254)
0.397 - 1.134	0.356	0.254	0.305	40 lb (0.330)
1.135-1.814	0.356	0.305	0.381	60 lb (0.406)
1.815-2.551	0.406	0.356	0.457	100 lb (0.457)
2.551-3.486	0.533	0.457	0.533	150 lb (0.559)

Model Weight (ounces)	Required Minimum Diameter of Each Line (inches)			
	Single Strand		Multi Strand	GSUMP
	1 Line	2 Lines	2 Lines	2 Lines Rated Strength (Nominal Diameter)
0-14	0.014	0.008	0.008	20 lb (0.010)
14.01-40	0.014	0.010	0.012	40 lb (0.013)
40.01-64	0.014	0.012	0.015	60 lb (0.016)
64.01-90	0.016	0.014	0.018	100 lb (0.018)
90.-123	0.021	0.018	0.021	150 lb (0.022)

- \* All aircraft will be pull tested to 10G, 10 times the model weight.
- \* All lines shall be between 25 and 70 feet long.
- \* Models with electric power shall be weighed with the battery on board.
- \* Maximum weight of any model shall be 3.5kg, 7lb, 11oz.

In the case of GSUMP lines, the rated strength of the lines as provided by the flier shall govern. The lines may be measured for thickness on the tail piece of the line left attached as a part of the original strand at the handle end. The knots shall be as set forth in the General section of these rules. Only lines sold under the Spectra or Dyneema brand names shall be used, and lines sold as

an equivalent product shall be prohibited. Lines sold under the Fusion name shall also be prohibited. The flyer shall have in his possession all original packaging and labeling materials, and the original spool containing the unused portion of the Spectra line. This material may be inspected by the Contest Director or his designee. The line and handle assembly shall also include a free end of the Spectra line not less than one inch in length left attached to the knot at either line. This free end shall have the last one half inch saturated with CA adhesive and hardened to as to permit diameter measurement.

As per the charts, pull tests shall be performed immediately before each flight. The method for holding the model for the pull test as specified in the Control line General rules shall not apply to Control Line Precision Aerobatics. Considering the fragile construction of the Precision Aerobatics models they may be held in any manner as long as no bodily contact or other interference is made to the leadouts, control lines or any other element of the control system.

## ATTACHMENT "B"

Spectra lines have been used for several years now, for general use and in Combat. The material has proven to be much less subject to damage than steel. The typical pit accident of stepping on or tangling lines can pretty much be ignored.

The primary advantage of Spectra in flight is that the Spectra material is about 10% of the weight of steel for the same rated strength. In order to minimize the stretch of Spectra many users will elect to use thicker material than that simply necessary to pass the 10G pull test. Given this, a good estimate for the weight is to say that the Spectra weighs about 20% of the weight of steel. This makes it much easier to properly trim a model about the roll axis.

One other property of Spectra is that it does not conduct electricity. This does not mean that these lines may be used in a lightning storm or near high tension lines. A high voltage shock can result from the creation of an ionization path down the strand to ground. This phenomenon can result from small amounts of moisture, dirt, skin oil or any other contaminant on the surface of the lines, not from the lines themselves being conductive. Spectra has a melting point of about 270 Fahrenheit. This should mean that in a flyaway where the lines are caused to short out a high tension line from conductor to conductor, the Spectra will vaporize without causing extensive damage to the high tension line, circuit breakers and attendant transformers. The AMA claims department has expensive experience with the ability of steel lines to do just that.

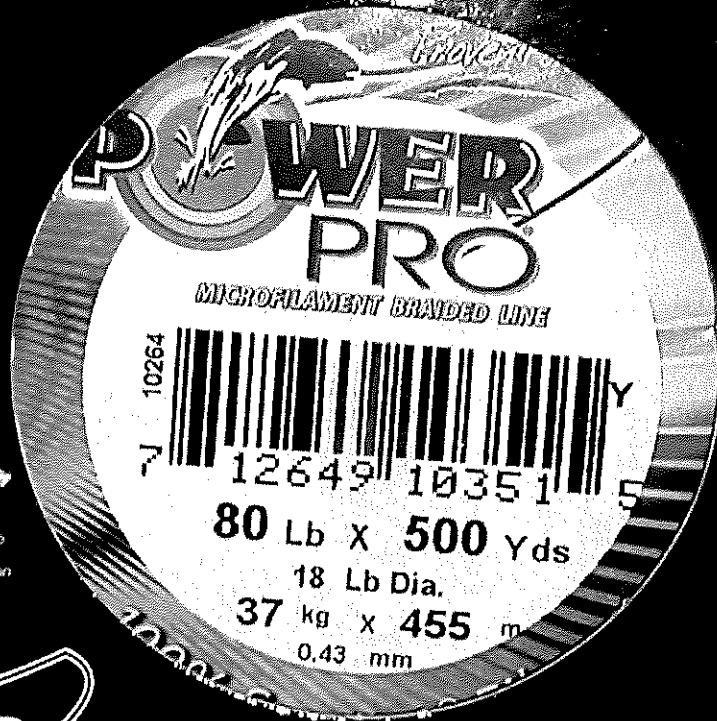
Notice that the last paragraph of the proposal contains a requirement that all original packaging and labeling, together with the unused portion of the Spectra line on the original spool, shall be available to the pit boss at any contest, in order to verify the rated strength of the line. The diameter may be measured if required, by using a CA hardened pigtail of the same material, permanently left attached to the line itself, at the handle. This was done to avoid using CA adhesive on the line itself, in order to close out the possibility that the individual strands might not all be equally loaded in tension. Typical measurements of Spectra diameters are as follows, for Spectra Power Pro braid purchased from Cabela's Sporting Goods. yellow color, 80 lb. rated strength, rated diameter .43 mm, equal to .0169 inches. For an untreated strand, using dial calipers, the first slight resistance is felt at about .020 inches. A fairly firm pressure on the caliper jaws will give a reading of about .015-.016 inches, and maximum hand pressure on the strand will compress it to about .010 inches. Measuring a CA hardened test piece gives the same initial resistance at about .020 inches, and a caliper reading of about .016-.017 inches which does not change under a range or light to fairly firm pressure. Thus the CA hardening does permit a reasonably accurate diameter measurement.

Note that in the 2 photos of the package of Spectra a sample pigtail is attached to the box itself. This seems to be pretty much standard for all brands. It does permit easy comparison for shopping purposes.

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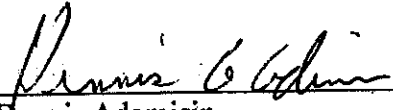
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Dennis Adamisin

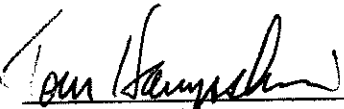
AMA# 4270

Date 19-MAR-2017

  
Phil Cartier


AMA# 6249

Date 3/19/17

  
Tom Hampshire


AMA# 31919

Date 3-19-17

  
Robin (Bob) Hunt

AMA# 1114

Date 3-19-17

  
Frank Williams

AMA# 4931

Date 3/26/17