

S.A.M. Chapter 13
AMA Charter #158

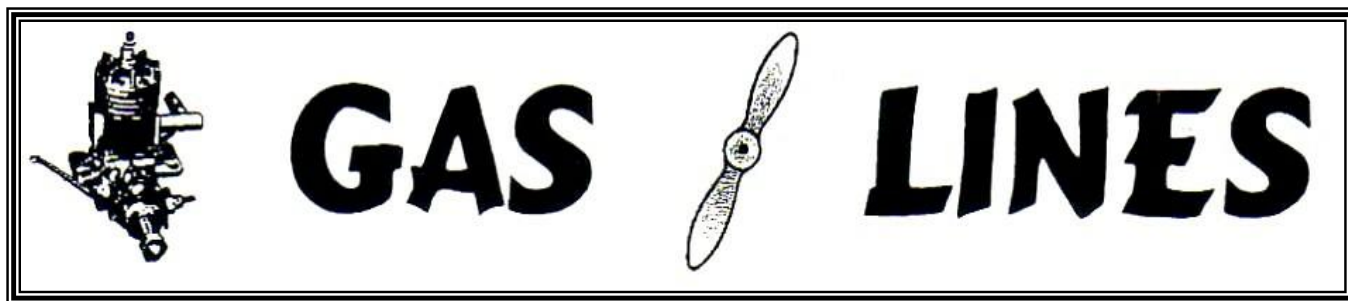


Official Newsletter of the Southern California Antique Model Plane Society

Founded in 1964

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AMA 158 – Southern California Antique Model Plane Society – Sam 13

SCAMPS Club Officials

President	Bernie Crowe	(858) 204-7987	bcrowe42@gmail.com
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SCAMPS 2020 Club Meeting Schedule		
Month	Day	Host
January		None planned
February	1	Hal Cover
March	21	Bernie Crowe-CANCELLED
April	TBD	Open
May	TBD	Open
June	TBD	Open
July	11	Clint Brooks
August	TBD	Dave Meriwether
September	TBD	Open
October	TBD	Fernando Ramos
November	TBD	Open
December	TBD	Open

SCAMPS Monthly Donut Schedule
2020 Donut Coordinator: Jane Cover (909) 851-2075
Volunteers are responsible to coordinate with other club members if they cannot fulfill their assigned commitment



OFF DUTY FOR NOW!



SCAMPS Club meetings are cancelled due to the statewide coronavirus mandate to stay at home and avoid unnecessary travel. Until things start improve and the rules are relaxed there will be no further club meetings planned in 2020.

Addendum: As no normal activities are planned for the Wednesday Perris flying sessions, the donut schedule is also frozen until we decide how and when to resume participation.

President's Corner-February 2020

by Bernie Crowe

- **Sad news:** Lance got news that one of our long-time members, Paul Burns, passed away March 17 from cancer. Most of you didn't know Paul, but a few will remember him. He lived in Oregon and later Washington states, and used to come to SoCal once a year to fly at Perris and hang glide at Torrey Pines. He was one of the gentlest guys I have known, a pleasure to be around and completely self-effacing. He flew small rubber models and hand-launch and cat-launch gliders. Though a rare seasonal visitor, he will be missed.



- **Field condition:** I went to the field on April 15 to check out the conditions. As expected, the ground is pretty wet – waterlogged in fact. We plan on cutting the grass as we did last year, but it will have to wait until we get a dry spell. The grass is no real impediment to regular flying, except perhaps for the hi-start glider guys, and Clint says he can work around that. The water is more of an issue, but a few dry, windy days will probably clear that problem up too. So, all we have to deal with is social distancing...
- **Staying safe:** There have only been a couple of groups at the field since the Covid-19 pandemic started, and they have been small. We need to continue to observe the safety directives so we can all play our part in slowing the spread of this vicious disease. If you **MUST** go to the field, behave just as you would in any other environment – space out, avoid contact, and wear a face mask. Remember, masks are mandatory in Riverside County. Stay happy, but stay safe!

SCAMPS NEWS

by Clint Brooks

With amazing speed our world has been turned upside down by the Covid pandemic. All the public open spaces have been shut down, including the park based flying sites just about everywhere. I think Perris is one of the few locations that have not been caught in the radar for this, but no excuse not to practice good health safety methods if you decide to fly there. Before the last series of rain storms storms, nine fliers went out on a Wednesday and had a great time. Nature is in full glory-the field is knee deep in plush weeds, all of the foxtail variety which will be hard on shoes and socks in the next few months



as it dries out. Plans are to mow at some point, as Bernie indicated above. A request was made by the Scale Staffel to preserve some of the tall grass for test flying the delicate scale jobs. Bernie has modified an aerial shot of the field to show where this strip will be located-it's the white area in the upper right of the image. The balance of the field will be knocked down as done last year. The test area is planned to be roughly 50 x 100 feet, which should accept glide testing and low power attempts and save models from major damage.



As many of us are now housebound, the buzz has been on building and or repairing things. Bernie had an email thread going around detailing the bungee launch towline glider he has developed. I have been busy with kit sales, for as long as the supply line of balsa lasts-and it appears it will begin to dwindle soon. I have good inventory on Boomer and Super 'Y' P-30 stock if any of you are so inclined. As for building, I have one R/C job and one C/L job in work, both in the covering and finishing stages. My follow-on build is going to be a Majestic Coupe, which is the big brother of the P-30 design of the same name. It features a stick and tissue fuselage design, of which the tailboom is a configuration of micro-cross bracing sticks and may end up as a balsa tube for mine. It's a neat looking model and is simple-just a timer is used. I have a new stand-alone RDT from Texas Timers I'm going to try and incorporate into it if possible, otherwise it will probably be a band burner timer or just simple viscous type. If you want to try something a little bigger than a P-30 and just as simple to operate, then maybe this one is for you too.

Maybe you heard-Esaki tissue is out of production now. It is one of the lightest covering materials we have, and will be sorely missed by the modeling community at least. Good news-the remaining stock left for sale commercially was bought by E-Z Built Models, and is still for sale on-line. Not all colors are available, but there is a good supply of red, yellow, white, black, brown and a few more I can't recall. If you want to invest in this covering for the future, you might want to pick some up now before it disappears.

And to help you cheer up, today (April 22) a full field of fliers attended Perris, including donuts! The grass is incredible now-hardly any bare dirt remains near the parking area. Proper protection and spacing was shown by everyone out of respect for the pandemic directives, and we had a great morning flying old and new models. Here are a few shots I took before I set off on my own flying session.



Bernie Crowe illuminates his new towline glider-nice job!



Randy Wisley with his new canard towline glider-another nice job!



Hal Cover with his latest electric project-find the vertical stab. No, It's not Bernie

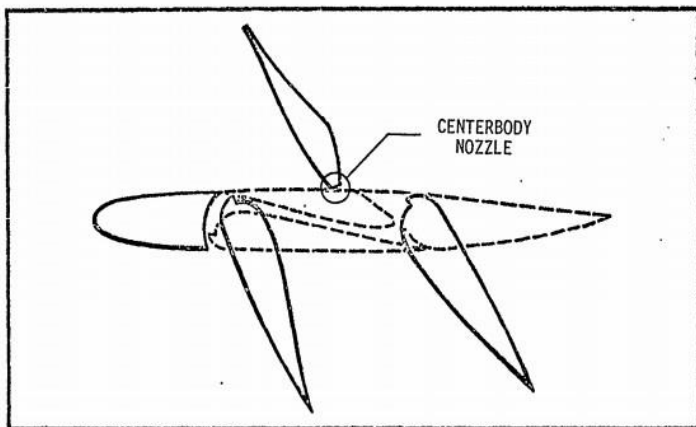


You're right! It WAS the Komet..can you say 'dutch roll'? Outstanding glide performance

And now for something completely different.....

Flying the XFV-12A

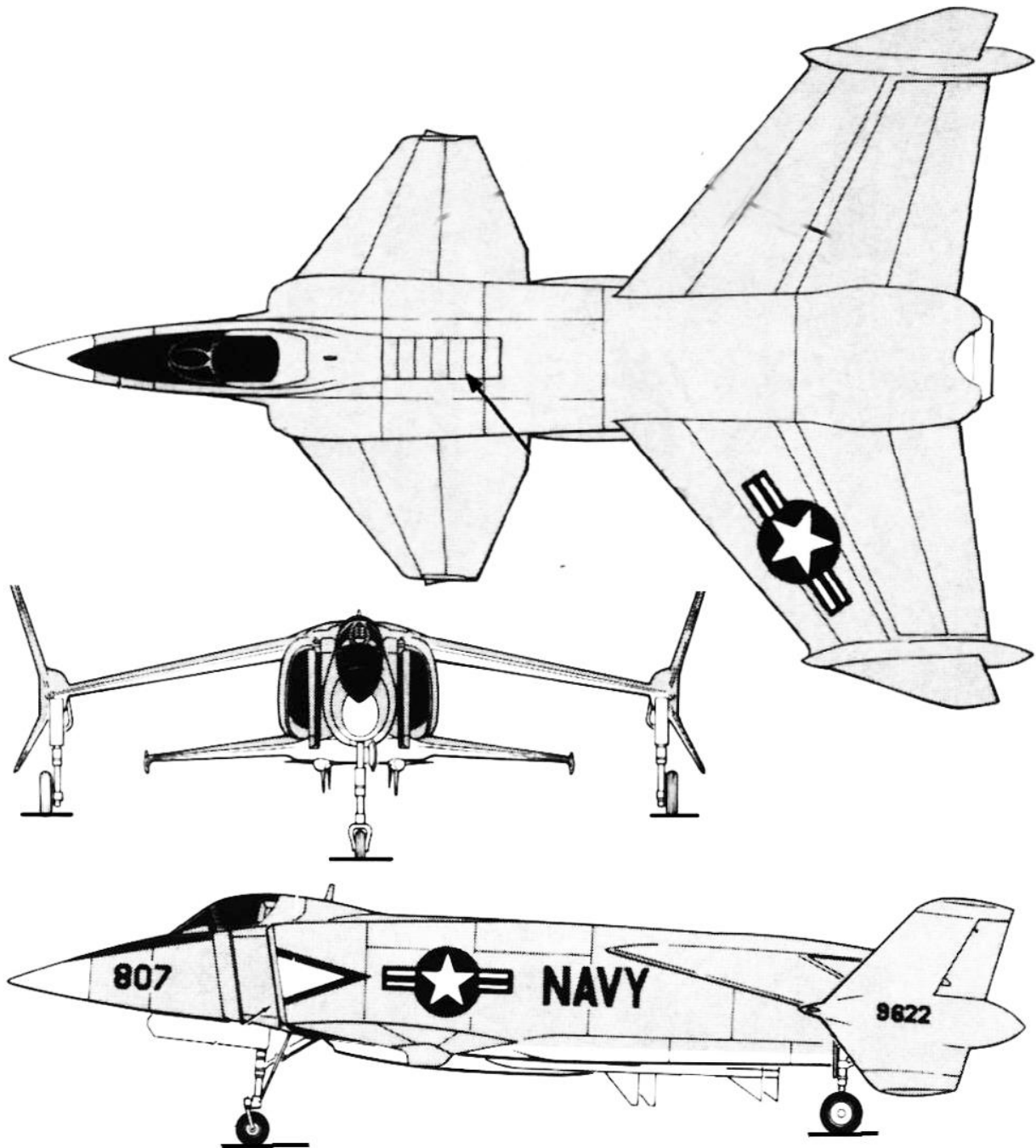
Bernie Crowe



In 1974 I was working as a consultant to the Naval Air Systems Command in Washington DC. As part of that job I participated in program reviews of on-going development programs. One of these was the Navy's XFV-12 program, an attempt to develop a VTOL carrier-based air superiority fighter. Rockwell/North American had proposed a Thrust Augmented Wing concept to achieve vertical lift, in which the jet exhaust was to be diverted through slots on the wing and used to entrain and augment the airflow

through nozzles as shown above. The divergence angle of the nozzle flaps would be altered to vary the thrust, and the fore and aft angles used to control the direction of flow. To divert the engine exhaust, a large plug would be moved into the tailpipe to prevent normal ejection and instead force

it through ducts to the wing nozzles. The configuration chosen for the aircraft was a canard layout with gases exhausting through nozzles in both the wings and the canard fore planes.



Hovering flight was to be controlled by varying the nozzle divergence to alter thrust, and the pilot had to balance the thrust through all four (two wing, two canard) flying surfaces to maintain pitch and roll stability. Yaw control was to be achieved by differential fore and aft angling of the port and starboard nozzles. This was before the era of fly-by-wire systems and computer aided stability, so the primary stabilization was to be provided by the pilot. The controls consisted of two side-stick

units with a thumb-wheel on top of each. To control the degree of thrust, the thumb wheel was moved backwards and forwards. To control the direction of each nozzle the stick was moved fore and aft. Moving the stick sideways controlled roll, and the rudder pedals controlled yaw.

When I visited the Rockwell facility the program was in a static tethered flight stage at Langley, VA with most of the Rockwell development being done on a flight simulator. The simulator consisted of a complete cockpit section mounted on a large motion base, coupled to a computer simulation of the flight characteristics to move the cockpit to generate motion cues; an extremely large enclosed space adjacent to the simulator was fitted with a mock-up of the ground and adjacent countryside in which a camera was moved to mimic the movement of the aircraft. The camera view was displayed on a large screen in front of the cockpit to provide visual position and motion cues to the simulator driver. Remember, this was before the widespread use of computer graphics simulation.

After the program review session, the Navy representative for whom I was working was invited to fly the simulator to experience for himself what it was like to fly the XfV-12A. He declined, but offered my services in his place (!). I was sim fodder. You don't say no to the customer, so I "eagerly" agreed. I was given a short familiarization session on the controls operation, and asked if I had any questions. I asked if it was likely I would be able to "fly" the simulator since I am not a pilot. The Rockwell engineers told me it wouldn't make any difference, the only people who had been able to fly it were pilots who had flown the Harrier (or AV-8B as it became later). That didn't sound very comforting to me, but I was committed anyway, too late to change.

They helped me into the cockpit, placed a helmet on my head, and strapped me firmly into the seat. They told me they would set me up in a hover at 100 feet altitude with the plane in a balanced state. They warned me to use very delicate movements of the control sticks. I was told "OK, you have your seat". Nothing happened. The view in front of me was of a short runway with fields on either side, and I seemed to be hovering nicely. I rotated the thumb wheel on top of the left stick back a notch and held my breath. I noticed the altimeter display was slowly counting down, and the display through the cockpit window showed I was slowly descending. I didn't know what else to do, and while I was thinking about it, I felt a slight bump and realized I was on the ground! There was a smattering of quiet applause in my earphones, and a voice said "Nicely done, a controlled descent!. Now, let's try some maneuvers. We'll set you up at 100 feet again. Fly down the runway then turn 180 and come back."

I tentatively moved both sticks forward an almost infinitesimally small amount, and could see through the windshield that I was moving along above the runway. "Good, now turn gently and come back again" said the disembodied voice in my helmet. I tried desperately to remember which controls did what. I decided to risk the rudder pedals to yaw the plane. Bingo, the view in front of me began to slowly rotate. I looked down to find the compass for reference and then realized I didn't need it to fly visually. I watched the runway below me and waited until I was pointing back the way I had come, and then tried to center the pedals to stop the turn. The horizon tilted slowly to the left, so I tried to stop the roll by moving my side-stick to the right. The nose tilted down rather sharply and I was looking at farm scene with barns and cows (yes, cows!) spread out below me, and getting larger quite quickly.

I did something (I don't remember what) with the controls to arrest the descent, but that only resulted in increasing the bank angle. Now I was side-slipping towards a black and white cow, which was getting larger at an alarming rate. While I was trying to figure out which of these weird controls to move, I realized I had "departed" the stable flight regime. My last impression was of looking directly up a cow's nostril, and the cow seemed as surprised as I was. Then there was an almighty **BANG** and I felt as if I had been kicked in the ass as the cockpit was rocketed towards the top of the motion base platform to simulate the 45g deceleration I was supposed to have experienced in the crash. I couldn't breathe, and looked out the side of the cockpit to see that I was about 25 feet in the air. The cockpit stopped moving, and my ethereal voice in the helmet said "we have your seat." I said, "see if my ass is still in there, I seem to have lost it!", only to realize my mike was live on the speakers in the hangar. There was much merriment among those present, including the Navy guy who had set me up for this. Grrr.



I was told don't feel bad, some of our test pilots had trouble too; only the Harrier pilots enjoyed it. They told me one had likened flying the thing to trying to balance on a rotating Teflon sphere on top of a pole-vault pole while wearing ice skates. I could readily identify with this.

I watched carefully in the ensuing months to see how the real pilots did with this plane, but it never flew. Test flights with the XFV-12A tethered prototype showed that it didn't have enough thrust to lift it off the ground, despite having a 30,000 lb. thrust engine trying to lift a 22,000 lb. airframe. The losses in reversing the airflow at the plug and losses in the ducts to the thrust augmenters in the wings robbed it of too much energy. Then there were little problems like having nowhere to mount any weapons under the wings because of the full-span thrust ejectors, and no room in the fuselage for guns; and if that weren't enough, no place to put enough fuel for carrier ops. So, with limited range, no weapons, and unable to fly VTOL, its role as a VTOL air superiority fighter was in jeopardy! The Navy had been offered the Hawker Harrier as a potential candidate for the role, but thought that the swiveling nozzles on the Pegasus engine were too risky a gamble. The Marines, of course, went on to buy the Harrier and rework it as the AV-8B with some success, so which was the riskiest? The project was eventually cancelled. The following notes are from one of the development team at Rockwell:

Just a couple of comments from someone who was involved in the original concept, proposal, and early development of the XFV-12A. The basic problem was with the canard configuration. In order to have the CG in the correct place to maintain positive longitudinal static stability in conventional flight, AND to balance the wing and canard lift forces in hover, the canard augmenters had to produce proportionally quite a bit more lift in much smaller surfaces and ducting than the wing augmenters. In order to do this, the AUGMENTATION RATIO, or the ratio of the augments lift force to the lift force of the basic airflow without entrained air, had to be much larger for the canards than for the wings. Couple this with the losses in the canard ducting due to the much longer duct runs, smaller ducts, turns, etc., and that balance was not achievable with any practical useful load. Had the state of the art in artificial stability then been what it is today, the design could have been flown with negative static margin (i.e., a more aft cg) and it might have been able to balance in hover as well. There were secondary issues with the F401 engine in that the engine bypass ratio was lower than ideal to provide adequate canard augments airflow. The F101 engine in the B-1 would have been a better match.

A couple of pieces of trivia are that as cost saving measures, the XFV-12A was proposed and built using the entire forward fuselage from an A-4 Skyhawk. This had the bonus of providing a qualified ejection seat installation with minimum development risk. The inlets were from an F-4 Phantom, reworked and cut down to provide the proper inlet size for the single F401 engine. The main landing gear were from a T-2B Buckeye.

Most of the ducting in the aircraft was fabricated from titanium rather than steel for weight-saving reasons. Initially, many of the large and complex fittings, swivel joints, etc., were to be machined out of solid blocks of titanium, but the cost became so prohibitive that many of the parts were changed to titanium weldments - in itself a challenge because the welding of large titanium parts was not well understood.

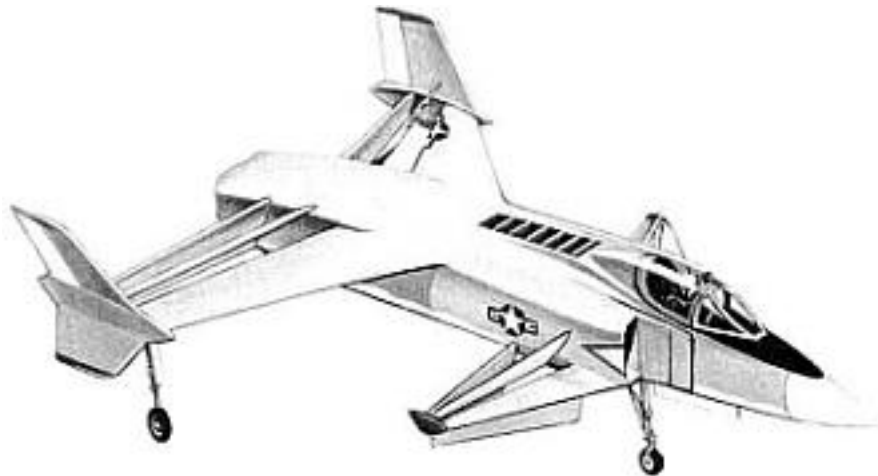
Another piece of trivia is that the P&W F401 engine used in the XFV-12A was a prototype of the engine originally intended for the F-14A Tomahawk, but canceled as a cost-saving measure by DOD in favor of the TF-30 from the F-111B. This engine had a bypass ratio that was TOO HIGH and denied that otherwise great airplane the performance it should have had from the beginning. The higher bypass ratio also was intolerant of inlet airflow distortion and rapid throttle excursions - both problems for combat aircraft maneuvering at high angles of attack and coming aboard a carrier.

The world has moved on, and now we have the F-35B to fill the role the XFV-12 was intended for. These days few remember the XFV-12, but I still do, and my rear end still hurts to prove it...

I think this design looks competitive for the Bonneville salt flats and a ground speed record attempt, not flying. As one who was around during the development phase of the F-35 series of aircraft, including the STOVL variant which is what this prototype led to with time, it would have been a nightmare to take this aircraft into production. The F-35B is a Swiss watch to build unto itself, and has as much complexity if not more than this prototype displayed. Thank goodness flight control software gives the pilot a chance to control the aircraft as easily as the conventional versions-good to have while focusing on a combat situation. -ed

Final words this month-the Dual Clubs FF Bonanza has been cancelled for 2020 due to the pandemic. I believe all the Lost Hills contests are cancelled at least until the fall. The 2020 Outdoor NATS may be subject to cancellation too-a survey is going around to past participants asking about their plans for the late July time period this is scheduled for. No official word yet, but obviously the AMA and contest planners are doing their homework for some sort of announcement coming in June. The AMA Indoor NATS for this month have already been cancelled. The next open FF contest in the Western USA I know of is in Wendover, NV for Father's Day weekend. Jack Murphy is hosting this one-the second annual. Hopefully it will stand and we have some place to go that we've never been to.

See you in the brush again soon!



2020 Free Flight Contest Schedules -Perris/Taibi Site Unless Otherwise Noted

As of 3/18/20 the SCAMPS & Scale Staffel Club Contest Schedule for Perris is Cancelled due to statewide public movement restrictions for disease control.

SCAMPS Monthly Club & Sanctioned Contest Schedule 2020 V 1.0					
Mo	Day	Rubber	Power	Electric	CD
Jan	29	P30	AMA Gas & E Combined	F1S (E-36)	B. Crowe
Feb	12	OT Small Rubber (comb)	Nostalgia Gas & E combined	E Nostalgia	R. Peel
Mar	8	SCAMPS 13th Annual Taibi Contest-Perris			C. Brooks
Mar	18	OT Large Rubber + Bungee-launch glider	Golden Age Lg & Sm /Ratio rule	AMA Electric	B. Crowe
Apr	15	P30 + Small Open Rubber (Andrade)	Perris Special, OTSG Sm/Lg	F1S + E20	C. Brooks
Apr	18-19	SCAMPS/SCIF Texaco-Lost Hills			CANCELLED
May	10	Lotto/Twin Pusher-Perris			CANCELLED
May	13	Nos Rubber/Nos Wakefield	AMA Gas & E Combined	E Nostalgia	J. Jones
Jun	17	Gollywock Mass Launch + OT Small Rubber (comb)	Golden Age Small & Large	AMA Electric	L. Powers
Jul	15	Coupe (F1G) + Bungee-launch glider	Perris Special, OTSG Sm/Lg	F1S + E20	C. Brooks
Aug	12	OT Large Rubber (comb)	AMA Gas & E Combined	E Nostalgia	G. Drake
Sep	16	P30 + Moffett	Golden Age Small & Large	AMA Electric	R. Thomas
Oct	14	OT Small Rubber + Bungee-launch glider	Perris Special, OTSG Sm/Lg	F1S + E-20	P. Guiso
Oct	TBD	SCAMPS/San Valeers Annual??			??
Nov	18	P-30 + Small Open Rubber (Andrade)	AMA Gas & E Combined	E Nostalgia	C. Brooks
Dec	16	OT Large Rubber (comb)	Nostalgia Gas & E Combined	AMA Electric	B. Crowe

OASIS Squadron FAC-20 Outdoor Schedule 2020				
Mo	Day	Events	Location	CD
Apr	8	Jet cat, Jim. Allen (ROG), Sky Chief M/L	Perris	CANCELLED
Jul	15	Simplified scale, BLUR race, WW2 Combat M/L	Perris	CANCELLED
Nov	18	Dime Scale, OT rubber fuselage, Greve/Thompson Race combined	Perris	CANCELLED

San Diego Scale Staffel Outdoor Schedule 2020				
Mo	Day			CD
Mar	14-15	Flying Aces Club	Perris	CANCELLED
Jun	6-7	Flying Aces Club	Perris	CANCELLED
Oct	3-4	Flying Aces Club	Perris	CANCELLED



Note to guests interested in observing or flying free flight models at Perris:

The usual time to catch us in the act is in the morning. Most Saturday mornings are when people come out to test fly or tune up their models and skills, and just have a good time. You can observe the Southern California Aero Team (SCAT) FAI rubber and glider flyers along with with others flying a range of model types-mostly endurance rubber powered and electric or gas powered. Scale free flight models are flown when the Scale Staffel has their FAC contests also noted above. These are typically conducted over two day periods to get in all the event categories normally flown. Flying usually starts 7-ish and ends late morning depending on winds. There is a larger group that flies on Wednesday as well if you would rather make a mid-week trip. Come join us-see the map above for an idea on directions-it's on the east side of the 215 freeway, off San Jacinto Ave.-there is a dirt road entrance on the right.