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**PYLON RACING**  
GET INVOLVED AT THE 2018 NATS





The 2017 Club 40 National Class winners (L-R): Clint Seyer, silver; Gary Fisher, gold; and David Poland, bronze.



# PYLON RACING

## GET INVOLVED AT THE 2018 NATS

BY DON STEGALL PHOTOS BY THE AUTHOR

**W**hen FPV racing began, pilots quickly found that flying on a course with other aircraft in timed races was fun. Drone racing has already grown into an international sport. Flying model airplanes on a course and racing with others has been enjoyed for many years. Courses for non-FPV airplanes are usually two- or three-pole courses.

In the early 1960s, the most common form of RC Pylon Racing was on a two- or four-pole course. In the mid-'60s, Jerry Nelson and others developed the Formula 1 Racing class that used engines with a maximum .40 displacement. They used a three-pole course with the pilots inside the course. This allowed a good perspective of where your airplane was relative to other aircraft.

Two of the pylons were 100 feet apart and the pilots stood near the pylons. The third pylon was 608 feet from each of those pylons in a triangle configuration. This was known as the long course; 10 laps yielded a heat race distance of 2.5 miles.

In the 1970s, a racing class known as Quarter Midget

.15 was developed. These airplanes were smaller and used maximum .15 displacement engines. The short course that was used was like the long course, but the distance from the two pylons was 475.5 feet. The short course is used today for Sport Quickie and other racing classes.

The National Miniature Pylon Racing Association (NMPRA) was created as the governing body and is the official AMA Special Interest Group for AMA Pylon Racing. Changes in the NMPRA and its leadership during the past decade have opened the door to adding more events at the AMA Nats during the Pylon segment.

The NMPRA developed the Electric Formula 1 (EF1) class and when it was demonstrated at the Nats, people were enthusiastic about it. Scott McAfee, Pete Bergstrom, Jerry Small, John Jennings, George Parks, and Dan Kane Jr. designed and got EF1 airplanes in the air and proved the concept.

EF1 was added to the Nats then this new direction led to the addition of AMA 424, Club 40, and Warbird Racing. The





A Sig 4-Star 54 prepared by NMPRA President Trey Witte. Even experts enjoy flying in Club 40.

sport events have opened the door to fresh faces that normally might not make it to the premier event in US Pylon Racing.

NMPRA EF1 uses electric propulsion systems. Each airplane design must be based on a full-scale Formula 1 airplane that raced in the Goodyear racing class or at the Reno Championship Air Races. The airframe specification was developed so that makers of ARF kits could create and produce airplanes that are competitive with kit and scratch-built models.

The fuselage must be primarily a built-up wood structure. Parts of the fuselage that need compound curves, such as the engine cowl with cheek cowl, can be made from a molded material such as fiberglass or vacuum-formed plastic. The canopy hatch, a turtledeck, belly pan, wing fillets, and wheel pants can be molded, but the whole fuselage cannot be molded.

These models must be primarily covered with plastic coverings. A number of manufacturers have produced ARF

kits. One of the more popular is the Proud Bird EF1 by Great Planes. It has won the EF1 class at the Pylon Nats. If you like quick and clean electric airplanes, this is a good model for club flying for intermediate and above pilots.

A number of laser-cut kits are available. Many of these are tab-lock construction and are a pleasure to build. EF1 has been flown at the Nats for many years with pilots of all skill levels participating. NMPRA EF1 will be contested at the 2018 Pylon Nats on Sunday, July 8.

AMA 424 Sport Quickie, usually known as 424, uses a common Quickie 500 (Q-500) airframe. The 424 rules limit the construction of the wing and tail surfaces primarily to balsa and balsa-covered foam cores. Molded composite structures are not allowed for those parts. The fuselage can be built up or it can be fiberglass or composite.

Composite wings and tails are fairly expensive and this is a cost-controlling measure. Some 424-compliant ARF kits have been produced. The Great Planes Viper 500 was one of the first.





The Proud Bird EF1 by Great Planes is a fine EF1 pylon racer or fast electric sport airplane.



Pylon racers like to decorate their airplanes so they are easy to identify while racing neck and neck with other models. Sports teams are popular inspirations. This is a Sky Raider Mach II by Tim Sparks.

One of the premier ARF kits available today is the Quik-V6 Q500 by Great Planes. It was designed by Jim Allen who also designed the Proud Bird EF1. The Quik-V6 has proven to be a top competitor in 424. It is even strong enough and fast enough to be a top contender in the AMA 426 Q-500 class, where the airplanes are faster and use Jett Super Sport Quickie engines. The 426 class also allows composite airframes, but the Quik-V6 is doing well in 426 against the more expensive composite airframes.

Both 424 and 426 are flown on the AMA three-pole short course. Pilots, callers, and some officials are inside the three-pole course. The cut judges, lap counters, and other officials are outside of the course at a safe distance. Two engines are currently allowed in AMA 424: an Evolution .46NX and a Thunder Tiger PRO-40. An APC 9 x 6 sport propeller is required in competition on both engines. The 424 class is the "newcomer" class for glow-powered three-pole racing. AMA 424 will be contested at the 2018 Pylon Racing Nats on Saturday, July 7.

Warbirds were raced during the 2016 and 2017 Pylon Nats. Currently, most of the warbird racing uses the formula derived from the Scale Warbird Racing Association (SWRA) rules.

Some of the West Coast warbird fliers arranged for a large truck and trailer to haul their airplanes to Muncie, Indiana. One of the racers drove it so the rest of the pilots could travel via airlines to the venue. Warbirds at the Nats had good attendance, with some of the NMPRA racers participating in the event.

The addition of the sport classes in 2016 and 2017 required more days

for the Pylon Nats and the warbirds were raced for two days. The heat and humidity of Muncie can wear on pilots, and racing in the premier events of AMA 426 Q-500 and AMA 422 Q-40 tires out the participating NMPRA pilots. Some raced warbirds but it has proven to be too difficult to participate in all of the events. Warbirds will not be flown at the 2018 Pylon Nats, but the organizers are looking to have a National Championship Warbird Race somewhere west of the Mississippi River.

In the fall of 2014, the NMPRA approached the Radio Control Pylon Racing Organization (RCPRO) board members about possibly adding RCPRO Club 40 to the Nats. The goal was to have at least 20 participants at the inaugural 2015 Club 40 Nats.

I was unable to attend because of work and family obligations, but the turnout was near the desired 20 contestants. Ken Erickson worked with Tom Melsheimer, Wayne Yeager, and others to pull off the event.

Tom was instrumental in setting up the matrix and course equipment, as well as operating the Judgeman course system. It has continued to be flown on Site 4, which has a grass runway. Wayne has done an excellent job of having the site mowed, measured, and prepped for the competitions.

Club 40 is an excellent way for intermediate and advanced RC pilots to become involved in RC Pylon Racing. The Club 40 course can fit on many smaller club sites. A two-pole course is used with the pylons 400 feet apart. Flying is done from in front of the pilots and no people are allowed on the course.

The airplanes do not have to go around the pylons, but it is encouraged

to prevent midairs. The judges at the left and right pylons, simply call cuts if the airplane does not go the distance to the pylons.

The setback distances work for many clubs. The AMA document 540-B has the course specifications for Club 40 and Quickie 25. Club 40 will be raced at the 2018 Pylon Nats on Friday, July 6.

Club 40 Bronze is the slower of the tiers in that class. It requires bushing engines from a published list. Most of the bushing engines have been discontinued, but there are plenty of used ones on the market at good prices. The O.S. 40LA was the standard engine for the Hobbico SuperStar RTF airplane and many are still in existence. When the 40LA was discontinued, the Thunder Tiger GP .42 and O.S. 46LA were approved by the Club 40 committee.

Club 40 Silver has a .40 cubic inch maximum displacement, with the exception of one .46 engine with a specific propeller. In the fall of 2015, the RCPRO Club 40 committee voted to approve the Evolution .46NX for Club 40 Silver with an APC 9 x 6 sport propeller. During restructuring of the Club 40 tiers, a new Club 40 Gold tier was added with a maximum ball bearing engine size of .46 cubic inch displacement.

The most common airplanes used for RCPRO Club 40 are the Sky Raider Mach II ARF and the LA Racer 40 ARF by The World Models and AirBorne Models. These are available in a number of color schemes. Both are available in solid colors with preslotted CA hinges. This allows modelers to easily trim the airplanes with their favorite plastic coverings.

For the 2016 season, the Sig 4-Star





Electric power systems are becoming more popular in Pylon Racing. This motor and ESC are installed on Geoff Barber's LA Racer 40 ARF.

54 GP/EP ARF was added. All of the approved ARF kits are easy to assemble and get into the air. It can be done in 4 to 8 hours without a fully equipped shop, and even quicker if one has the needed tools and adhesives at hand. The Evolution .46NX can compete in Club 40 Silver with the APC 9 x 6 propeller and in Club 40 Gold with any commercially available unmodified propeller.

For those who prefer to build from a kit, there is now a readily available option. The Club 40 Racer kit produced by StegallHobbies.com is a clone of the Sky Raider Mach II with some minor differences in construction. The nicest new feature is a hatch between the firewall and the canopy area for getting into the tank compartment or changing batteries if the airplane is built for electric power.

There are now a lot of fans of electric power, and NMPRA EF1 is

the most-often flown electric racing class, with RCPro Club 40 Electric on the horizon. The World Models made a change to the LA Racer 40 ARF in approximately 2014 or 2015. The company added a tank or battery hatch on the factory color scheme models. Even for the glow-power crowd, the hatch has been popular. When the hatch was added, we started working on rules for Club 40 Electric.

Much test-stand testing was done and it was determined that the best limiting factor to control the speed would be to use a 20-ounce maximum weight 5S LiPo battery. The minimum weight of the ready-to-fly airplane with the battery is 5.25 pounds. The maximum weight is 6 pounds in accordance with AMA document 540-B.

Any motor, ESC, and any propeller can be used—even modified propellers. Wheel pants are allowed in Club 40 Electric; otherwise, the same rules apply for Club 40 with glow power.

We have worked with several people on Club 40 Electric. Geoff Barber, who does a lot of reviews for RCU (RCU), was the first to complete a complying Club

40 airplane in a review for RCU. His results were good, and there is a nice video of its early flights.

I wrote an article called "Pylon Racing for Everyone" that appeared in the October 2009 issue of *Model Aviation* and quite a few groups started racing Club 40.

EF1 is also a good club event. It can be raced on the same AMA 540-B two-pole course. Racing Club 40 and EF1 on the same day gives pilots of varying skill levels an opportunity to participate in the racing activities. An event known as Quickie 25 is often raced on the same day as Club 40. Quickie 25 uses engines with a maximum displacement of .25 cubic inch. The speeds of Quickie 25 airplanes are comparable to Club 40 and some groups even race them in the same heats.

The NMPRA does an excellent job of putting on the AMA Pylon Racing Nats. Mike Condon has been the contest director for many years. The degree of organization makes the event fun to attend. With the addition of the sport racing classes, intermediate pilots can join in the fun of racing, and meet the top Pylon pilots in the country.

The Nats is a great experience, even if one just comes to watch or to work the course as a judge. The sport racing classes are more economical than the higher-end classes. With the sport events taking place on the weekend before the main event, you can attend without missing much (or any) work.

Stay around if you can and watch the Q-40 airplanes competing and you will find that RC Pylon Racing is a real thrill. 🚀

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A Great Planes Quik-V6 Q500 is ready for action in AMA 426. It was flown by Dean Stone.

SOURCES:

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RCPRO  
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