



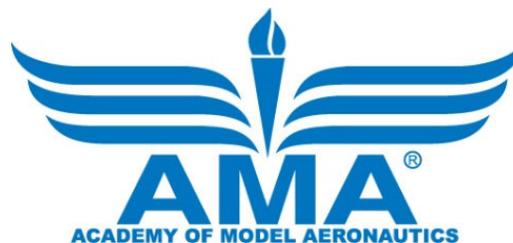
2023 FAI F3C/N
WORLD CHAMPIONSHIPS
FOR MODEL HELICOPTERS
Muncie, Indiana USA

2023 FAI F3C/N
World Championships for Model Helicopters

Official Program

August 4th – August 10th, 2023
Muncie, Indiana / USA

Opening ceremony: 5th of August 2023
Closing ceremony: 9th of August 2023





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Schedule of Events

Countries Entered: Belgium, China, Denmark, United Kingdom, Italy,
Japan, Netherlands, Chinese Taipei, Unites States of America

F3C	F3N
Friday, 2023-08-04	
Arrivals of FAI Jury and Judges	
08:00 – 19:00 Free practice at F3C practice fields	08:00 – 19:00 Free practice at F3N practice fields
16:00 – 18:00 Registration / Model Processing	16:00 – 18:00 Registration / Model Processing
Saturday, 2023-08-05	
08:00 – 15:00 Registration / Model Processing	08:00 – 15:00 Registration / Model Processing
09:00 – 12:20 Official practice – F3C contest field	10:30 – 12:50 Official practice – F3N contest field
08:00 – 09:00 F3C judges meeting – Meeting room	09:00 – 10:00 F3N judges meeting – Meeting room
16:00 – 17:00 Opening ceremony – Airfield	
18:00 – 19:00 Teammanager Meeting for TMs, Jury, Judges – Meeting room	
Sunday, 2023-08-06	
07:40 – 08:00 F3C Calibration flight	09:10 – 09:30 F3N Calibration flight
08:00 – 11:50 F3C Round 1 (Schedule P) – F3C Contest field	09:30 – 11:45 F3N Round 1 (Set Manoeuvres) – F3N Contest field
13:00 – 16:50 F3C Round 2 (Schedule P) – F3C Contest field	13:00 – 15:15 F3N Round 2 (Freestyle) – F3N Contest field
18:00 – 19:00 F3CN Subcommittee Meeting – Meeting room	
Monday, 2023-08-07	
08:00 – 11:50 F3C Round 3 (Schedule P) – F3C Contest field	09:30 – 11:45 F3N Round 3 (Set Manoeuvres) – F3N Contest field
13:00 – 16:50 F3C Round 4 (Schedule P) – F3C Contest field	13:00 – 15:15 F3N Round 4 (Music Freestyle) – F3N Contest field
18:00 – 19:00 Teammanager Meeting for TMs, Jury, Judges – Meeting room	
Tuesday, 2023-08-08	
07:40 – 08:00 F3C Calibration flight	
08:00 – 11:10 F3C SF Round 1 (Schedule F) – Main field	11:20 – 12:20 F3N Round 1 Finals (Set Manoeuvres) – Main field
13:00 – 16:10 F3C SF Round 2 (Schedule F) – Main field	16:20 – 17:20 F3N Round 2 Finals (Freestyle) – Main field
18:00 – 19:00 Teammanager Meeting for TMs, Jury, Judges (F3C only) – Meeting room	
Wednesday, 2023-08-09	
08:00 – 10:10 F3C F Round 1 (Schedule F) – Main field	
10:20 – 12:30 F3C F Round 2 (Schedule F) – Main field	13:00 – 14:00 F3N Round 3 Finals (Music Freestyle) – Main field
16:00 – 17:00 Awarding and Closing Ceremony – Airfield	
19:00 – 23:00 Banquet	
Thursday, 2023-08-10	
Departure or IRCHA Jamboree (August, 10th to 13th)	

NOTE: The organisers reserve the right to change this schedule if necessary



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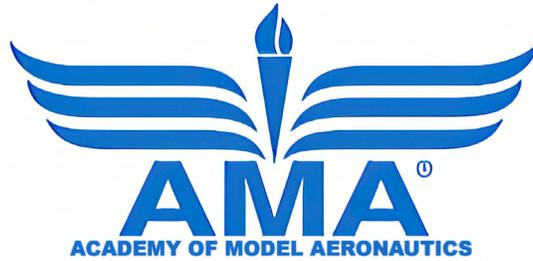
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On behalf of our AMA members and staff I would like to welcome you to Muncie, Indiana, home to the Academy of Model Aeronautics. With more than 150,000 members and 2,500 model aircraft clubs, the AMA serves as the US national body for the aeromodeling community. The AMA has made every effort to ensure that you have a pleasant and safe visit, and to assure your participation in the 2023 F3C/F3N World Championship is challenging, fulfilling, and enjoyable.

While here, please take the opportunity to visit AMA's National Model Aviation Museum. Across from our national Headquarters, this facility houses more than 1,500 artifacts displaying the chronological growth and evolution of model aviation in the US. You'll find yourself immersed in aeromodeling history, taking you back decades to the hobby's roots in stick, balsa, and tissue as well as a look at today's technologically advanced model aircraft.

And, while you are in Delaware County and the Muncie area, I hope you have an opportunity to take in the sights and experience Indiana's Hoosier personality and the US Midwest's welcoming hospitality.

If there is anything I or the AMA staff can do to make your visit more enjoyable, please don't hesitate to ask.

I hope you enjoy your stay, and *best of luck* in the 2023 F3C/F3N World Championship!

Rich Hanson, President
Academy of Model Aeronautics

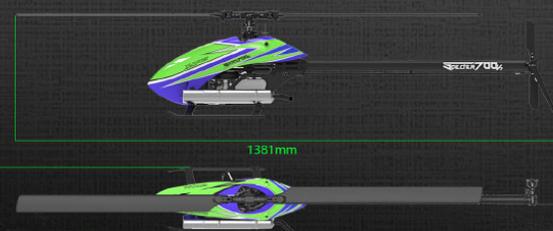
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- Front Tail Pulley: 100T
- Rear Tail Pulley: 21T
- Tail Ratio: 4.76 (5.0 Optional)
- Frame Weight: 4.2kg (without fuel)
- Main Shaft Diameter: 15mm
- Feathering Shaft Diameter: 10mm
- Tail Boom Diameter: 32mm
- Tail Belt Width: 8mm
- Main Gear Thickness: 10mm
- Battery Compartment Size: 125mmx45mmx20mm



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W W W . X L P O W E R . R C . C O M



Dear pilots, teams, ladies, and gentlemen,

It is a pleasure for me to welcome you on behalf of the International Air Sports Federation FAI (Fédération Aéronautique Internationale) to the World Championships for RC Model Helicopters in the F3C and F3N classes. Due to the pandemic, we had to do without such events for several years. I am therefore very pleased that, despite the problematic situation in world politics, the teams present found their way to Muncie.

With the Academy of Model Aeronautics (AMA), a competent and committed association has applied to host the World Championships. Together we managed to organize the World Championships under not always easy conditions and to give the best pilots in the world the opportunity to compare themselves in the competition. Even if the participants are competitors on the airfield, the spirit of camaraderie and fair sporting competition always prevails.

I am already looking forward to the many discussions with team members, officials and guests. Such discussions give insight into the status of our sport in other countries. Find out what makes our sport so attractive and where there is a need for optimization. Findings from these discussions flow into the discussions of the F3 Helicopter subcommittee and thus help to optimize the existing regulations.

I would like to take this opportunity to express my personal thanks to the entire organizing team for the work they have done and wish the organizers of this World Championships the greatest possible success.

All participants I wish good luck, that the personally set goals will be achieved and that this World Championship will remain in good memory.

My best wishes also accompany the judges. Since I myself was and still is a judge in numerous international competitions, I know very well what a great challenge this is.

Have a good competition!

Sincerely

Stefan Wolf

F3CN Subcommittee Chairman

miniature aircraft **usa**



Thanks to



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A Welcome from AMA's Executive Director

Welcome to the International Aeromodelling Center in Muncie Indiana USA! This facility was built to for you to fulfill the Academy of Model Aeronautics' (AMA's) vision to make modeling "the foremost sport in the world." We believe competition is critical to the future of our hobby as it drives innovation, improves skills, and sparks interest from new hobbyists.

Whether you stand on the podium or not, you will get reacquainted with old friends, make new friends, and learn a skill or two. While you are here, be sure to visit AMA's National Model Aviation Museum – the world's largest museum dedicated to our hobby and sport. Inside you'll discover many competition grade model aircraft including model helicopters. You can easily spend a couple of hours touring the museum.

Thanks to the Fédération Aéronautique Internationale, the global governing body of aerosports, for allowing for this event. We appreciate the countless hours invested into the F3CN world championships by the International Radio Control Helicopter Association (IRCHA). And thank you to our competitors! Without you, we would not be here today.

Thank you and good luck!

Chad Budreau

AMA Executive Director

Synopsis of FAI Class F3C Operation

By Horace Hagen, Chairman of the CIAM F3C Sub-committee (2006 Update)

For the FAI/CIAM F3C competition, class pilots must perform complex hovering and aerobatic maneuvers with a radio-controlled model helicopter. Each maneuver must be executed with high precision and skill in any attitude and under all-weather conditions. F3C model helicopters have a weight limit of 6 kg, a maximum rotor disk area of 250dm² and are powered by internal-combustion engines with a maximum displacement of 15ccm or electric motors with a maximum battery voltage of 42. The engines/motors must be adequately silenced to meet a specified noise limit. The on-board radio-control equipment, receiving signals from the competitor's transmitter, actuates the engine throttle, main rotor lateral and longitudinal cyclic pitch, main rotor collective pitch and tail rotor pitch to guide the model helicopter through hovering and aerobatic maneuvers.

Maneuvers schedule A is used for the preliminary rounds, and more difficult schedules Band Care used during the flyoff rounds. Each schedule contains three hovering maneuvers that are performed directly in front of the judges over a designated helipad layout. Aerobatic maneuvers are performed in a window that extends 60 degrees to the left and right of a center line, and at an elevation of no more than 60 degrees. A prescribed aerobatic maneuver must be performed each time the model helicopter crosses the center line. Aerobatic maneuvers consist of a combination of loops, rolls, pirouettes, lines and stall turns. Aerobatic maneuvers or parts thereof performed outside of the window are penalized by loss of points, proportional to the degree of infraction. The hovering maneuvers are flown at a distance of 15 meters from the judges. The aerobatic maneuvers are typically flown at 100 meters in front of and parallel to the judges' line.

Each competitor's performance is assessed by a panel of judges who award marks between zero and 10 (0.5-point increments) for each maneuver. Judging is based on four basic criteria: Precision, Smoothness and Gracefulness, Positioning and Display/Size of maneuvers. Points are subtracted for various types of defects observed by the judges, the severity of these defects, and the number of times the defects are observed.

Each competitor participates in four preliminary rounds, of which the best three flight scores determine his/her placing. The F3C class is a team as well as an individual competition. FAI member countries may enter a team with a maximum of three competitors as a national team for World and Continental Championships. Team results are based on the sum of each country's team members' preliminary round scores and determine the F3C World Champion Team. The top 15 pilots of all competitors then participate in three flyoff rounds to determine the F3C World Champion.

This is reprinted from the 2009 World Championship program out of respect for Horace Hagen and all he did for the F3 helicopter community.

Organizations Involved



Federation Aeronautique Internationale

The FAI is the worldwide governing body for all sporting aviation including soaring, parachuting, ballooning, racing, aerobatics and aeromodeling. With headquarters in Lausanne, Switzerland, the FAI is the official source of documentation for all international competition; it supervises the organization of World Championships and the establishment of World Records (including general aviation and space) in accordance with FAI regulations. The FAI has been in existence for over 100 years, with approximately 50 countries currently participating.

National Aeronautic Association

The National Aeronautic Association is one of the oldest national aviation organizations in the world. Dedicated to the "advancement of the art, sport and science of aviation in the United States, serves as the official aviation record-keeper in America, and owns and administers some of the most important and prestigious aviation and aerospace awards in the world, including the Robert J. Collier Trophy.



Academy of Model Aeronautics

The AMA is an affiliate of NAA, responsible for governing all aspects of aeromodeling activity in the United States. Headquartered in Muncie, Indiana, the AMA is a 150,000-member organization supported by dues-paying aeromodellers of all ages currently with about twice as many adults as youngsters. Over 150 members serve as volunteer officers, governing competition rules and their administration, aided by a network of 2,400 chartered clubs. One of AMA's principal activities involves the sanctioning of thousands of local, regional, and national aeromodeling meets each year.



International Radio Control Helicopter Association

IRCHA was established as an organization by the pilots, for the pilots. IRCHA works to promote the continued growth of radio-controlled helicopters through education, representation, service, and special events. Radio-controlled helicopters are a dynamic, evolving segment of the AMA and, as such, IRCHA works closely with the AMA to foster growth and acceptance. Through these endeavors, IRCHA hopes to provide its members with the opportunity to enjoy the hobby, make many new friends, and expand their intellectual interests.



FAI Jury



Stefan Wolf (GER)
Jury President



Cliff Hiatt (USA)



Kim Jensen (DEN)

FAI Judges F3C



Roger Lacombe (FRA)



Eladi Garcia Lozano
(ESP)



Gordie Meade (USA)



Manrico Duzzi (SUI)



Miguel Ramos (PHI)

FAI Judges F3N



Liam Broderick (IR)

Oscar Chinello (ITA)



Wes Minear (USA)

Championship Staff



Craig Bradley
Contest Director



Peter Bisbal
Flightline – F3C



Deanna Muraki
Scoring



Dan Lucente
Flightline – F3N



Ben Minor
Flightline – F3C



Mike Forland
Flightline – F3N



Tom Erb
Flightline



Darrell Sprayberry
Flightline



Eaton Bryce
Flightline



Tim DiPeri
F3C Demo, Flightline



Michael "Shaggy" Parker
Tech, Flightline



Colleen Pierce
AMA/FAI Coordinator

Pilots

Belgium



Belgium
Jos Kenen, F3C

	<u>CHINA</u>	
 LI Junjie Pilot F3C, Caller	 ZHAO Xinze Pilot F3C	 WANG Zhouhai Pilot F3C/F3N, Caller
	<u>Denmark</u>	
 Stephan Wiese F3C Denmark	 Rasmus Jacobsen F3N Denmark	 Rasmus Schmidt Teammanager Denmark
	<u>UNITED KINGDOM</u>	
	<u>GBR</u>	
FISHER Julie TM, Caller	OSBOURN Duncan Pilot F3N	COLE Aaron Pilot F3N
FISHER Dave F3N		
	<u>ITALY ITA</u>	
DEL LUNGO Alessandro TM, Pilot F3C	FRUSONI Cesare Andrea Pilot F3C	CHINAGLIA Gian Marco Pilot F3N
FRUSONI Fabiola Supporter	BERTOLOTTO Cristina Supporter	
	<u>JAPAN JPN</u>	



SAWAMURA Yasuichi
TM, Pilot F3C



ITO Hiroki
RWC F3C



ISO Masatoshi
Pilot F3C



IWATA Aika
Jr Pilot F3C



DOBASHI Yukihiro
Caller



ITO Yukiko
Caller



YAMAMOTO Daisuke
Caller



KAMIYA Yuji
Caller

SOUTH KOREA
KOR

LEE JaeHong
Pilot F3C

LEE YoungBin
Jr Pilot F3N

LEE JaeKang
Caller

NETHERLANDS
NLD

DE WILDE Matthew
TM, Pilot F3N

WIESE Stephan
Caller

	<u>SWITZERLAND</u> <u>SUI</u>	
EMMENEGGER Marc TM, Pilot F3C	GRABER Ennio Pilot F3C	GASSER Andreas Pilot Caller F3C
GRABER Marinella Caller		
	<u>CHINESE TAIPEI</u> <u>TPE (TAIWAN)</u>	
	 KO (RWC) Huan-Chen RWC F3N	
	<u>UNITED STATES</u> <u>USA</u>	
 DOOLEY Tom TM	 MAXWELL Nick Pilot F3C/F3N	 MURAKI Nob Pilot F3C



GOZA Mike
Pilot F3C



BYRDSONG Brian
TM



ROBERTSON Jamie
Pilot F3N



CIRIPOMPA Cade
Pilot F3N

MAXWELL Joel
Caller

RHODES Steve
Caller

ROBERTSON Jim
Caller

2023 WC Team members

Country	Last Name	First Name	FAI ID#	Position
BELGIUM BEL	KENENS	Jos	93562	TM, Pilot F3C
CHINA CHN	LI	Junjie	81552	Pilot F3C, Caller
	ZHAO	Xinze	168382	Pilot F3C
	WANG	Zhouhai	168511	Pilot F3C/F3N, Cal
DENMARK DNK	SCHMIDT	Rasmus	169161	TM, Caller
	WIESE	Stephan	92283	Pilot F3C
	JAKOBSEN	Rasmus	66645	Pilot F3N
UNITED KINGDOM GBR	FISHER	Julie	83022	TM, Caller
	OSBOURN	Duncan	83016	Pilot F3N
	COLE	Aaron	93880	Pilot F3N
	FISHER	Dave	83023	Pilot F3N
ITALY ITA	DEL LUNGO	Alessandro	20072	TM, Pilot F3C
	FRUSONI	Cesare Andrea	20239	Pilot F3C
	CHINAGLIA	Gian Marco	140891	Pilot F3N
	FRUSONI	Fabiola		Supporter
	BERTOLOTTO	Cristina		Supporter
JAPAN JPN	SAWAMURA	Yasuichi	21031	TM, Pilot F3C
	ITO	Hiroki	87460	RWC F3C
	ISO	Masatoshi	79764	Pilot F3C
	ONIZAWA	Kazuhito	109628	Pilot F3C
	IWATA	Aika	167099	Jr Pilot F3C
	DOBASHI	Yukihiro	20816	Caller
	ITO	Yukiko		Caller
	YAMAMOTO	Daisuke		Caller
	KAMIYA	Yuji	109703	Caller
SOUTH KOREA KOR	LEE	JaeHong	111193	Pilot F3C
	LEE	YoungBin	169171	Jr Pilot F3N
	LEE	JaeKang		Caller
NETHERLANDS NLD	DE WILDE	Matthew	117139	TM, Pilot F3N
	WIESE	Stephan	92283	Caller
SWITZERLAND SUI	EMMENEGGER	Marc	11705	TM, Pilot F3C
	GRABER	Ennio	11307	Pilot F3C
	GASSER	Andreas	11002	Pilot, Caller F3C
	GRABER	Marinella		Caller
CHINESE TAIPEI TPE	KO (RWC)	Huan-Chen	79848	RWC F3N
UNITED STATES USA	DOOLEY	Tom	167565	TM
	MAXWELL	Nick	79473	Pilot F3C/F3N
	MURAKI	Nob	169364	Pilot F3C
	GOZA	Mike	130967	Pilot F3C
	BYRDSONG	Brian	168016	TM
	ROBERTSON	Jamie	109526	Pilot F3N
	CIRIPOMPA	Cade	164894	Pilot F3N
	MAXWELL	Joel		Caller
	RHODES	Steve		Caller
	ROBERTSON	Jim		Caller



Thanks to the donors that made this event possible.

Dear esteemed donors,

On behalf of everyone here at the International Radio-Controlled Helicopter Association (IRCHA), we would like to extend our deepest gratitude for your generous contribution. Your support plays a crucial role in our mission to bring together passionate enthusiasts from across the globe for the World Championships of Radio Control Helicopters.

You may not be holding the controller or piloting a chopper, but your contributions are guiding us to achieve extraordinary heights. You are helping us build an environment where hobbyists can take part in a community driven by passion, dedication, and a love for radio-controlled helicopters.

This tournament represents more than just a competition - it is a platform that unites individuals from diverse backgrounds, fosters camaraderie, and encourages the spirit of friendly competition. Your donation is about more than just funds; it's about supporting the growth and development of this wonderful community.

Without your generous contribution, our event would not be possible. From every aerial flip to the mesmerizing hover, from the powerful lifts to the breathtaking descents, every moment of excitement is a testimony to your support.

We are excited about the future of our community, and with the help of donors like you, we are able to expand our reach, attract more participants, and continue to offer a world-class event for radio control helicopter enthusiasts worldwide.

Thank you for believing in us, our mission, and the incredible community we are building together. Your support helps us propel forward, and for that, we are profoundly grateful.

We look forward to welcoming you to our upcoming World Championships event. Until then, stay tuned for updates, news, and exciting developments from the world of radio-controlled helicopters.

Once again, from the bottom of our hearts, thank you.

The IRCHA Board of Directors

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Aerobatics
RC Aerobatics
- ② CL Speed

- ③ RC Aerobatics
RC Pylon Racing
RC Scale

- ④ RC Helicopter
RC Aerobatics
FF
RC Combat
RC Scale
Aerobatics
RC Competition
Fun Fly

(When not in use for a contest, spread spectrum only)

- ⑤ CL Carrier
CL Combat
RC Soaring
RC Electric

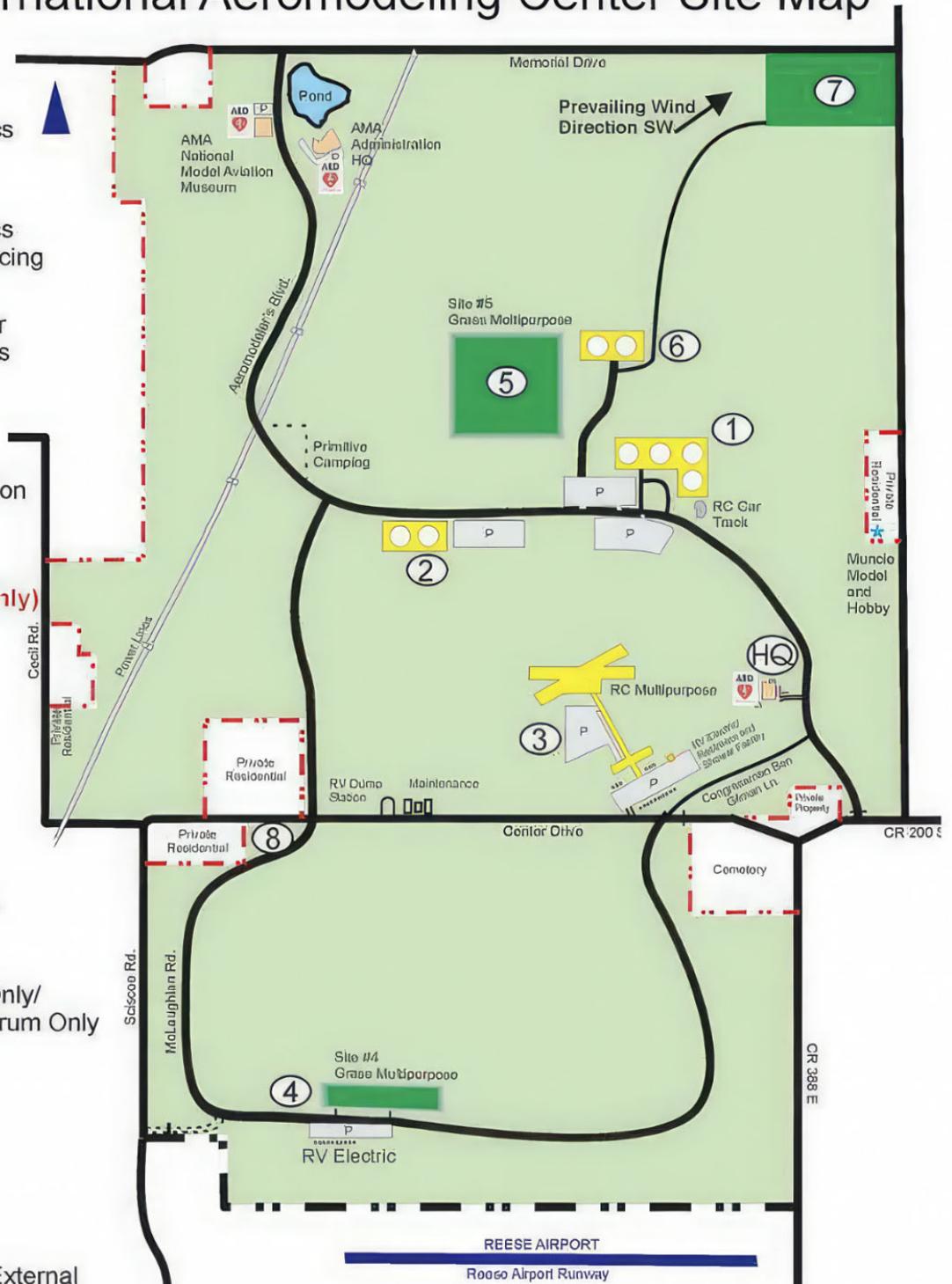
- ⑥ CL Racing
CL Scale

- ⑦ FF/North Site

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