

Rhinebeck Classic Meet · Class B-C F/F

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# *flying* **models**

World Engines  
5-channel  
radio review

R/C Boats

R/C World  
Pattern Champion  
Hanno Prettner





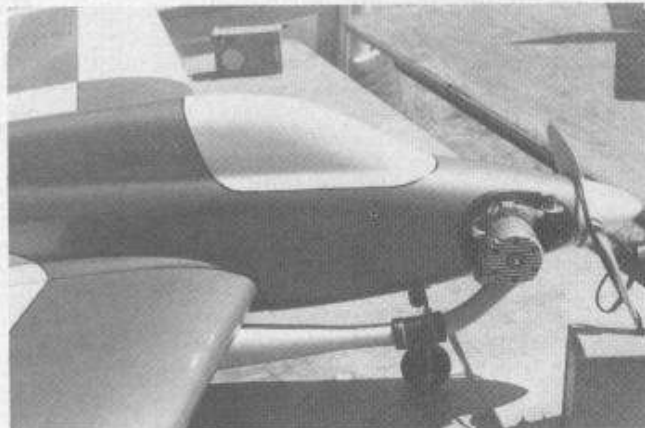
# The 10th F.A.I. World R/C Aerobatics Championships

Springfield Municipal Airport, Springfield, Ohio, July '77:  
Hanno Prettner; Austria, Champion of the World! Dave Brown  
takes 2nd. U.S.A. retains Team Championship/**Don McGovern**

"Penmanship is important children," and across the world the pencils of the 1st graders scribe wobbly ovals into letters on their notebook paper. A few, a very few will go on to write precisely beautiful letters and maneuvers in the sky with delicately tuned aircraft.

It takes great talent to stand upon the flying line this day. You must prove your ability and win a place on your nation's team of three, travel across oceans and obstacles and take-off flawlessly in front of judges from all lands. Four rounds to fly, and into the fly-off. The tightest pressure on your nerves, through wind and blazing sun. One man will emerge victorious. One Team will claim the honor.

Suddenly big boxes are flying into Kennedy, and O'Hare International. The days have dwindled to one, the time upon us. The United States unexpectedly found itself hosting the 10th World Aerobatic Championships on just a half-year's notice when the host country planned had to withdraw. Worse, our team had not even been selected,



To the flight line: England's Team Manager Neville Holmes with Martin MacIntosh's aircraft on the left. Terry Cooper with his Super Bulldog. Robbe radio, OPS engine, tuned pipe. Violett retracts. He placed 14th. **At left:** Hanno Prettner, Austria, no one could beat him. His Curare, a Webra .61, KDH/MK retracts, Simprop SSM. Muffler is his own design. 678 sq. inches wing area, 64" span, 8 lbs. 9 ozs. **Center photo:** Dave Brown's Phoenix 7, a design by Don Lowe, kitted by Airborne Associates. World Expert system, OS .60 FSR, Perry carb with pump and Goldberg's retracts, Rev-Up 11½-7. In 2nd place. U.S.A. Typical tuned pipe set-up. **Facing page:** United States Team contemplates things. Mark Radcliff and Rhett Miller III, foreground, Dave Brown standing in rear. Dick Penrod managed the winning team. Dave took 2nd, Mark 5th and Rhett 6th place.

weathered out by atmospheric circumstances. It turned into a tight situation where the 1977 U.S.A. Team had to be picked on the site, just days preceding the Championships. Lots of good men, but the final selection process found a duplicate of our Bern, Switzerland W.C. team; Dave Brown, Rhett Miller III and Mark Radcliff representing the United States once again. A strong, experienced and youthful team, this time with Dick Penrod as the Team Manager.

You kind of can't really get the feeling for all this from a casual view, you have to get more deeply involved. In case you haven't noticed, modelers have solved all the world's problems, and in our way of life there is nothing but peace, harmony and everlasting friendships. Any modeler traveling with an outsized model box across an ocean needs help. Maybe a wagon between flights, assistance through customs, a home to visit or a lift to a model shop. The modeler from a far off land you bother to help today is likely to be the same one that invites you to

visit on some future trek to the beauties of Europe.

Somehow the pieces all fall into shape. It started with a frantic quest for a suitable site on short notice. You need more than a field; a mirror-smooth runway, enough for a pair of flightlines, a field headquarters, experienced manpower, on-site food services, restroom facilities, and nearby motel or housing arrangements for a few hundred people. Add a banquet hall to the list and available funds to cover expenses. Not an easy matter on short notice.

Springfield Municipal Airport, Springfield, Ohio. Just lying there, basking in the summer's sun. Eagerly bidding for the honor even, a beautiful field, a Mayor anxious for his city to host the world-wide affair, and the Wittenburg University campus facilities available for housing all who desired space. Nearby motels at hand for alternate arrangements. The University offered superb food at low prices and a beautiful setting for the final banquet, draped in the flags of 23 nations. It was here in the final

hours of the banquet that Hanno Prettnner of Austria walked in with his Dad to a standing ovation. From a lad of 19 at Doylestown in 1971 to the meet at Gorizia, Italy in '73, and Bern, Switzerland in '75, it was clear to all that Hanno would be a top contender in any World Championships. His flying in Springfield was superb, 25,020 points, but as A.M.A. President Johnny Clemens stated, "there are no losers at this", we really all win in many ways.

Well, Springfield Municipal Airport had perhaps one slight shortcoming, no real field headquarters kind of building. You need a hangar of sorts to bed-down the model boxes, shade the sun-weary and hold back the elements. A tent! A tent would do. A big carnival sized tent upon a pipe framework. Room for a few industry exhibits and all else. Maybe three tents, one for contest management, another for hot meals and the big one for the contestant's shelter. That was Thursday, practice day, before the line of thunderstorms decided to march across Ohio. The situation went downhill rapidly, from



FLYING MODELS



How can Dave ever lose with Sally helping so much? Dave Brown's gal is always at hand for the heavy work. **Photo left:** You're up! Rhett Miller, enroute from number 1 box to the runway. It's when your throat goes dry.



One tent demolished, another uprooted. Thursday was practice day and old Tornado Alley practiced. The Ohio Air National Guard came up with six big tents to replace the loss, a kind gesture indeed.

severe storm watches to tornado warnings. Suddenly John Spalding was on the phone at Wittenburg University, "which tent?" "Both tents!" Contest Managers don't like to hear that in the middle of dinner. I think we owe a tremendous vote of thanks to the Ohio Air National Guard and the Civil Air Patrol squadrons that drove out, evacuated everyone in the tent and camping area ahead of the storm, offering them temporary refuge in the brick terminal building. A funnel was sighted over the field and the big tent was torn to fragments. Happily none of the models packed inside their crates were damaged, but chunks of the tent were brought back from miles away. And no sooner was the destroyed tent debris picked up than the 269th Combat Comm Flight of the Ohio Air National Guard showed up with six more large tents and staked them up to replace our destroyed facilities. Hot work in a blazing sun and in behalf of all modelers from all lands we would like to offer our thanks. And to the C.A.P. Squadrons of Springfield and Dayton as well who boiled their youthful bodies in the sun all week with the mundane chores of directing traffic across an active runway and parking our cars in a semblance of order.

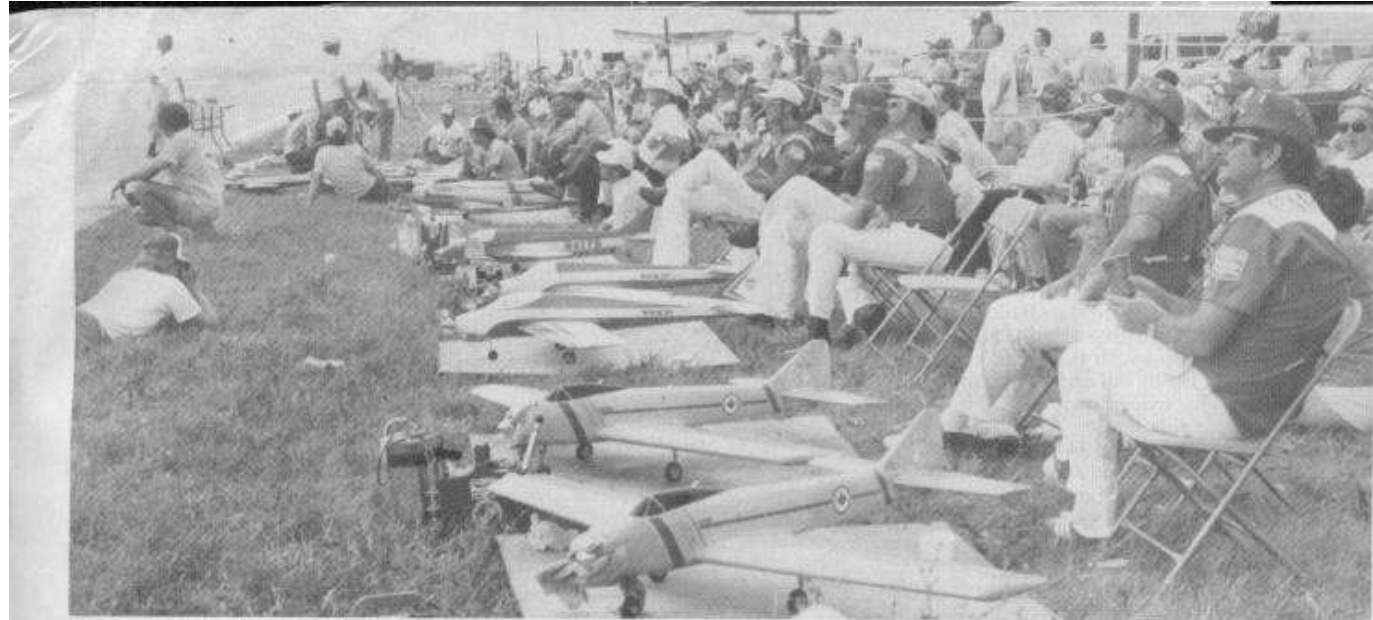
23 nations fielded teams, or in some cases



Wolfgang Matt of Liechtenstein took 3rd spot. He was the 1975 winner at Bern. His Atlas entry, Webra .61, Simprop SSM radio, Southern R/C Kato retracts. **Rights:** Bruno Giezendanner, Switzerland won in '69, '71.







individuals. Clearly the trend has been established, lean, sleek, streamlined aircraft, retracting gears and well tuned pipes. In 1969 in Bremen, only a handful of aircraft were equipped with retracts, now it is almost the rule. I did not notice any aircraft without them. A greater degree of flying skill was evident, the standards have become higher, the experience of the average flyer greater. Many faces on each team are familiar from past W.C.'s, and two more years of intense practice leaves its mark. Maneuvers are placed better and in general the competing aircraft from various nations are conforming to a more common set of guidelines for the flight. Five judges sit with eyes focused on every maneuver called and helpers flash the score to spectators as the maneuver is completed. Contestants alternate between flight lines to lessen the human error in the judging. The top six after four rounds move on to two fly-off flights where they are scored by no less than the full 10 judges. It was here, on a final fly-off flight that Ivan Kristensen of Canada after flying superbly throughout the meet suffered something of an engine malfunction. His engine lost power all of a sudden when a sustained load was hung on the prop. He flew gamely on, until experiencing com-



Wolfgang Matt, Liechtenstein, in 3rd. Dave Brown, U.S.A., 2nd place, highest man in the World, Hanno Prettner, Austria, winner of the King of the Belgians trophy. **Photo at top:** The line-up for the final fly-off flights. Two attempts each for the top six contenders. **Photo below:** The 10 Judges for the fly-offs. Scores are held aloft on each maneuver. The weather was close to ideal.



plete engine failure in a vertical climb, recovering dead stick in a difficult position and sticking it on the spot anyway. The applause was well deserved and Ivan took nature's misfortune with a smile. Ivan finished in 4th following Wolfgang Matt of Liechtenstein, the defending World Champion (Bern, Switzerland, 1975) Mark Radcliff of the U.S.A. and Rhett Miller III of U.S.A. took 5th and 6th places with the Japanese team right behind in 7th, 8th and 9th. Point scores were closely spaced generally, the yardstick for close competition. To visibly mar a maneuver was to fall behind. The Judges were experienced and sure to see a defect. There is perhaps a degree of repetition in this type of event when seen through a spectator's eyes, but when viewed as the cream of a nation's aircraft vying for the silver trophy a tenseness and competitive urge captures the beholder. These were truly the finest of their kind in the world and even the birds of Springfield have taken to walking.

Homeward bound. At meets end, an awarding of trophies. The raising of the contestant's flag, the playing of his national anthem and applause befitting the occasion. It must stir the winner's soul as no other modeling event can. The Banquet this year took on an impressive look. The Wittenburg University dining room facilities proved more than adequate and perfect for the occasion and the dinner was served on time, delicious and sufficient for the appetites of all. A cocktail party followed at a nearby motel facility to wind things up.

Contestants, supporters and spectators scattered to the four winds on the morning of the 5th for a few days sight seeing to the regions of their choice. Some went to Niagara Falls, others met each in the hobby shops of Los Angeles. And to Rhinebeck, Washington, the Skyline Drive, the Smokies and to modeler's homes. I baby-sat a model box while Ernest Totland flew to California, met him again at Kennedy for his flight to Copenhagen.

Modelers always meet again. Somewhere, someplace. The flying is only the spoon that stirs the soup, the camaraderie that we find in meeting others of like interest transcends all language barriers. The jet aircraft has shrunk the world into a single contest field, and this writer for one looks forward to the next "gathering of eagles". In the closing moments of the Banquet, the Team Manager from Mexico announced that his country would put in a bid for the '79 Championships with Acapulco as the site. Perhaps we will meet again. And in closing, a tremendous hand to all concerned in putting on a fabulous meet on the shortest of notice, to Contest Manager John Spaulding, to the F.A.I. Jury members, the Flight Judges of ten nations, the Officials of the A.M.A., and all the volunteer workers who do it all in the heat of the day. And again, a special "thank you" to the C.A.P. boys and girls, and the Ohio Air National Guard who sought to avoid storm injuries ahead of impending disaster. That doesn't make the headlines, but it means a lot in our book. Our friends from Europe are not quite familiar with our funny funnel clouds and a quick bit of evacuation kept things down to a ton of torn canvas.

Good flying Hanno, we'll try to take it away in '79.

### 10th FAI World Aerobatics Championships Individual Standings Round Four

1:	Hanno Prettnner, Austria	7510	8670	8245	8105	25020
2:	Dave Brown, U.S.A.	6655	7880	8220	7990	24080
3:	Wolfgang Matt, Liechtenstein	4570	7725	7830	8510	24085
4:	Ivan Kristensen, Canada	6365	8195	7985	7640	23830
5:	Mark Radcliff, U.S.A.	7035	7315	7555	8100	22970
6:	Rhett Miller III, U.S.A.	860	7795	7965	7195	22955
7:	Tsugutaka Yoshioka, Japan	6855	6620	7730	8060	22645
8:	Tetsuji Okumura, Japan	6220	7365	7610	7485	22460
9:	Giichi Naruke, Japan	6495	7645	7600	7195	22440
10:	Gunter Hoppe, F.R. Germany	6255	6930	7440	7895	22265
11:	Benny Kjellgren, Sweden	5220	6995	7425	7510	21930
12:	Harald Neckar, F.R. Germany	6370	7190	7280	7035	21505
13:	Bruno Giezendanner, Switzerland	6240	7005	7250	6860	21115
14:	Dr. Dieter Fritze, Austria	5875	6765	6965	7090	20820
15:	Benito Bertolani, Italy	6580	7040	6950	6645	20635
16:	Gunter Metterhausen, F.R. Germany	6035	6155	6835	7370	20360
17:	David Hardaker, England	6110	4930	6690	7405	20205
18:	Warren Hitchcock, Canada	4885	6740	6890	6510	20140
19:	Ruggero Pasqualini, Italy	5815	6480	6690	6865	20035
20:	Emil Giezendanner, Switzerland	4435	6295	7045	6555	19895
21:	Jeff Tracy, Australia	6120	5920	6735	6670	19725
22:	Rene Schumacher, Switzerland	4565	5895	6545	7020	19460
23:	Ivan Olivier, S. Africa	5475	7040	6540	7560	19340
24:	Andre Laffite, France	5520	5575	6380	7235	19190
25:	Giuseppe Bertolozzi, Italy	5420	6620	7130	scratch	19170
26:	Tom Prosser, Australia	5685	5835	6075	7075	18985
27:	Jan Van Beek, Netherlands	4100	6500	6290	6130	18920
28:	Brian Green, Australia	5355	5070	6040	7485	18880
29:	John Brink, S. Africa	4450	6420	6365	8015	18800
30:	Kenneth Holm, Sweden	5140	6060	6470	6095	18625
31:	Bengt Lundstrom, Sweden	4565	6400	5800	6280	18480
32:	Norbert Malt, Liechtenstein	5025	6755	4050	6635	18415
33:	Terry Cooper, England	5880	5280	6055	6250	18185
34:	Martin McIntosh, England	5810	4955	5470	6685	17965
35:	Jan Van Vliet, Netherlands	3915	5445	6170	6265	17880
36:	Bruce Turner, New Zealand	5095	4810	5820	6225	17140
37:	Hubertus Dekkers, Netherlands	4880	5120	5440	6530	17090
38:	Tore Paulsen, Norway	5065	5060	5905	5985	16965
39:	Benjamin Castaneda, Mexico	4670	5690	5155	5275	16320
40:	Jean Tonnar, Luxembourg	4295	5245	4910	6120	16275
41:	Alberto Florez, Peru	3200	5820	6235	4145	16200
42:	John Cunningham, S. Africa	4610	5670	5770	2555	16050
43:	Gerald Shaw, Canada	4550	6065	5425	4225	16040
44:	Alejandro Benitez, Mexico	4050	5445	5155	5290	15850
45:	Christian Bossard, France	3830	6145	5445	3920	15510
46:	Luis Castaneda, Mexico	2910	4065	5050	6390	15505
47:	Michael Lynch, New Zealand	5265	4475	3995	5635	15375
48:	Pierre Bianquart, France	4225	4785	5065	5470	15320
49:	Eric Toft, Denmark	3160	4995	4655	5515	15165
50:	Paul Behm, Luxembourg	3355	5695	3690	5320	14705
51:	Iver Husum, Norway	3090	4720	4825	5115	14660
52:	Ferdinand Schaden, Austria	4670	3445	5910	3365	14025
53:	Harry Synder, Ireland	2515	4195	4250	4440	12885
54:	Victor Westarp, Brazil	3545	4390	4650	3725	12765
55:	Domenico Bruschi, San Marino	2725	4850	3735	4750	12535
56:	Jean Mersch, Luxembourg	4470	4635	2575	170	11680
57:	William Wauters, Belgium	0	565	4845	5885	11295
58:	Ronaldo Desalles, Brazil	3435	4760	2950	2605	11145
59:	Ernest Totland, Norway	3705	Att.	scratch	scratch no show	3705
60:	Gianfranco Terenzi, San Marino	590	1120	scratch	scratch no show	1710
61:	Liam Ward, Ireland	0	scratch	scratch	scratch	0

### Final Team Standings

1:	U.S.A.	70015
2:	Japan	67545
3:	F.R. Germany	64130
4:	Switzerland	60470
5:	Canada	60010
6:	Austria	59865
7:	Italy	59840
8:	Sweden	59035
9:	Australia	57590
10:	England	56355
11:	S. Africa	54190
12:	France	50020
13:	Mexico	47675
14:	Luxembourg	42680
15:	Liechtenstein (2)	42480
16:	Norway	35330
17:	New Zealand (2)	32515
18:	Brazil (2)	23910
19:	Peru (1)	16200
20:	Denmark (1)	15165
21:	San Marino (2)	14245
22:	Ireland (2)	12885
23:	Belgium (1)	11295
24:	Netherlands	53890





# Radio Control

## SPEED & SPORT

The world-famous "Team Prettner", Hanno the 1977 World Champion and the ever-present "Team Manager," Hans, and their equally renowned Curare—inset is the World Champ at seven years of age with his first model, also a winner, but this time it's free flight, Graupner kit.



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# '77 Masters...and Aerobatic World Championships

By ART SCHROEDER . . . Back-to-back events gave Springfield Municipal two weeks of the world's finest Pattern flying; America's Masters preceded 10th World Champs, won by Hanno Prettnner.

## MASTERS



Springfield Municipal Airport

Dennis Donohue in Masters flight, placed tenth; judges from USPJA.

NO. CONTESTANT	1	2	3	4	TOTAL PL.	5	6	TOTAL PL.
1. BOBIE GOSWORTHY	1	1	1	1	4	1	1	2
2. GUYTON BETHUNE	1	1	1	1	4	1	1	2
3. TONY BONETTI	1	1	1	1	4	1	1	2
4. JIM WOOD	1	1	1	1	4	1	1	2
5. JOHN BOTT	1	1	1	1	4	1	1	2
6. GUY BREWER	1	1	1	1	4	1	1	2
7. BOB LANGRISH	1	1	1	1	4	1	1	2
8. DUKE COFFMAN	1	1	1	1	4	1	1	2
9. ERIC DONOHUE	1	1	1	1	4	1	1	2
10. GUYTON BETHUNE	1	1	1	1	4	1	1	2
11. PAUL GOSWORTHY	1	1	1	1	4	1	1	2
12. OTTO HELM	1	1	1	1	4	1	1	2
13. GEORGE HILL	1	1	1	1	4	1	1	2
14. BOB LLOYD	1	1	1	1	4	1	1	2
15. BOB REICH	1	1	1	1	4	1	1	2
16. BOB WELLS	1	1	1	1	4	1	1	2
17. BOB WOOD	1	1	1	1	4	1	1	2
18. BOB WOOD	1	1	1	1	4	1	1	2
19. BOB WOOD	1	1	1	1	4	1	1	2
20. BOB WOOD	1	1	1	1	4	1	1	2



Smiling Phil Kraft ready for Masters flight.



Rhett Miller captured top team spot in 1977.



Mark Radcliff laughs it up with Bill Northrop.

Springfield, Ohio, became in late June and early July, alternately a national and an international R/C center. Occasion was the back-to-back hosting of America's Masters Tournament and the FAI World Aerobatic Championships, both very prestigious events in this hobby/sport. Last year it was decided to select America's FAI Pattern team much closer to the date for international competition

scheduled for September in Austria and Springfield in late June was selected as the site. A few months of preparation was deemed sufficient for our team and advantages were expected to develop from a later-than-usual selection of team personnel. These advantages had been touted for years; late selection would, many reasoned, obtain fliers with the "hottest hands," team member interest would be at peak level,

aircraft from the Masters would likely be used at the World Championships, no time was available to grow stale—to overtrain; the list was as extensive as those with opinions. Little did anyone realize that the "advantages" of limited time between the two events would be tested to the ultimate—America just about made the 48-hour FAI deadline! Site problems caused a cancellation of

Strong ninth place spot went to Tony Bonetti.

Ron Chidgey had practice midair, took eighth.

Ed Izzo still a solid competitor; had Curare.







Bill Salkowski flies and Jim Oddino calls at '77 Springfield Masters.



Pat Shuttleworth in last-minute action; tied with Kowallek for 12th.



New Yorker, Sal Battaglia, first time Masters.



Don Lowe's beautifully finished Phoenix bird.



Large ship was most unique; 5th for D. Koger.

Austria's bid for the World Championships and AMA, in one of its finest and frankly courageous moves, offered to host the event to avoid its complete cancellation.

With the AMA's major competition commitment, the Nationals, already scheduled for August, early July became the only feasible date for an American-hosted FAI World Championships. A certain logic called for placing the date immediately following the already-scheduled Masters—the site was available, overlap in personnel was possible, officials were there, selected

team members could stay over, "hot hands" in Week One would be just as "hot" the second week—and that was the decision, back-to-back events. Thus, Springfield became R/Cing's "Mecca" for both America and the world. The Springfield Municipal Airport became "the place to be" for anyone interested in drawing pictures in the sky with model aircraft.

Thirty-three of America's top pattern fliers arrived for Masters competition. Some had been preselected as past team members or through high National's placement, others

had accumulated top points in the 1976 contest season.

Weather can always be a factor and rain hit early on, delaying the first round past its intended starting point. Even so, competition started at 9:30 and some fliers showed early form despite conditions which improved as the meet progressed.

Rhett Miller posted high score of 4660, indicating that the "Tallahassee Kid" was not going to easily relinquish his team position. Mark Radcliff, another 1975 team

(Continued on next page)

## AEROBATIC WORLD CHAMPIONSHIPS



Springfield Municipal Airport proved a super site for both events.



Award ceremony always impressive; Matt, Brown and Prettnr on top.

Another "greased" landing by 1977's Champ. Norway's Paulsen and unique pattern 'Spit.'





Penrod raises American flag at ceremony.



You can get anywhere from Springfield.



Miller and Miller trying to fathom the judges.



Japan's World Champ. team: Okumura, Naruke, Iioka and Yoshioka. Japanese team was 2nd at 10th World Aerobatic Championships.



### '77 MASTERS & AEROBATIC WORLD CHAMPIONSHIPS . . . CONTINUED

member, had early results with 4600. Not far behind were Mike Mueller, Fred Kugel, Jim Kimbro, Dave Brown, Bill Salkowski and Steve Helms; all above 4400.

First Round jitters were not apparent as all showed they came to fly. Unfortunately, Ron Chidgey, who had come with a new airplane that many felt would move the veteran competitor back to winning form, had a practice session midair with George Hill and both planes were totaled. Ron competed with an Atlas, his back-up bird, and still reached eighth place. Hill borrow-

ed a Phoenix and really put forth maximum effort but never reached his usual form, unfamiliarity causing the lowest score in Round One. He did improve, however, in subsequent rounds. Such are the vagaries of Pattern flying!

Dave Brown posted a 4785 in Round Two, giving notice that America's full 1975 team was on deck, while Miller continued his domination at 4945. Mark Radcliff had third highest score at 4630, followed by Helms and Kimbro. At this point Miller led in overall accumulation with 9605 followed

by Brown (9235), Radcliff (9230), Kimbro (9080), Helms (9050) and Mueller (9000). Total three-round point credentials nearing 14000 seemed necessary to make this year's team.

Point spreads were not so great as Round Three started that any of 10 or so fliers were still possibilities for team placement. Mark Radcliff took Round Three with 5045, followed by Dave Brown (5020) and Rhett Miller (4990). Helms and Kimbro fell somewhat off the pace while Mueller had a

*(Continued on page 38)*

The winners and still World's Champions: America's team in victory. Germany's aerobatic team captured the third place trophy at event.







A devastated tent area resulted from a wind and rain storm that swept through Ohio just before meet started; volunteers rebuilt area.

### '77 MASTERS & AEROBATIC WORLD CHAMPIONSHIPS . . . CONTINUED



The Bertolanis of Italy fire up; 15th overall.



Muller testing was required for all aircraft.



Smooth landing by Dieter Fritz from Austria.



Wolfgang Matt took third with his final flight.



Impressive flying by Ivan Kristensen, Canada.



San Marino's Dom Brushchi in pensive mood.

devastating round when his pipe loosened on take-off and he had to abort. Three-round totals still placed Miller in the lead at 14595 with Radcliff now second (14275) followed by Brown (14255), Kimbro (13690) and Helms (13620). The team make-up seemed headed toward a reprise of 1975 with strong opposition from Helms and Kimbro. Outside possibilities still included Mueller, Koger, Kraft and Chidgey.

Round Four saw Mueller's hopes dashed as his engine quit halfway through an excellent flight. Mike had to be the "hard luck" boy of this year's Masters but he can be expected to return another time. Unfortunately, his loss of two flights removed him from the level of entry into the 1977 Las Vegas Tournament of Champions. Along with competing for team placement, all fliers were aware that this year, the top ten

Masters fliers would be invited to Las Vegas and there was plenty of effort expended to make that listing.

Miller was the only one to break 5000 in Round Four at 5010 followed by Brown's 4945, Helm's 4890 and Koger's 4820. Radcliff tailed off to 4555 permitting his first three rounds to count for final score (four rounds were flown so one was cast out with three added for final accumulation). His third round score stood as Masters High Single Flight. In the case of Helms and Koger it was "too little, too late."

Final placement after four rounds had Miller first with 14945 followed by Brown (14750), Radcliff (14275), Helms (14080) and Koger (13955). The next five places were held by Kraft (13790), Kimbro (13770), Chidgey (13735), Bonetti (13655) and Donohue (13565). These ten will fly at

Las Vegas.

Phil Kraft showed he still has the talent so well known in international circles. The former World Champion flew a Curare but without a tuned pipe. An interesting sidelight occurred when we learned that Kraft is planning to compete in this year's Nationals using a four-channel system. He reasons that competition aircraft are beginning to price themselves out of the market—at least for the average flier—with retracts, adjustable needle-valves, flaps, super radios, Schnuerle engines and tuned pipes. He may not be far off the mark when one considers that seven or more servos (Hanno Prettnner had 8 ch. & 9 servos) can find their way into a fully equipped pattern bird that can now approach \$2000 in cost. Such fully equipped aircraft may be needed in international class flying, but are not needed

## '77 Masters ... and Aerobatic World Championships

(Continued from page 39)

chance for reshuffling results. Under current procedures, where many points spread the qualifying results, a flier must score a point or better on each maneuver over his best qualifying efforts and the one he's trying to catch must remain virtually static. This is rarely done since the top five are already running eights and nines for typical maneuvers. If a fly-off put the top scorers at a beginning point, the interest level and possible result change would be improved. Might be an interesting way to go!

Rhett Miller flew his very familiar Compensator, now a two-time World Championships team aircraft along with four Nationals wins. Rhett's bird sported some minor changes and a new paint scheme. Piped Webra Speed handled power while Kraft Signature controlled things. Other equipment included a Webra slide carb, Southern R/C retracts and a Zinger 11 x 7 prop.

As expected, Dave Brown flew a Phoenix 7 from an Airborne Associates kit. Engine was the OS 60 FSR with an ED tuned pipe. World Expert naturally was Dave's radio selection. A Perry pump was used as were Goldberg retracts and a Rev-up 11 1/2 x 7 propeller.

Phoenix 7 was Mark Radcliff's entry as well, this one using a piped Rossi 60 and World Engines' radio. Perry carb, Southern R/C retracts and an 11 x 7 1/4 Rev-up rounded out equipment.

Radio breakdown for Masters entrants included 15 Pro Lines, 14 Krafts, 2 each for World Engines and S&O, and 1 Logictrol.

The 1977 Masters Tournament was a total effort by the National Society for R/C Aerobatics with CD, Bill Elliott and Assistant, Bill Keller, doing a fine job. Jury duties were handled by Tom Moore, Lou Penrod and Dave Alter. While all this was going on, AMA people and many volunteers, were preparing the stage for the World Championships. All did a great job, above and beyond any reasonable call of duty—and it showed!

Now the stage was set, America had a new team (or an old team if you prefer) ready to meet the now assembling 61 representatives from 23 countries. A great World Championships was expected—it was realized a week later!

Actually, many foreign fliers were on hand as the Masters closed, and soon thereafter, practice sessions started for the Tenth World Aerobatics Championships.

Pre-meet favorites included defending champion, Wolfgang Matt of Liechtenstein, 1973 Champ, Japan's Tsugutaka Yoshioka, Rhett Miller, Dave Brown and Hanno Prettner of Austria. Hanno had been third in 1973 and second in 1975; his three wins in Las Vegas proved him capable of winning the big ones; he had to be classed as an odds-on favorite. There were other strong entrants as well: Italy's Benito Bertolani, Canada's Ivan Kristensen, Germany's Gunter Hoppe, Japan's Tetsuji Okumura and past double FAI champ, Bruno Giezendanner. The Springfield Municipal Airport was filled with champions, many national champs and no less



than five FAI pattern champions.

Most observers expected a U.S.A. repeat for the team championship with strong opposition from Japan, Liechtenstein, Germany and others.

Formal activity started on July 1 but not without some rather hectic moments. Large tents had been erected for sponsors (manufacturers that had displays at this event), competitors and concessioners. On Thursday night, high winds and heavy rains tore the tent area apart, causing volunteer groups long hours of additional work into well past midnight, to re-erect tents provided by Springfield's Air National Guard. Such effort was indicative of the cooperative spirit that permeated this international event.

The storm could have left tragic results in its wake since many of the airplanes were stored in the competitors' tent awaiting next day's first round. Fortunately, no aircraft were damaged. High winds continued through the next day, plaguing the fliers with its across-the-runway—(what else!) character. Nonetheless, everyone flew and some outstanding scores were posted.

Prior to the storm, all muffler testing was completed with 60 models tested for noise level under existing FAI regulations. Bob Jones handled testing chores using a mount designed and built by Les Hard. Les Hard, by the way, continued his outstanding production of a daily newsletter as he has at several Nationals. Members of the C.A.R.D.S. of Lansing, Michigan and the COR-KS of Columbus, Ohio assisted in these noise tests. A Bruel and Kjaer noise-level meter was used with eight positions tested for each model. We don't believe any model was ruled out as a result of the tests.

Hanno Prettner indicated, with his first round score of 7510, that this was to be the Austrian's year. Not, however, without some pressure from Mark Radcliff at 7035. The early leaders were followed by Harold Neckar (Germany 6970), Tsugutaka Yoshioka (Japan 6855) and Dave Brown (U.S.A. 6655).

Rhett Miller scored 860 and 58th place on a failure in Round One that we've never heard of before: a centering spring on his single stick transmitter broke and without a definite center reference. Rhett wisely aborted his flight. In a four round meet there is one throw-away; Rhett had his—no further problems could be encountered if both team and individual championship were to be realized.

Miller was not alone as Wolfgang Matt lost a glow plug and a number of maneuvers for a first score of 4570.

Team standings after Round One showed Japan leading followed by Germany and Austria. U.S.A. was in eighth as a result of Miller's early score.

Rhett came through in Round Two with a 7795 but this was more than matched by the round's top score of 8195 by Ivan Kristensen (Canada) and Prettner at 8070. Other high scores in Round Two come from Dave Brown (7880), Wolfgang Matt (7725), Giichi Naruke (Japan 7645), Tetsuji Okumura (Japan 7365), Mark Radcliff (7315) and Harold Neckar (7190). Yoshioka fell off his earlier pace.

Hanno Prettner led after two rounds with a 15580 accumulation followed by Kristensen (14560), Brown (14535), Radcliff (14350) and Neckar (14160).

Kristensen's flight in Round Two was a thing of beauty and, frankly, deserving of an even higher score.

At this point a certain inconsistency in judging was noted and the two sets of judges were quickly dubbed easy and hard. We found it difficult to understand high quality maneuvers scoring six or seven while almost identical efforts by others scored eight and nine; and this by the same judge.

Team placement after Round Two had Japan still leading followed by Germany, Italy and the U.S.A.

Prettner stretched his lead in the third round with an impressive 8245 while Brown moved within striking distance with 8220. Kristensen dropped to third but still had an impressive flight at 7995. Miller continued his long climb with 7965—he still resided in 31st place; that last flight had to be a good one. Mark Radcliff held fourth after his best effort so far of 7555, and Naruke moved into the top five on a 7600 point effort.

Things were wound tight for Round Four, but Prettner would be hard to catch.

Rhett Miller had a nice flight (7195) but not nearly enough for an individual championship while Brown uncorked another excellent effort at 7990. This flight would probably not do it unless Prettner had problems. He didn't!

Prettner's final flight was also Meet High, truly the way for a champion to finish. The Austrian's final score was 8705 for a meet total of 25020. Brown's final flight kept him in second at 24090. Wolfgang Matt had the last flight and a beauty it was at 8510; enough to move into third with an accumulated 24065. Ivan Kristensen captured fourth, 23830 overall, Radcliff fifth at 22970 with Miller sixth at 22955. Rhett's last flight moved him from 31st to sixth and insured the American team victory.

Once again a fly-off was held and all standings remained except a swap in places between Miller and Radcliff. Final standings were: Hanno Prettner (41395), Dave Brown (40255), Wolfgang Matt (40195), Ivan Kristensen (38990), Rhett Miller (38735), and Mark Radcliff (38484).

Team standings showed America as repeat champion followed by Japan, Germany, Switzerland and Canada.

Overall the United States improved her position over results in Berne, Switzerland at 1975's Championships. At that one the U.S.A. had captured the team trophy, but Dave Brown's third, Mark Radcliff's sixth and Rhett Miller's ninth were bettered in Springfield.

While U.S. domination of the R/C Aerobatic World Championships ended in 1969, this country is still a force to be considered in any R/C international event. Actually it hasn't been so much a diminishing of American talent, rather there has been substantial improvement with R/Cers all over the world. At any given time one of fifteen or so fliers throughout the world could achieve the championship—it so happened that

*(Continued on page 118)*

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## '77 Masters ... and Aerobatic World Championships

(Continued from page 114)

this time it was Hanno Prettner.

At 25 years of age, Hanno Prettner now sits on top of the R/C world having now achieved a World Championship and possession of the King of the Belgians Cup to go along with his wins at Las Vegas and throughout Europe. It's in-

teresting to note that Hanno has 18 years of modeling activity, nine in R/C. That is, in reality, not a very long time to reach the pinnacle. Much of Hanno's success stems from a father/son relationship; his dad, Hans, is a practicing R/Cer who has subjugated his own interest to the development of his son's skills and the famed "Team Prettner." Both can take well-deserved bows.

Hanno Prettner is an electrical engineer, residing in Klagenfurt, Austria. He flew the well-

known Curare (M.A.N., December 1976) with its distinctive anhedral stabilizer. His aircraft is fast, smooth and responsive, ideally suited to Hanno's open style and moderately sized maneuvers. A piped Webra Speed 61 provided power to the 678-sq.-in. bird while Simprop was the radio employed. Other items included slide valve Webra carb (Dynamix), KDH retracts and a fiberglass 11 x 7 1/2 propeller.

Wolfgang Matt flew his Atlas and the 729-square-inch bird had piped Webra Speed power. Simprop was Matt's radio choice and the plane also featured Southern R/C retracts.

Saturn was Ivan Kristensen's entry. This 726-square-inch ship, now a Fliteglass kit, was powered by Webra Speed. Radio was Pro Line while Rhom handled retracts and the prop was an MD 11 x 7.

We were most impressed by one flight of Kristensen's teammate, Gerald Shaw who got off in Round Three with a poor needle setting, cutting his aircraft speed to a very low level. Even so, the Canadian stayed with it doing slow, tight maneuvers that did not receive even close to the point awards they deserved. Perhaps the judges had a mental set that quality maneuvers weren't possible at Shaw's slow speed; whatever the reason, they missed his flight by a wide margin in our opinion.

We were also floored by the judging response to Australian Jeff Tracy's third flight, a beautifully coordinated effort that in our view was worthy of near-high Meet Score. For one thing, Tracy's takeoff was absolutely perfect—picture-book type—he received six to eight scores. For some reason there is still a reluctance for most judges to award perfect tens; we saw very few. Many maneuvers by the top placers were perfect—few were accorded that honor. Tracy left that round somewhat discouraged and we can't blame him—he just wasn't properly paid.

Judging is at best an arbitrary procedure subject to flaws of perception, growing fatigue, training, national fervor and climatic conditions. It's a tough job that receives little thanks but is so necessary to this sport. While we didn't always agree with the judging group, by and large, they separated the contestants just about as we would have. The inconsistencies may have only been in our minds, or perhaps merely an indication that judges, after all, are only human.

After the big wind, weather at Springfield settled down to near ideal conditions, although a bit hot. Winds were relatively light and certainly not a factor in the results.

The site, Springfield Municipal Airport, was absolutely perfect; plenty of room and smooth runways. Conditions for spectators were satisfactory although grandstands would have been an improvement. TV sets at the two flying sites kept all abreast of action at each site. Scoreboards were in plentiful evidence and were kept very current as action progressed. All in all, AMA did a super job on short notice and our national organization is to be commended. It would be an impossible task to note all individuals, suffice to say that all officials, many local modelers and clubs, the Red Cross and the CAP, officials at the airport, the international panel of judges and the FAI jury (Tony Aarts, Chris Olsen and Jerry Nelson) all made this affair a memorable one.

Lunch breaks saw a number of demonstrations that included flights of Top Flite's new Freshman trainer. The new bird flew fine with some neophytes gaining stick time under a dual transmitter arrangement controlled by Bob Underwood. Two of these beginners were Carrie Axelrod and Susan Schroder (better known as the "Team Manager"), long-suffering wives of two well-known modeling personalities!

Fred Collins flew a Super Buccaneer, an R/C old-timer, powered by a Forster 99 on ignition. All were impressed by the big bird's maneuverability and ultraslow flight. It, however, was a speed demon when compared to a Max 80-powered Gere Sport by Earl Kersey and as flown by Kim Smith. This was one of Bud Nosen's "big ones" and it proved very flight-worthy, flying about as fast as one does a slow trot! Real speed demon was the fine flying A-4 as demonstrated by Bob Violet.

Big hit was Eastcraft R/C's self-starters; we

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mentioned these in our Toledo coverage. Bob Underwood piloted a Sig Cessna 150, equipped with a self-starter, for a time. He then cut power completely, glided past the crowd and wowed them by restarting to continue the flight. The Eastcraft device *does* work and very well; a remarkable achievement.

The Tenth World Championships produced no real surprises in trends: virtually all aircraft sported tuned pipes; we expected more pumps; a number of flap set-ups were seen, and very little in design change was noted. Planes are just as fast as ever—perhaps even faster; no frame was used although rolls were timed. There is little difference in flying styles any longer, almost everyone is flying in the high speed, long sweeping style of the Americans. Prettnner's anhedral stab has made some inroads as we saw a number of ships with this type tail feathers.

Congratulations are due our team of Rhett Miller, Dave Brown, Mark Radcliff and manager, Dick Penrod. You fellows represented our nation very well and the awarding of the M.A.P. Trophy is a source of pride for all of us. It was a tough but rewarding two weeks. As Rhett Miller put it, "It was great, but I'm all airplaned out!"

These affairs always leave indelible memories: . . . the Irish team's treat for all comers, Irish Coffee—my dear old Grandmother from Cork would have been proud;

. . . the Japanese team manager, intense and business-like; not much got past this keen observer;

. . . Hans Prettnner's obvious pride at his son's achievement;

. . . former World Champ, Ralph Brookes' efforts for the Australian team and ditto, Ed Izzo's work with the New Zealanders;

. . . the U.N. quality to conversations around the competitors' tent;

. . . great food at the caterer's tent (best hamburgers we've had to date);

. . . the wandering-around a flight circle by many FAI contestants (that procedure at an

American meet would result in sure decapitation);

. . . the cheering crowd, sophisticated enough to applaud fine efforts, polite silence for the rest;

. . . the hard-working members of the local Civil Air Patrol; one gal lost her voice but wouldn't quit;

. . . the lane of flags, a beautiful sight and indicative of how R/C draws so many diverse groups together;

. . . the award ceremonies, always impressive; . . . the various and colorful team uniforms (America's team was a standout);

. . . John Worth must be triplets, saw him everywhere;

. . . another big one over and done; where and what for 1979!

We take our leave of Springfield, now a landmark for R/Cers. "It was great, but we're all written out!" ■

## M.A.N. at Work

(Continued from page 3)

In defense of contests, our sport as we know it today was built and developed from contest activity as is *any* competitive program, and without contests we would not have the sophisticated radio systems of today, nor those magnificent engines and their incredible reliability (which can be said for the radio systems as well), and the aircraft, which whether kit or plans, are unbelievable. Further progress will come from contests, but my question remains, so your opinions, *please!*

And speaking of contests, with the completion of the Masters and the FAI World Aerobatic Championships we can announce the competitors for both the Museum Scale and Aerobatic events for the Fourth Annual International Tournament of Champions (see pages 68/69). Both events are to be represented by the world's finest building and flying talent. Study the following lineups and I am sure you will agree: Musuem Scale for the

U.S., Glenn Bussman with his Fieseler Storch, Jon Hauser, creator of that fabulous Curtiss P6E seen in our September, 1976 issue will have his Beech Staggerwing, Ralph Jackson with a General Dynamics F-16 or his backup Piper Comanche used in the '74 World Championships, Claude McCullough and his Shinn 2150-A, Walt Moucha and his fine Curtiss JN4, Bud Nosen with his A1H Skyraider which won AMA scale at the Nats or P-47 backup, Dave Platt and his new Dauntless, Jerry Puleo and his Grumman Avenger, John Roth and his fabulous Volksplane, Steve Sauger and his Toledo—winning Fairchild 24, Granger Williams and his Curtiss F6C-4, Andy Sheber and his incredible 1/3th-scale Pitts S2-A, former Nats and World Champion Bob Wischer and a Piel Beryl, Bob Karlson and his F4-U Corsair. For the foreign contingent, we have Britain's Dennis Bryant and his Bristol Bulldog, Canada's Jerry Fingler and a Shinn 2150-A, South Africa's Colin Jones with his Ryan STA, Sweden's Goran Kalderin and a Tummelisa. West Germany will have perennial World Scale competitor Bruno Klipp and his Zlinn 42, and then there will be still another from Great Britain—Phil Moore and his incredible Polish PZL Wilgo, as also the present World Champion, Canada's proudest boast, Bob Nelitz and his Chipmunk, and finally from Poland, Andrzej Uminski and his Kraft Super Fli. Each of the competitors has been advised of the required flight maneuvers, all within the regime of the full scale aircraft, and Flight Judges Frank Ehling and Jim Newman will have their hands full as will the Static Judges John Knepp, Keith Ward, and LeRoy Weber, headed by Dennis Thumpstone of England, chief judge. November 5th, 6th, 7th and 8th will be full days for the Scale contingent. On the 9th the following competitors will watch Mike Mueller (previous three-time competitor at the Tournament of Champions); Mike will perform this year's maneuver schedule for the judges: from the U.S., Rhett Miller III, Dave Brown, Mark Radcliffe, Stephen Helms, Dean Koger, Phil Kraft, James Kimbro, Ron Chidgey,

AMA USA FAI  
R/C AEROBATICS  
1977



To stage a World model championship, even in the most favourable of circumstances, is an achievement. To do so at no more than seven months' notice after the intended host nation has withdrawn a long standing offer is an outstanding achievement – but when the result is one of the most smoothly organised world R/C championships ever, with all the social trimmings which have become an accepted part of any World Championship event, one can only extend to the organisers the highest admiration. Such was the achievement of the American Academy of Model Aeronautics.

Springfield, Ohio, Municipal Airport is a fair size airfield large enough for private aircraft, executive jets and Air National Guard F-100 Super Sabres to operate without interference to model activities which went on unhindered through six days. Indeed, the Super Sabres, blasting off the concrete in two's and four's were soon ruefully dubbed '84dB Specials' by the modellers in waggish association with the extensive and detailed noise level tests which were part of the World Champs for the first time!

Supported by 61 individual competitors from 24 nations, total entry was rather less than the 76 at Berne in 1975, notably depleted by the East European entries which had been a feature of the 1975 event in Switzerland, but at the same time picking up entries for the first time from both Brazil (2) and a single entrant from Peru – no doubt about it, R/C is spoken everywhere!

R.C.M.&E. arrived in Springfield a full three days prior to the Championships to find several teams already well settled in. The cheerful Australians, Tom Prosser, Brian Green, and Geoff Tracy with their cheering section had already tested Springfield airspace extensively, while New Zealanders Bruce Turner and Mike Lynch seemed bent on creating a model fuel crisis.

U.S. team members Dave Brown, Mark Radcliff and Rhett Miller were also on hand, having stayed on at Springfield from the previous weekend's 'Masters Tournament', their team selection trials – a situation which is to say the least, cutting team selection just a shade fine! Others were more secretive about their preparations and there were rumours of many top contenders away practising at local model flying fields in the Springfield/Dayton vicinity, remaining in this semi-seclusion until official processing day when, within the space of a single hour Springfield Airport became a Who's-Who of R/C aerobatics as rows of colourful aerobatics models were lined up in the blazing sun for official scrutiny – the excitement of the World Champs had begun.

Official processing was followed by Practice Day. The British team, Dave Hardaker, Martin McIntosh and Terry Cooper, with team manager Nev. Holmes had motored safely from New York with their 'squeaking monster' expanded polystyrene model boxes which prove that safe, strong containers don't have to weigh a ton! With models assembled and tested, they were all set for the fray – even Hardaker, who had managed to ruin two motors practising.

Official Practice Day is always the chance to see who looks promising so we took the opportunity to note flight performances in the overcast, windy conditions. Notably smooth were the West Germans, Gunter Hoppe, Gunter Metterhausen and Harald Neckar flying models certainly well removed in shape from the popular 'fish' shape which originated in Germany a decade ago. Italians Bertolani, Bertolozzi and Brambilla looked promising, while Sweden's star flier Benny Kjellgren also showed promise at this early stage. Swiss Geizendaner brothers Bruno and Emil were flying more conventional designs than they had used at Berne and these seemed to handle the wind well.

Japanese entrants Yoshioka (1973 champ) Naruke and Okumura all flew extremely well in practice and, traditionally, they had the most beautifully finished models on the field – really impressive. Americans Brown, Radcliff and Miller, a repeat of the U.S. team at Berne in 1975, all flew well in practice and there was the inevitable interest in European super stars Hanno Prettnner of Austria and Wolfgang Matt of Leichtenstein (defending champion) and with very good reason, we might add.

Practice day faded in a violent evening storm. Midwest Thunderstorms, the locals call them, a fascinating sight when viewed from the 10th floor of the Wittenberg University dormitory block which housed contestants and supporters as rain lashed down from the blackest of skies and forked lightning flickered. AMA officials and helpers who sensed the danger and reported to the field to rescue models and model boxes from the tented headquarters area probably thought differently about it as they laboured past midnight in the salvage operation. Thirty miles away in Dayton, a Tornado ripped roofs off buildings.

Round 1 July 1st started cool but bright, with a brisk wind 90 degrees to the runway which made impressive takeoff and landings difficult and indeed some landings by top fliers took on the look of Sunday Flier 'arrivals' as they dumped their models into the centre circle in the choppy breeze.

Faced with the inevitable two flight line toss-up we chose to watch Rhett Miller of U.S.A. open proceedings at Flight line No. 1 and witnessed an immediate surprise when, at recovery from the Double Immelmann manoeuvre, Miller's Compensator model developed a series of oscillations and he landed immediately to find that the aileron function spring in the transmitter stick gimbal had broken! Such a fault must surely be a million to one chance in any circumstances but to then occur during a world championship flight must permute to infinitesimal odds!

Team mate Dave Brown was another early flier and his manoeuvres looked impressive, although in common with many other top fliers, many manoeuvres were not centred on the judge's 'box'. Even Hanno Prettnner a little later in the morning seemed to have succumbed to this fault at times, but his flying was nevertheless tremendously impressive and remarkably unaffected by the wind so that his score of 7510 quickly became the one to better. Mark Radcliff of U.S.A.



Left: the long line-up of models for processing. Organisers checked all models, carefully weighed, with fuel on board. Right: morning after the night before! Effect of midwest thunderstorm on tented model work area. A.M.A. officials worked through storm to rescue model boxes and equipment.



**Hanno Prettner of Austria wins**

# 10th WORLD R/C AEROBATICS CHAMPS

**SPRINGFIELD, OHIO. June 29-July 4th**

**U.S.A. wins Team Championship**

BY TONY DOWDESWELL



Far left: youngest World R/C Aerobatics Champ. ever, Hanno Prettner from Austria, with father Hans and Curare 'Prototype Springfield'. Centre left: top three collect the hardware - Wolfgang Matt (Leichtenstein 3rd, Dave Brown (U.S.A.) 2nd and Hanno Prettner, World Champ. Left: team prize is every bit as much an achievement as individual prize. U.S.A. team of Brown, Radcliff and Miller took top honours. Japanese team of Yoshioka, Naruke and Okumura 2nd, West Germans Metterhausen, Neckar and Hoppe placed 3rd.

came close an hour later, but Yoshioka of Japan who followed him could not produce the required performance, even in moderated wind strength. Manoeuvres like the Figure M positioned very close in to the judges could not have helped.

Harald Neckar of West Germany did however look very impressive. His big and attractive model flew extremely smoothly. Freed of the anxieties that dogged him at Berne in 1975 (when one of his models suffered wing collapse and the other developed undercarriage collapse) he looked every bit the potential winner that he had appeared during the 1973 Champs in Italy.

Neckar's team mate Gunter Hoppe looked equally smooth but suffered the order of the big fat zero when the nosewheel collapsed at touch down - tough when you've greased it into the centre circle!

Martin McIntosh gave the British cheering section heart failure when, right out there on the runway and ready to start - out came the screwdriver and off came the wing to cure a dire case of cross connected flap and aileron servos! But he coolly cured the problem and went on to produce a very nice flight, overcoming those anxious moments well.

Anxiety also cloaked Dave Hardaker's flight - would that twice-substituted motor stand the pace? But it did, as Dave tore up in the air in fine style - the Bradford flash was on form!

Sun position, now unfortunately in front of the judging box must have contributed to Terry

Cooper's difficulties with manoeuvres awkwardly placed. Wolfgang Matt, our last subject of close interest in Round One, seemed also affected by this problem of dazzle, but he lost his motor during the Rolling Eight, leaving him with no margin for error for subsequent rounds.

Returning by bus that evening from a fascinating visit to the U.S. Air Force Museum at nearby Wright-Patterson Airforce base, competitors and supporters studied *The Daily Glitch*, the World Champs' daily new sheet carrying Round One results which showed Hanno Prettner with a fair lead over Mark Ratcliff (2nd) and Harald Neckar (3rd) in tight formation. Yoshioka of Japan held 4th spot, followed by Dave Brown (5th), Bertolani of Italy (6th), Naruke of Japan, Ivan Kristensen of Canada unobtrusively slotting himself into 8th place ahead of Gunter Hoppe of West Germany and Bruno Geizendaner (twice world R/C champ.) in 10th slot. The British lads were quite tightly bunched at 13th (Hardaker), 15th (Cooper), and 18th (McIntosh) places.

Top in the team trophy stakes were the Japanese who would also take a prize for the best dressed team if there were such - they really do look a dapper bunch!

If there was a time to shoot for a high score, the commencement of Round Two in near still-air conditions was definitely IT. Norbert Matt, always in a state of semi-eclipse due to his brother's fame is no mean flier himself and showed it, performing an excellent schedule without burning up vast

amounts of sky. Kjellgren of Sweden was another early bird with an impressive systematic style.

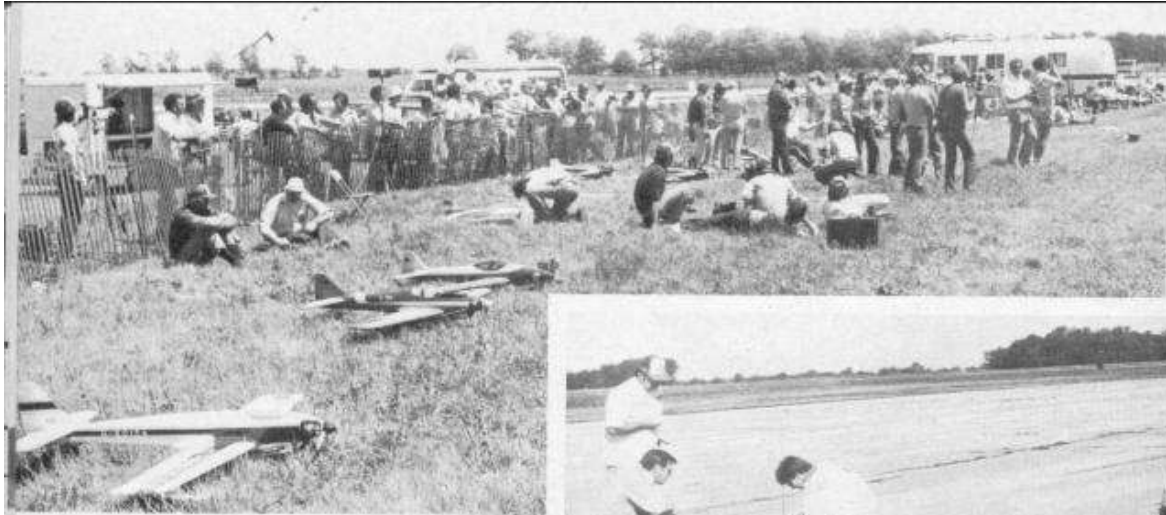
John Cunningham of South Africa triggered off a flurry of rule book thumbing when he lost a wheel at take off during his early afternoon flight, but fortunately common sense now prevails upon that minor rulebook technicality and John did not have to forfeit his flight score for 'involuntary jet-tison'.

Alberto Florez from Peru was probably the object of as much curiosity as any of the competitors - probably the only Peruvian that most on the field had ever seen. Florez was no mean flier.

Rhett Miller, now using 'stronger elastic' in his transmitter was obviously in a mood to make good his first round disappointment with a flight that impressed for its clinical economy of movement and which netted him a good score. Dave Brown, also looking for those extra points, poured on the pressure with a really fine flight that emphasised Dave's mastery of rolling manoeuvres. The E.D. broad tuned pipe on Dave's O.S.60 FSR seemed to suit it really well.

Both Okumura and Naruke from Japan performed extremely well, flying two of the fastest models at the championships, but it was Ivan Kristensen from Canada who impressed most, with the finest flight we've ever seen him perform. Wind and sun were just ideal which must have been a contributing factor, but there is no denying that his flight was a beauty!





Left: spectators watch as contestants prepare for the flight line. Below: a nice line of fried judge! It was certainly HOT on the runway during most of the competition. Rhett Miller of U.S.A. prepares to start up, watched by team manager Dick Penrod in foreground.



The British team fared badly in this round. Cooper lost his nosewheel at touchdown, and Dave Hardaker's motor cut during the Running Eight manoeuvre leaving him short on points and with corresponding low position in the end-of-round standings. With best three flights of four rounds to count, Dave's misfortune was not a complete disaster, but left him with no permissible error for the final two rounds.

Results of Round Two in the *Daily Glitch* once again proclaimed Hanno Prettner the leader, a full one thousand points ahead of Ivan Kristensen, while Dave Brown of U.S.A. had jumped to 3rd, ahead of team mate Mark Radcliff, Neckar of West Germany in 5th slot followed by Naruke of Japan, the Italian Bertolani, Okumura and Yoshioka of Japan while Bruno Geizendaner again clung to 10th place.

**Round Three** on July 3rd was again conducted in scorching weather and light winds again contributed to excellent flight performances.

Australian champion Geoff Tracy looked good, but it was surprising to see Neckar place manoeuvres very close to the judges which must have cost him points.

Dave Hardaker, out to recover the situation from his Round Two disaster really had the bit between his teeth this round with some low level stuff that looks impressive provided that the skyline cannot be used as a reference line to show up imperfections.

An interesting aside to proceedings at this stage was the unofficial judges' lottery based on the smattering of competitors unfortunate enough to be using the 27 MHz waveband which was alive with the walkie-talkie CB interference so much a part of American life. Judges were overheard exchanging estimates as to the timing of the inevitable... "I bet he catches it at take-off..." "...no, he'll last as far as the Figure M..." etc! Comic in itself yes, but for a competitor in a world championship, the threat of radio interference is the ultimate destroyer of confidence.

Shortly after mid-day, Hanno Prettner came out with his father Hans to defend his thus far unassailed lead position and did enough to gain high points again. Prettner's Curare design has been somewhat refined with complicated flaps which can be switched to work like a control line stunter coupled to the elevator command or in conjunction with separate wing spoilers for landing. In all, the model carries eight servos. An apparent quirk of the design as flown by Hanno, is that at the first vertical point of the four point roll, the tail is notably depressed so that the model tends to appear as though it is climbing, requiring a conscious reference to the horizon to confirm a horizontal flight path.

If Prettner was trying, then Dave Brown of U.S.A. sensing that with two rounds to go, he was within striking distance, seemed to strain with concentration as his Phoenix 7 swept through the schedule. His performance was fine, so that when results of Round Three were posted it became clear that Prettner, Brown and Kristensen were very slightly drawing away from the pack.

Now the pressure was really on. The results of Round Four would settle the selection for the six man fly-off and all competitors within striking distance began extrapolating scoring permutations to find out what this final round demanded of them.

**Round Four** would make demands of a different kind on judges, with a 7.30 a.m. start to a virtually non-stop session in order to complete the round and make time for the two-flight fly-off.

Miller of U.S.A., an early customer, made his position less than certain, by suffering motor failure during the spin, which forced a deadstick, zero point landing approach.

Hanno Prettner looked like coming closest to perfection with a cracking flight, but his Top Hat manoeuvre was badly marred when the Curare hit thermal turbulence during the upward leg, further



Successful model flying can be a family affair! Right: Warren (wisecrack for every situation) and Shirley Hitchcox from Canada and below, Dave and Sally Brown of U.S.A. 2nd right: Denmark's lone entrant, Eric Toft, with Team Manager Axel Mortensen.





Right: the cheery and enthusiastic South Africans (L-R) Ivan Olivier, John Cunningham and John Brink, with T. M. David Jenkens. Far right: our own British team, Dave Hardaker, Martin McIntosh and Terry Cooper, with T. M. Neville Holmes.

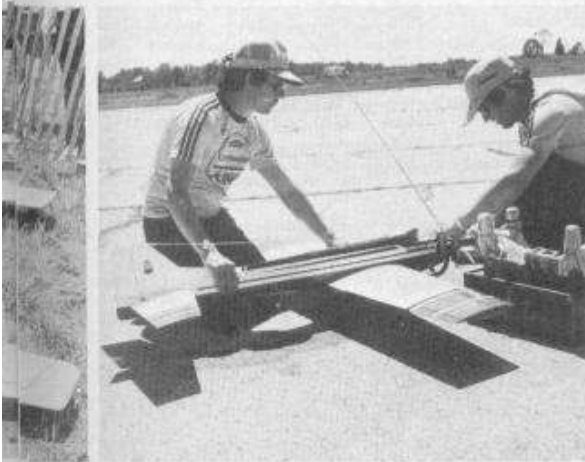
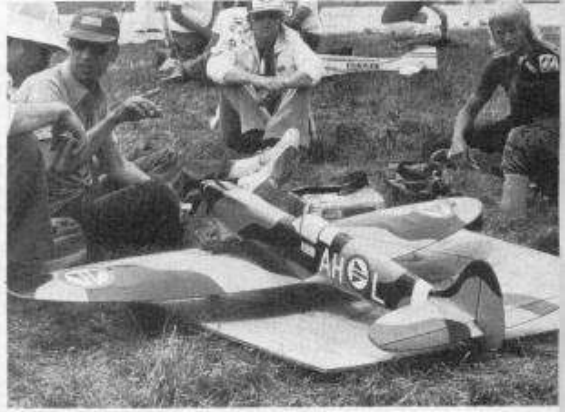


Below left: without doubt, the three most beautifully finished models at the Champs were those by (L-R) Okumura, Naruke and Yoshioka of Japan. Surfaces of the models were perfect. Below: the West Germans - all very impressive, Harald Neckar, Gunter Hoppe and Gunter Metterhausen. Metterhausen and Hoppe used Hater's Suitan design, while Neckar's superficially similar machine is a larger, original design.



Left: only here for the beer! Enthusiastic Irishmen Liam Ward and Harry Sydnier with T. M. Jim Murphy, all from the Republic this time, gained fame for their Irish coffee party! Crescent Tornado is the model.

Below 3rd left: Jeff Tracy was top Australian, with original Super Gemini design. Below 2nd left: lone competitor from Peru, 31 year old Alberto Florez flew attractively finished Phoenix 7 design by Don Lowe. Below: a tail-dragger at World Champs, and semi scale at that! S.A.S. airline pilot from Norway, Tore Paulson flew Spitfire - had muffler on carb. intake.



3rd left: 4th place Ivan Kristensen of Canada produced some impressive flying. Motor failed in last round of fly-off. 2nd left: similar problem beset Wolfgang Matt in opening round of contest, but he came from behind to finish 3rd. Brother Norbett Matt, also competing, holds model. Left: top man from Sweden, Benny Kjellgren, with identically finished pair of Curare models.



Above: Swiss Geizendanner brothers Bruno and Emil (seen here) flew sleek Scorpion design.



Left: Giuseppe Bertolozzi, one of the three Italians who did quite well. Itty-bitty finish on model must have taken some time! Above: quiet man of Australian team, Tom Prosser, greases in his original model.

spoiled when corrective control caused the model to climb across the top. It must have been an anxious moment for the young Austrian, but the rest of the flight was so good that the 8705 point score once again left him 'king of the hill'.

When the wind freshened during mid-morning, the task in hand was less easy for Radcliff, who nevertheless posted his best score of the four rounds. All three Japanese fliers performed exceptionally well during this round, former champion Yoshioka in particular showing an extremely good performance, but with two scores well below 7000 points, even his final 8060 point return looked as though it might not be sufficient to ensure a place in the fly-off.

Others made equally determined efforts. Dave Brown, the 110% competitor, obviously thrived on the pressure to return his second best score, while Wolfgang Matt, well recovered from his 1st round disappointment brought off the biggest scoring improvement of all with an 8510 point sizzling performance.

So when the round ended and judges gratefully quitted the scorching runway, Hanno Prettnr remained leader, almost a thousand points ahead of Dave Brown. The effect of the 'best three of four flights' scoring system now produced a rear-

rangement in the scoring order, and Wolfgang Matt, freed from his 1st round disaster, climbed to 3rd spot ahead of Kristensen and Radcliff, while Rhett Miller also benefited, slotting into 6th place to make up the party for the two round fly-off.

The Japanese trio of Yoshioka, Okumura and Naruke were in closest possible formation at 7th, 8th and 9th places, a remarkable grouping, but one that left them in the cold. Of the British team, Dave Hardaker now had a final placing at 17th, while Terry Cooper and Martin McIntosh occupied 33rd and 34th slots.

And so to the Grand Finale, a two flight, 'best of two' fly-off to be combined with already posted 'best three' to produce a final result for 1st to 6th places.

Not surprisingly, the ensuing exhibition was a first class example of flying ability in which skills were taxed to the utmost in a tense atmosphere. Spectators, admonished to do so, remained quiet and refrained from partisan applause during flights. Only notable failure of the circus came from Ivan Kristensen whose motor failed at the Cuban Eight during his 2nd flight.

And so it was ended as the minutes ticked tensely on while calculators were punched and fingered to check and double check a result

already confidently expected - the winner, Hanno Prettnr of Austria. He had led through every round to leave his mark indelibly on the Championships. Dave Brown of U.S.A. clinched 2nd place and Wolfgang Matt settled in third spot ahead of Ivan Kristensen (who achieved the best ever result from Canada in the history of the World R/C aerobatic champs series). Rhett Miller placed 5th and Mark Radcliff 6th.

So ended the 10th World R/C Aerobatic Championships - one of the finest and most interesting of the series so far. Innovation in models was more interesting than for a long time hitherto and will have to be the subject of a further report. Hanno Prettnr's win was an immensely popular one. At the post-champs banquet this likable, unassuming young man who makes time to talk to everyone, received a spontaneous ovation the minute he walked through the door with his omnipresent father, Hans.

To the host nation went the closely contested team prize - with all three team members in the fly-off, they edged the Japanese into 2nd place while the West German team stood 3rd.

In all, truly a vintage championship and one to remember for a long time.

Thanks AMA!

	Rd. 1	Rd. 2	Rd. 3	Rd. 4	Total	Fly-off	Final Total
1 Hanno Prettnr, Austria	7510	8070	8249	8705	25020	16375	41395
2 Dave Brown, USA	6655	7880	8220	7990	24090	16165	40255
3 Wolfgang Matt, Liech'stein	4570	7725	7830	8510	24065	16130	40195
4 Ivan Kristensen, Canada	6365	8195	7995	7640	23830	15160	38990
5 Rhett Miller, USA	860	7795	7965	7195	22955	15780	38735
6 Mark Radcliff, USA	7035	7315	7555	8100	22970	15515	38485

	Rd. 1	Rd. 2	Rd. 3	Rd. 4	Total		Rd. 1	Rd. 2	Rd. 3	Rd. 4	Total	
7 Tsugutaka Yoshioka, Japan	6855	6620	7730	8060	22645	34	Martin McIntosh, U.K.	5810	4855	5470	6685	17965
8 Tetsuji Okumura, Japan	6220	7365	7610	7485	22460	35	Jan Van Vliet, Netherlands	3915	5445	6170	6265	17880
9 Giichi Naruke, Japan	6495	7645	7600	7195	22440	36	Bruce Turner, New Zealand	5095	4810	5820	6225	17140
10 Gunter Hoppe, F.R. Germany	6255	6930	7440	7895	22265	37	Hubertus Dekkers, N'lands	4880	5120	5440	6730	17090
11 Benny Kjellgren, Sweden	5220	6995	7425	7510	21930	38	Tore Paulsen, Norway	5065	5060	5905	5995	16965
12 Harald Neckar, F.R. Germany	6970	7190	7280	7035	21505	39	Ben Castaneda, Mexico	4870	5890	5155	5275	16320
13 B. Giezendanner, Sw'land	6240	7005	7250	6860	21115	40	Jean Tonnar, Luxembourg	4295	5245	4910	6120	16275
14 Dr. Dieter Fritz, Austria	5875	6765	6965	7090	20820	41	Alberto Flores, Peru	3200	5820	6235	4145	16200
15 Benito Bertolani, Italy	6580	7040	6950	6645	20635	42	John Cunningham, S. Africa	4610	5670	5770	2555	16050
16 G. Metterhausen, F.R. Germ.	6035	6155	6835	7370	20360	43	Gerald Shaw, Canada	4550	6065	5425	4225	16040
17 David Hardaker, U.K.	6110	4930	6690	7405	20205	44	Alejandro Benitez, Mexico	4050	5445	5155	5250	15850
18 Warren Hitchcox, Canada	4885	6740	6890	6510	20140	45	Christian Bossard, France	3830	6145	5445	3920	15510
19 Ruggero Pasqualini, Italy	5815	6480	6690	6865	20035	46	Luis Castaneda, Mexico	2910	4065	5050	6390	15605
20 Emil Giezendanner, Sw'land	4435	6295	7045	6555	19895	47	Michael Lynch, N. Zealand	5265	4475	3995	5635	15375
21 Jeff Tracy, Australia	6120	5920	6735	6870	19725	48	Pierre Blanquart, France	4225	4785	5065	5470	15320
22 Rene Schumacher, Sw'land	4565	5895	6545	7020	19460	49	Erik Toft, Denmark	3160	4995	4655	5515	15165
23 Ivan Olivier, S. Africa	5475	7040	6540	5760	19340	50	Paul Behm, Luxembourg	3355	5695	3690	5320	14705
24 Andre Laffite, France	5520	5575	6380	7235	19190	51	Iver Husum, Norway	3090	4720	4825	5115	14660
25 Giuseppe Bertolozzi, Italy	5420	6620	7130	—	19170	52	Ferd. Schaden, Austria	4670	3445	5910	3365	14025
26 Tom Prosser, Australia	5685	5835	6075	7075	18985	53	Harry Synder, Ireland	2515	4195	4250	4440	12885
27 Jan Van Beek, N'lands	4100	6500	6290	6130	18920	54	Victor Westarp, Brazil	3545	4390	4650	3725	12765
28 Brian Green, Australia	5355	5070	6040	7485	18880	55	D. Bruschi, San Marino	2725	4050	3735	4750	12535
29 John Brink, South Africa	4455	6420	6365	6015	18800	56	Jean Mersch, Luxembourg	4470	4635	2575	170	11680
30 Kenneth Holm, Sweden	5140	6060	6470	6095	18625	57	William Wauters, Belgium	0	565	4845	5885	11295
31 Bengt Lundstrom, Sweden	4565	6400	5800	6280	18480	58	Ronaldo deSalles, Brazil	3435	4760	2950	2605	11145
32 Norbert Matt, Liechtenstein	5025	6755	4050	6635	18415	59	Ernst Totland, Norway	3705	—	—	—	3705
33 Terry Cooper, U.K.	5880	5280	6055	6250	18185	60	G. Terenzi, San Marino	590	1120	—	—	1710

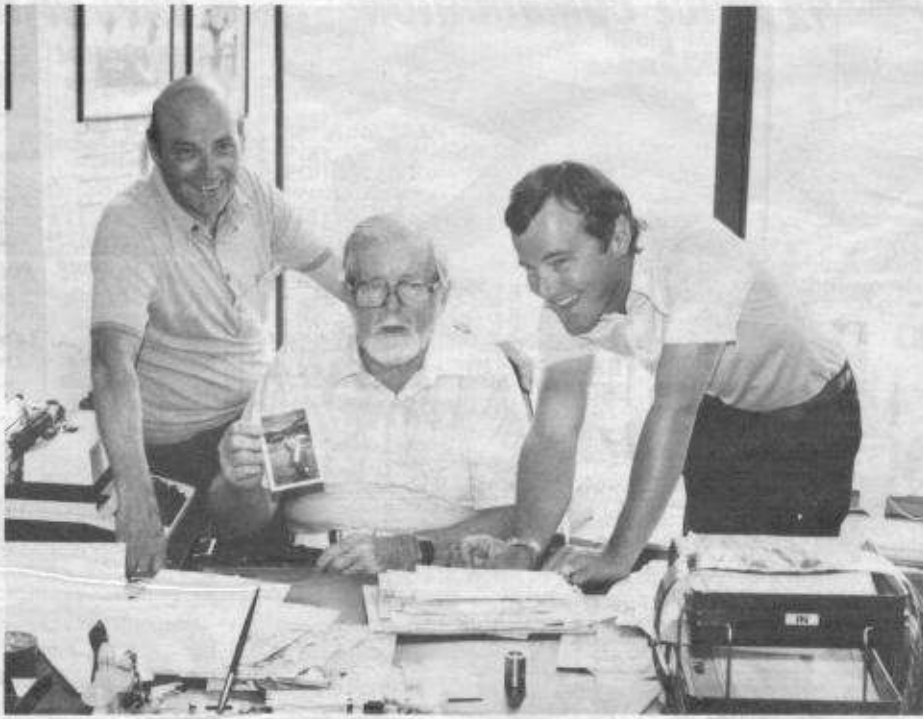
Team Results - (M.A.P. Ltd, Trophy)

1. U.S.A.	70,015	9. Australia	57,590	17. Norway	35,330
2. Japan	67,545	10. U.K.	56,355	18. New Zealand (2)	32,515
3. F.R. Germany	64,130	11. South Africa	54,190	19. Brazil (2)	23,910
4. Switzerland	60,470	12. Netherlands	53,890	20. Peru (1)	16,200
5. Canada	60,010	13. France	50,020	21. Denmark (1)	15,165
6. Austria	59,865	14. Mexico	47,675	22. San Marino (2)	14,245
7. Italy	59,840	15. Luxembourg	42,660	23. Ireland (2)	12,885
8. Sweden	59,035	16. Liechtenstein (2)	42,480	24. Belgium (1)	11,295

RESULTS

(KING OF THE BELGIANS TROPHY)





Hans and Hanno check into White Plains—  
Hans (left) gives me the photo of Hanno as a  
young boy (see page 33), while Hanno hams it  
up! The new World Champ and his dad spent

the day with Al Novotnik, Dixie Cutrone and  
myself. Quite a bit of the day was spent on  
Long Island Sound in Dixie's houseboat. Day  
wasn't the best but we did get around a bit.



3 Axel E. Mortensen:

## Kunstflyvnings-VM

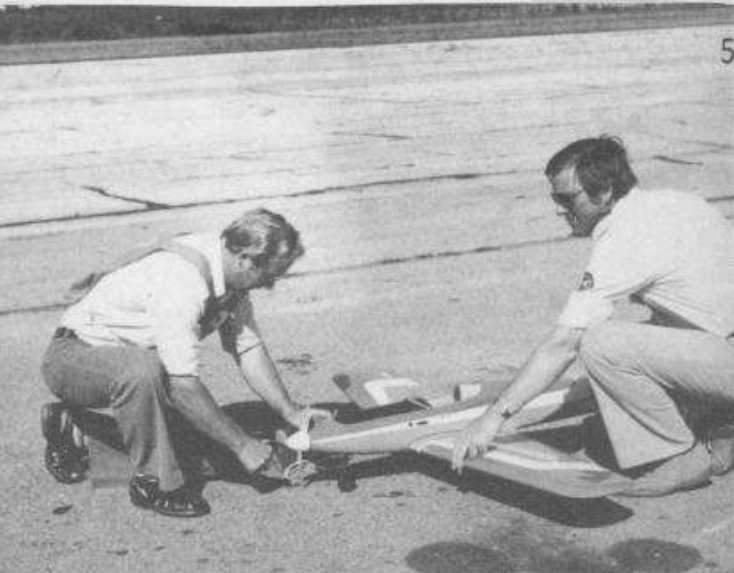
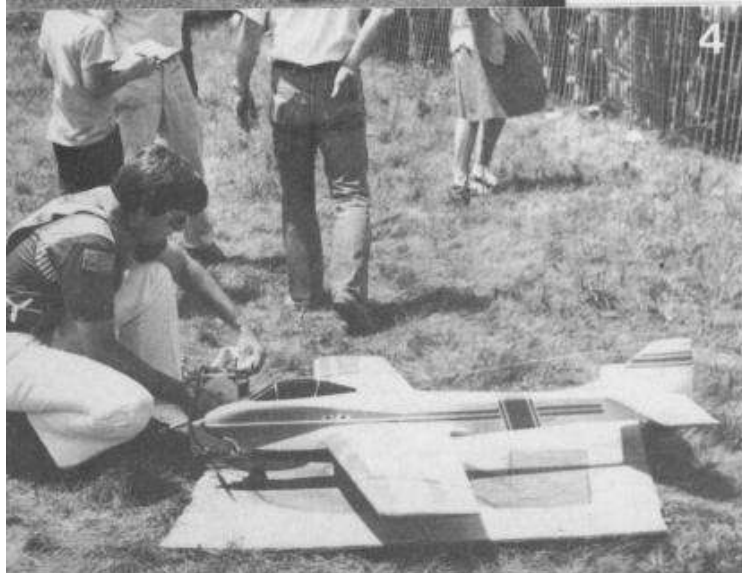
Årets største modellflyvebegivenhed, VM med radiostyrede kunstflyvningsmodeller, fandt sted i dagene 29. juni til 4. juli på Springfield Municipal Airport i staten Ohio, USA. 61 deltagere fra 24 lande fløj fire indledende runder fra to cirkler, som hver var bemandede med 5 dommere. Den komplette resultatliste efter disse fire runder, at hvilke den dårligste blev udeladt, findes omstående. Herefter gik den bedste tiendedel af deltagerne, altså 6, til en finalerunde med to flyvninger til hver. Finaleflyvningerne blev bedømt af alle 10 dommere. Her blev hver deltagers dårligste flyvning også kastet bort, således at de seks første pladser blev afgjort af summen af tre indledende flyvninger + een finaleflyvning. De endelige resultater blev her-efter:

1 Hanno Prettnner	41.395 p.
2 Dave Brown, USA	40.355 p.
3 Wolfgang Matt, Liechtenstein	40.195 p.
4 Ivan Kristensen, Canada	38.990 p.
5 Rhatt Miller, USA	38.735 p.
6 Mark Radcliff, USA	38.485 p.

Nationskonkurrencen blev afgjort på grundlag af de indledende runder, og her blev resultaterne:

1 USA	70.015 p.
2 Japan	67.545 p.
3 Tyskland	64.130 p.
4 Schweiz	60.470 p.

Billederne viser: 1. Tetsuji Okumura, Japan, som blev nr. 8. Japanerne kom i øvrigt i rækkefølge på 7', 8' og 9' pladsen. 2. Den nu torhenværende verdensmester Wolfgang Matt, Liechtenstein, gør klar til start. 3. En glad dansk-canadier, Ivan Kristensen, med sin fjerdepæmie. 4. Nittenårige Rhatt Miller, USA, med sin Compensator. 5. Günther Hoppe på 10' pladsen var bedste vesttysker. 6. Ivan Kristensen med sin egen konstruktion, Saturn. 7. Dave Brown med mekaniker Sally Brown og Phoenix 7. 8. Verdensmester Hanno Prettnner med Curare model Springfield. 9. Kenneth Holm, Sverige, med Bridi-konstruktionen Dirty Birdy. 10. Tore Paulsen, Norge, med Spittfire. 11. Det danske hold, Erik Toft med sin Profile 3 og holdleder Axel E. Mortensen.







# VM 1977:

Nr.Navn	Nation	Model	Motor	Radio	1	2	3	4	I alt
1 Hanno Prettner	Østrig	Curare (S)	Webra Speed	Simprop SSM	7.510	8.070	8.245	8.705	25.020
2 Dave Brown	U.S.A.	Phoenix 7	OS 60 FSR	World Expert	6.655	7.880	8.220	7.990	24.090
3 Wolfgang Matt	Liechtenstein	Atlas (S)	OS Max	Simprop SSM	4.570	7.725	7.830	8.510	24.065
4 Ivan Kristensen	Canada	Saturn (S)	Webra Speed	Pro Line 7	6.365	8.195	7.995	7.640	23.830
5 Mark Radcliff	U.S.A.	Phoenix 7	Rossi 60	World Engines	7.035	7.315	7.555	8.100	22.970
6 Rhett Miller	U.S.A.	Compensator (S)	Webra Speed	Kraft Signature	860	7.795	7.965	7.195	22.955
7 Tsugutaka Yoshioka	Japan	Ursa Major (S)	YS 60 SR	Digi Flight 6	6.855	6.620	7.730	8.060	22.645
8 Tetsuji Okumura	Japan	Patricia (S)	OS 60 FSR	OD Diamond 6	6.220	7.365	7.610	7.485	22.460
9 Gliichi Naruke	Japan	Nova (S)	YS 60 SR	Futaba Contest	6.495	7.645	7.600	7.195	22.440
10 Günter Hoppe	Tyskland	Sultan V (S)	Webra Speed	Microprop Prof.	6.255	6.950	7.440	7.895	22.265
11 Benny Kjellgren	Sverige	Curare	Webra Speed	Kraft 7 Z	5.220	6.995	7.425	7.510	21.930
12 Harald Neckar	Tyskland	Manitu (S)	OS 60 FSR	Graupner Expert	6.970	7.190	7.280	7.035	21.505
13 Bruno Glezendanner	Schweitz	Scorpion 2 (S)	Super Tigre 60	Pro Line	6.240	7.005	7.250	6.860	21.115
14 Dieter Fritz	Østrig	Curare	Webra Speed	Simprop Contest	5.875	6.765	6.965	7.090	20.820
15 Benito Bertolani	Italien	Kosmo 3 (S)	OPS	Simprop	6.580	7.040	6.950	6.645	20.635
16 Günter Metterhausen	Tyskland	Sultan V	Webra Speed	Microprop Prof.	6.035	6.155	6.835	7.370	20.360
17 David Hardaker	England	Sweeper (S)	Webra	Skyleader TSX	6.110	4.930	6.690	7.405	20.205
18 Warren Hitchcox	Canada	Saturn	HP/YS	Kraft	4.885	6.740	6.890	6.510	20.140
19 Ruggero Pasqualini	Italien	Mark	Supertigre	Akiline	5.815	6.480	6.690	6.365	20.035
20 Emil Glezendanner	Schweitz	Scorpion 2 (S)	Super Tigre 60	Pro Line	4.435	6.295	7.045	6.555	19.895
21 Jeff Tracy	Australien	Super Gemini (S)	Webra Speed	Kraft Signature	6.120	5.920	6.735	6.870	19.725
22 Rene Schumacher	Schweitz	Silver Bird (S)	Webra Speed	Simprop SSM	4.565	5.895	6.545	7.020	19.460
23 Ivan Olivier	S.Afrika	Curare	Webra Speed	Simprop SSM	5.475	7.040	6.540	5.760	19.340
24 Andre Lafitte	Frankrig	Mach 1	Rossi F 60	Kraft KP 7C	5.520	5.575	6.380	7.235	19.190
25 Giuseppe Bertolozzi	Italien	Kosmo 3	OPS	Simprop	5.420	6.620	7.130	—	19.170
26 Tom Prosser	Australien	Flame (S)	Kraft	Kraft Signature	5.685	5.835	6.075	7.075	18.985
27 Jan van Beek	Holland	Curare	Enya X 60	Robbe Luna FM	4.100	6.500	6.290	6.130	18.920
28 Brian Green	Australien	Saturn	OS 60 FSR	Kraft Signature	5.355	5.070	6.040	7.485	18.880
29 John Brink	S.Afrika	Phoenix 6	Webra Speed	Pro Line 6	4.455	6.420	6.365	6.015	18.800
30 Kenneth Holm	Sverige	Dirty Birdy	Webra Speed	Microprop Prof.	5.140	6.060	6.470	6.095	18.625
31 Bengt Lundström	Sverige	Hyvelbaenk	OPS 60	Pro Line	4.565	6.400	5.800	6.280	18.480
32 Norbert Matt	Liechtenstein	Atlas	Webra 61	Simprop SSM	5.025	6.755	4.050	6.635	18.415
33 Terry Cooper	England	Super Bulldog	OPS	Prestige	5.880	5.280	6.055	6.250	18.185
34 Martin MacIntosh	England	Reaction (S)	OPS	Prestige	5.810	4.855	5.470	6.685	17.965
35 Jan van Vliet	Holland	Eagle (S)	Enya	Simprop	3.915	5.445	6.170	6.865	17.880
36 Bruce Turner	New Zeeland	Skymaster	OS 60 FSR	Sankyo	5.095	4.810	5.820	6.225	17.140
37 Hub Dekkers	Holland	Fi.Dutchman	Webra Speed	Simprop	4.880	5.120	5.440	6.530	17.090
38 Tore Paulsen	Norge	Spitfire (S)	Webra Speed	Futaba	5.065	5.060	5.905	5.995	16.965
39 Benjamin Castaneda	Mexiko	Dirty Birdy	Rossi	Kraft S 72	4.870	5.890	5.155	5.275	16.320
40 Jean Tonnar	Luxemburg	Atlas	Rossi	Multiplex Prof.	4.295	5.245	4.910	6.120	16.275
41 Alberto Florez	Peru	Phoenix 7	Webra Speed	Kraft Signature	3.200	5.820	6.235	4.145	16.200
42 John Cunningham	S.Afrika	Atlas	Webra	Skyleader TSX	4.610	5.670	5.770	2.555	16.050
43 Gerald Shaw	Canada	Mach 1	Rossi 61	Royal Custom	4.550	6.065	5.425	4.225	16.040
44 Alejandro Benitez	Mexiko	Dirty Birdy	Webra Speed	Kraft	4.050	5.445	5.155	5.250	15.850
45 Christian Bossard	Frankrig	Blizzard (S)	Rossi F 60	Radio Pilote	3.830	6.145	5.445	3.920	15.510
46 Luis Castaneda	Mexiko	Dirty Birdy	Rossi	Kraft Signature	2.910	4.065	5.050	6.390	15.505
47 Michael Lynch	New Zeeland	Skymaster	OS 60 FSR	Kraft KP 7 C	5.265	4.475	3.995	5.635	15.375
48 Pierre Blanquart	Frankrig	Komet	Rossi F 60	Radio Pilote	4.225	4.785	5.065	5.470	15.320
49 Erik Toft	Danmark	Profile 3 (S)	OS 60 FSR	Logictrol	3.160	4.995	4.655	5.515	15.165
50 Paul Behm	Luxemburg	Atlas	OS Max	Simprop SSM	3.355	5.695	3.690	5.320	14.705
51 Iver Husum	Norge	Phoenix 6	Webra Speed	Kraft	3.090	4.720	4.825	5.115	14.660
52 Ferdinand Schaden	Østrig	Condor 77 (S)	Rossi 61	Kraft Signature	4.670	3.445	5.910	3.365	14.025
53 Harry Sydnor	Irland	Tornado	OS 60 FSR	Skyleader	2.515	4.195	4.250	4.440	12.885
54 Victor Westarp	Brasilien	Compensator	Webra Speed	Logictrol	3.545	4.390	4.650	3.725	12.765
55 Domenico Brushi	San Marino	Z 19 (S)	OPS Ursus	Futaba	2.725	4.050	3.735	4.750	12.535
56 Jean Mersch	Luxemburg	JMS 2 (S)	Webra	Simprop SSM	4.470	4.635	2.575	170	11.680
57 William Wauters	Belgien	Super Sicrolly	Webra Speed	Royal 6	—	565	4.845	5.885	11.295
58 Ronaldo deSalles	Brasilien	Curare	Rossi 60	Pro Line	3.435	4.760	2.950	2.605	11.145
59 Ernst Totland	Norge	Miss Norway (S)	Webra Speed	Graupner	3.705	—	—	—	3.705
60 Gianfranco Terenzi	San Marino	Piranha	OPS	Futaba	590	1.120	—	—	1.710



