F.I.R.E. 2022

Firefly International Rocket Event
Bulletin 1
A Fédération Aéronautique Internationale-sanctioned
Open International Spacemodeling Competition
October 14-15, 2022
Austin/Apache Pass/Briggs/Georgetown, TX, USA

Sanctioning Bodies
Fédération Aéronautique Internationale, Academy of Model Aeronautics, and the National Association of Rocketry

Contest Director
James Duffy, (450 Abrams Rd., Georgetown, TX 78633. Phone (512) 423-1855, email jduffy@mac.com

Open International Events
S2/P, S12 (1/2A impulse), S7 (with simplified judging), S8E/P

Contest Rules
Anyone may participate! Final rankings submitted to FAI will include only those who hold a current FAI sporting license.

A single airframe and nose cone must be used for each round of S12. If a flyoff is required in S12, a second airframe and nose cone may be used. Simplified, non-measured judging will be used for S7 (see appendix).

Entry Fee
$20 per competitor.

Awards
Event winners will each receive a firm, hearty handshake!

Flying Site
Friday: Apache Pass Event Center, 326 County Road 433, Rockdale, TX 76567. GPS coordinates: 30.68034917863025, -97.14261176668836

Saturday: Firefly Aerospace Test Site, 280 County Road 210, Briggs, TX 78605. GPS coordinates: 30.882103877816306, -97.92461366858332

Hotels
The following hotel in the Georgetown area is recommended. To book, please contact the hotel directly;

Hampton Inns and Suites Georgetown/Austin North
160 River Oaks Cove, Georgetown, TX 78626, phone (512) 688-5300, hilton.com

Motors
Estes 1/2A3 motors in both 2- and 4-second delays for S12 will be provided by the organizers. Aerotech E7 reloads for S8E/P can be provided by the organizer, but participants should bring their own 24mm RC reload casings. Participants flying in S2/P or S7 should bring their own motors, or contact the Contest Director for assistance if they will be flying in for the event. Motors may also be shipped to the Contest Director.

Motors for S2/P and S7 must be NAR contest certified and must contain no more than 30g of propellant.

Altimeters
Adrel altimeters are preferred for S2/P. These may be purchased from the following sources:

North Coast Rocketry, northcoastrocketry.com
Apogee Rockets, apogeerockets.com

Special Note
A recent rule change for S3, S6, and S9 states that recovery wadding and/or plugs must be retained with the model or it will be disqualified. As these three disciplines make up the S12 event, this rule will be observed.

FAI Jury
Taras Tataryn (CAN)
Matt Steele (USA)
Mike Nowak (USA)

Range Safety Officer
Nick Nowak (USA)

Data Manager
Mike Nowak (USA)

Schedule
Thursday, October 13
Arrival Day

Friday, October 14	*at Apache Pass launch site*
0900-1000	S12 Round One (Streamer)
1000-1100	S12 Round Two (Helicopter)
1100-1200	S12 Round Three (Parachute)
1200-1330	Lunch
1330-1415	S8E/P Round One
1415-1500	S8E/P Round Two
1500-1545	S8E/P Round Three
1545-1630	S8E/P Round Four
1630-1700	Flyoffs (if needed)
Evening	Dinner, S7 Judging (location TBD), Build Clinic

Saturday, October 15	*at Firefly Aerospace Test Site*
0900-0945	S2/P Round One
0945-1030	S2/P Round Two
1030-1115	S2/P Round Three
1115-1215	S7 Round One
1215-1315	S7 Round Two
Afternoon and evening	Lunch, Dinner, Build Clinic

Note that the Saturday schedule is subject to change due to the dynamic operational environment at the Firefly test site!

Each participant is encouraged to bring and share a tip, trick, or technique that they have found useful in building their models. During the informal Builds Clinics all participants will have an opportunity to share their ideas and questions with other participants.

Simplified S7 Static Judging Rules

At a World or European Championship, the Scale entries are studiously evaluated over several days. Consider the following "thought experiment." Once the static judging is complete, what if a second set of similarly qualified judges was brought in and provided only 30 minutes to complete judging? It is possible that the results from the first set of judges would not differ significantly from the second set of judges! An expedited judging approach could allow S7 to be flown at more World Cup and Open International contests, encouraging more contestants to participate in S7.

We can use the existing S7 Scale rules to create a framework for quick judging. The most significant change would be to forego dimensional measurement of each model. Instead, "Adherence to Scale" will be replaced with a simpler concept, "Similarity of Appearance." The judge will take a quick look at the photographs and drawings in the data pack submitted with each entry, compare that data with the actual model, and award up to 200 points for how closely the model matches the supplied data.

Next, Workmanship and Degree of Difficulty are evaluated. The difference with quick judging is that these elements will be assessed without drilling down into the subcategories shown in the "Scale Space Models Judges Guide" annex contained in the sporting code. Just like traditional judging, up to 150 points may be awarded for Degree of Difficulty, with a maximum of 250 points allowed for Workmanship. To keep the judging process moving quickly, Originality points are not awarded. Flight Characteristics can be judged quickly and objectively using the Scale Space Models Judges Guide annex.

Ideally, these simplified S7 Scale judging rules will allow more scale models to be flown more frequently at a wider range of contests, introducing more competitors to the world of scale spacemodeling.

Simplified S7 Scale Static Judging Guide

Competitor _____

Country _____

Prototype _____

Scale _____

Static Judging			
Category	**Attributes to consider**	**Points Range**	**Points Awarded**
Similarity of Appearance	Similarity of model outline, color, and markings to the supplied data	0-200	
Degree of Difficulty	Complexity of configuration, detailing, and paint scheme	0-150	
Workmanship	Quality of construction and finishing	0-250	
Static Subtotal		0-600	

Final Score		
Static Subtotal	From above	
Flight Characteristics	From separate worksheet	
	Final Score	

v1.3

FAI CATEGORY	SUB-CATEGORY	JUDGING CONSIDERATIONS	POINTS
Flight Characteristics	Launch	Was the launch successful? If not, subtract 10 points for each misfire or hang-fire for a maximum of minus 30 points (0 or minus)	0 or minus _____
		Realism of launch compared to prototype. Was the take-off speed abrupt or was it a smooth lift off from the launch pad? *Subtract points for each difference from the original.*	(20-0)_____
	Flight of 1st part (whole configuration)	Realism of flight. Was it a vertical flight without weather-cocking of launcher tip-off? No rotation unless prototype rotated. Stable straight flight without oscillation? *Subtract points for each difference from prototype's flight.*	(35-0)_____
	Flight of 2nd part (after first powered separation*)	Was it a vertical flight without weather-cocking of launcher tip-off? No rotation unless prototype rotated. Stable straight flight without oscillation? *Subtract points for each difference from prototype's flight.*	(35-0)_____
	Flight of 3rd part (after first powered separation)	Was it a vertical flight without weather-cocking of launcher tip-off? No rotation unless prototype rotated. Stable straight flight without oscillation? *Subtract points for each difference from prototype's flight.*	(35-0)_____
	*Powered separation	Realistic powered separation of a powered portion of a model (capsule, stage powered spacecraft, etc.) in accordance with paragraphs 2.3.1., 2.3.2. and Annex 2: 4.d.2.	
	Special Effects	Did the model exhibit any special effects such as Launching a space probe, separating boosters, radio control devices, ejecting satellites, deploying shield, scale launcher, gliding recovery etc. Special effects can only emulate the actions of the prototype. Maximum of 20 points for each effect.	(0-80)_____
	RC Gliding Descent	Stabile gliding, realism of gliding descent of the prototype and safe landing without damage. *Subtract points for each difference from prototype's flight.*	(50-0)_____
	Motors	To what extent does the placement of the entry's motors coincide with the prototype? *Subtract points for each difference from prototype.*	(30-0)_____
		Subtract 10 points for each engine that fails to ignite in clusters of the first stage.	0 or minus _____
		Functionality of recovery device(s).	(15-0)_____
		Category Total (300 Max)	_____