



# Academy of Model Aeronautics

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## EXHIBIT A RULES CHANGE PROPOSAL FORM

PROPOSAL NO. \_\_\_\_\_  
(To be inserted by Headquarters)

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

REVISE DATE \_\_\_\_\_

VERSION NUMBER \_\_\_\_\_

### RULES CHANGE PROPOSAL FORM

Send to AMA Headquarters via email at [michelle@modelaircraft.org](mailto:michelle@modelaircraft.org). A copy will be forwarded to the appropriate Contest Board Chairman.  
The current issue of Competition Regulations must be used.

PROPOSAL TYPE (Check One):  Basic  Cross Indicate Original Proposal Number \_\_\_\_\_

Urgent/Safety/Emergency  Interpretation

General Section  Executive Council  Outdoor Free Flight  Indoor Free Flight  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.

Change engine rules in 428 pylon to reduce both the cost and speed of the event. This will position the event as an intermediate event between 424 pylon and 422 pylon. The introduction of a cost limit, an engine committee and engine approval procedures will prevent undesirable frequent changes to engine designs and the associated increases in cost and speed. The rule change will also allow the event to be run on the short course thereby qualifying more flying fields for competition.

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

*Change rule 16.2.2. Powerplant to read:*

#### 16.2.2. Powerplant

##### a. Engine.

1) **Maximum displacement:** 0.403 cubic inch.

2) **Configuration:** Stock, commercially available, front-intake, side-exhaust. Head shims are allowed, but sleeve shims are prohibited.

**3) Intake:** A single carburetor or venturi as provided by the manufacturer for the engine being used, with a maximum inner diameter of 9 mm (0.3543 inch). The carburetor may be locked or pinned in the open position and need not be a functional throttle; except that, if the carburetor throttle is not functional or a venturi is used, a separate engine shutoff mechanism shall be used. Other than such locking or pinning, the carburetor shall be stock.

**4) Exhaust system:**

**(a) General description:** The engine shall be equipped with an expansion chamber muffler, zero-boost muffler or tuned muffler as provided by the manufacturer for the engine being used, and having a single exhaust outlet with a maximum outlet area of 0.0621 square inches (equivalent to the area of a round hole measuring 9/32 inch in diameter).

**(b) Inner configuration of tuned mufflers:** A tuned muffler used in this event shall have only one internal part, a straight tube or extractor of the type commonly known as a "mini-pipe". The mini-pipe shall have a constant, circular cross section and constant inside and outside diameter, with the following exception: the sidewall of the tube may be thickened not to exceed 0.078 inch wall thickness within 1/2 inch of the front end of the mini-pipe where it attaches to the header.

**(c) Outside Dimensions:** The distance from the center of the piston to the centerline of the muffler shall not exceed 2 3/4 inches. The overall length of the muffler shall not exceed 7 1/4 inches, measured from the front of the header to the back of the exhaust outlet. The outside diameter shall not exceed 1 3/4 inches and both the inside and outside diameter of the outside shell of the muffler shall remain constant for at least 3 inches.

**(d) Modifications:** No modifications to the muffler are permitted except that the muffler may be tapped for a pressure fitting to supply pressure to the fuel system.

**5) Fuel feed:** Other than muffler pressure, no fuel system pressurization is permitted.

**6) Maximum purchase price:** The retail purchase price of the engine and muffler sold as new shall be less than \$261 and shall be commercially available at the time of approval. A list of engines, which fit this criterion, shall be maintained by the Contest Board Sub-Committee and shall be ratified annually. On an annual basis, the Contest Board Sub-Committee shall review the list of engines which fall below the \$261 limit and if the number of engines has been reduced by more than 50% due to market price changes, the Contest Board Committee shall recommend to the Contest Board that the Maximum Purchase Price be adjusted to accommodate a reasonable number of engine choices. If the purchase price of an engine approved for competition at the beginning of a year is raised above the Maximum Purchase Price during the year, that engine shall remain eligible for competition for the remainder of that year only if that engine is identical in every respect to those engines from the same manufacturer which were approved for competition at the beginning of the year.

**7) Prior approval of engines:** All engines, past and future inclusive, shall not be entered into competition until a five-member subcommittee of the RC Racing Contest Board has approved the engine by an affirmative vote of at least three members thereof. Such approval may be given orally, but shall be recorded for future reference. An engine shall be considered eligible for competition if it meets all requirements of section 16.2.2. and, in addition, does not hinder the state of this event as determined by the aforementioned five-member subcommittee. The subcommittee is appointed by the Racing Contest Board Chairman and will not include any member with a vested interest in the sale or manufacturing of an engine for this event. In addition, any engine can be removed from the list by an affirmative vote of at least three members thereof.

**b) Propeller:**

**1) Materials:** APC composite, packaged for '40 Pylon' and containing a D-1 designation on the outside hub.

**2) Dimensions:** Minimum diameter 8-3/4 inches.

**3) Availability, modification:** Propellers shall be commercially available and stock, except as otherwise provided in paragraph 7.5.2

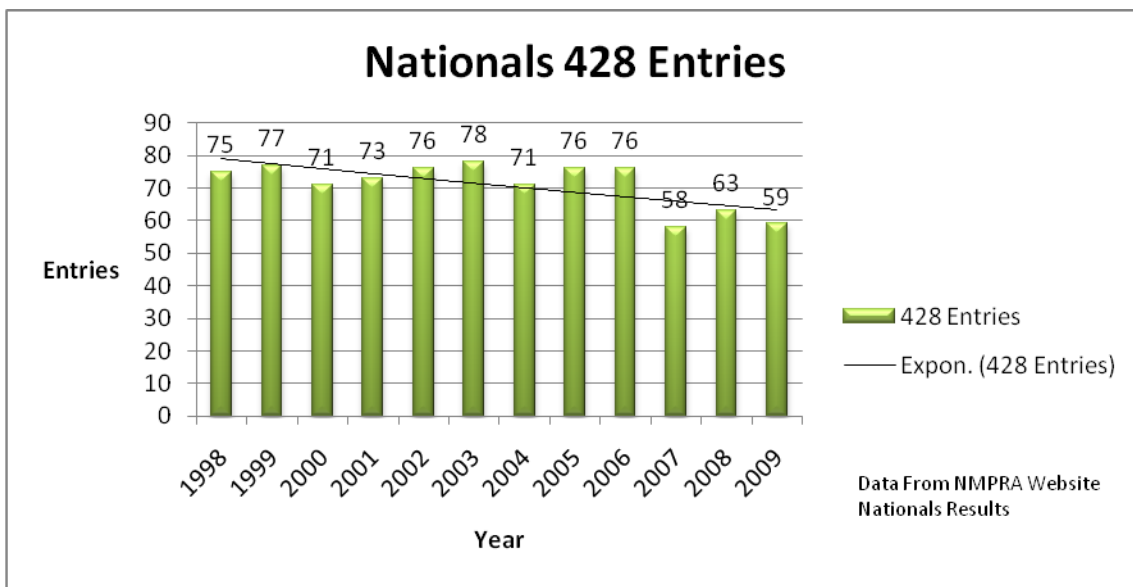
**c) Fuel.** The fuel shall be commercially available, containing not more than 15 percent nitro-methane, and shall be supplied and dispensed by the hosting organization. The dispensing operation shall include draining the tank of any existing fuel and then filling from a supply container when the pilot brings the aircraft to the ready box.

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

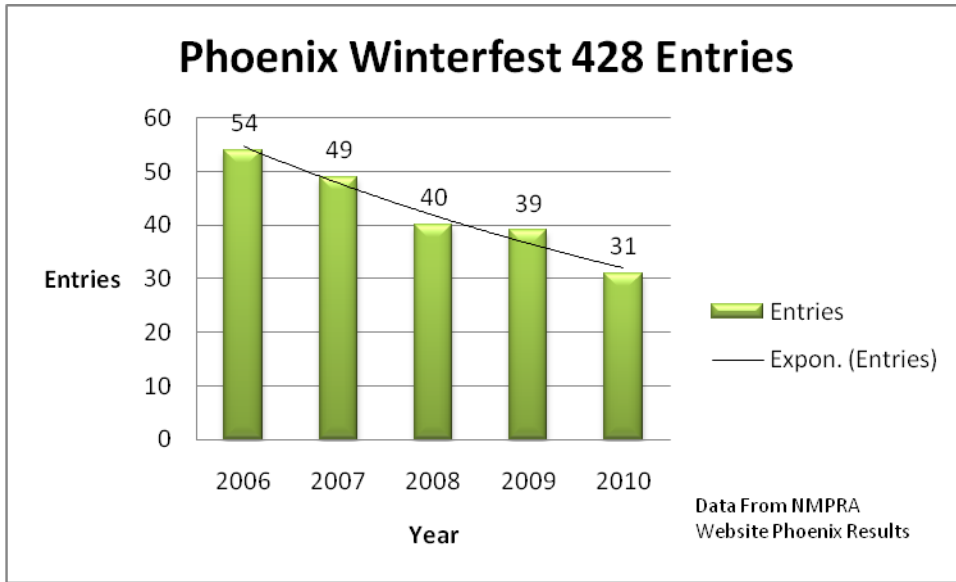
The 428 racing class should be an intermediate level racing class in both cost and speed between the 424 and 422 racing classes. It is intended that the Sport Jett engine priced under \$261 with standard backplate option will be the initial engine on the engine list. The selection of this engine will reduce both the cost and speed to the desired levels. The reduced speed will also allow the event to optionally be run on the short course thereby opening up more flying fields for competition. The reduced speed should also reduce the advantage of composite aircraft over conventional wood and foam construction.

The current situation is not fair and discourages new racers because the most common engine in the 428 racing class is no longer commercially available. The current rules addressing Commercial Availability and Availability of Engines and Parts are not effective in maintaining fairness or event stability. The introduction of an engine list and engine committee should correct this situation. This approach has been very effective in the 424 racing class.

There is a need for a lower cost racing event at the Nationals. The current two events are too close in both cost and speed. There is not enough time available to run a third event (424). Nationals entries in the 428 class have been declining, especially since the introduction of the long stroke engines (see the trend-line in the graph below).



Some local racing groups have taken membership surveys and have already voted to use the Sport Jett engine for the 2010 racing season (e.g. CAPS, SEMBRA). The decline in 428 racing has been even worse at the local level. The Phoenix Winterfest has been one of the most popular local 428 Q500 races and the entries have declined significantly over the last 5 years (see the trend-line in the graph below).



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.

Some local racing organizations have already adopted similar rules (e.g. CAPS, SEMBRA).

Additional data will be available before final rule votes for the 2011 rule cycle.

Effect, if any, on current AMA records.

Current records will stand, and new records will be established going forward for the updated event.

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.

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