08
2013
Muroc Model Masters
Edwards Air Force Base, California

Propwash

VISIT US ONLINE @ WWW.MUROCMODELMASTERS.ORG

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2013 Membership Cards

For **2013**, please remember to get your AMA insurance renewed before you renew your MMM membership. In order to have a **2013** MMM card issued, you need to provide a copy of your **2013** AMA card and driver's license and an ***updated application***. The application is on line at http://www.murocmodelmasters.org/. Click on "About Our Club". Club applications may be mailed to ***Muroc Model Masters, Post Office Box 2194, Rosamond, CA 93560-2194***. Checks can be made payable to Muroc Model Masters. Membership dues are still just $25 for the whole year. If applying in person, please see Charlie Threewit, Treasurer, at the field or meetings.

FROM THE PRESIDENT

Hello Model Masters,

What an exciting time to be a member of the Muroc Model Masters. Our future on Rosamond Dry Lake is looking great and the R2515 Letter of Agreement is moving forward. We have a fantastic new meeting place and great participation by the membership. Our membership total is forty plus and growing. Our flying field has seen a fair bit of activity recently and National Model Aviation Day is fast approaching on Saturday, August 17th. In recognition of this special day dedicated to promoting model aviation, there's no better way to share our hobby with others than to have our Monthly Fun Fly on that day. Mark your calendars and let's have a great time enjoying this wonderful hobby with other interested in Model Aviation. Again, Saturday, August 17th at around 7:00am till whenever.

In other exciting news, our club has been asked to be the starting point for Team American Spirit of the TransAmerica Tour 2014. The goal of TransAmerica 2014 is to fly two model airplanes across the USA. One gas powered plane (Team Spirit) and one electric powered plane (Team Pulse). The gas powered plane starting in California will fly west to east and the electric powered plane will start in GA at SEFF and fly west. The tour wants to involve as many AMA clubs as possible along both routes as they travel across the USA.

I've already coordinated with Edwards AFB and R2515 Airspace Management. MMM received the go ahead last week as the launch site for the American Spirit Team. The plan is to fly a gas powered plane, a Sig Rascal 110 with a 26cc engine from CA to NC in an effort to promote model aviation in a collaborative effort with AMA's National Model Aviation Day and to raise money for the Wounded Warrior Project (WWP).

The plan is to involve the local media to showcase model aviation and to help raise money for the WWP. The fundraising goal for the WWP is $10,000.

New Meeting Place:
Rosamond Elementary School
Room 26
Next Meeting: August 13th.

The gas powered plane called "American Spirit" will take off from the Muroc Model Masters (MMM) field at Edwards AFB, California in April of 2014 and begin its journey east to the Riverside Aeromodelers Society (RAMS) in North Carolina.

American Spirit will fly along a predetermined route to the next club that has volunteered to take part. The plane will land, refueled, and the next team consisting of a driver, spotter, and pilot will take over. The team that takes over will be from the next club on the route. This way they are familiar with its location and the peculiars about landing at that field. We would not want pilots to be landing at unfamiliar fields. And if they have to land sooner than expected, they know the area and its alternate landing locations. This will repeat across the USA. The Tour will encourage participants along the route to contact their local media outlets and explain the TransAmerica Tour 2014 to them. Teams will be provided talking points about the AMA, model aviation and the Wounded Warriors Project and how their donations help our American heroes in their daily lives.

Airplanes, engines, radios, electronics, cars and all support equipment is hoped to be provided by potential sponsors of TransAmerica Tour 2014. The Tour is also working with a television production company to film this tour and a number of model aviation events in 2014 to help showcase model aviation and bring it to prime time television.

What a privilege for MMM to host the beginning of a great journey. I look forward to April 2014!

Fly safe and have fun,
Tony Accurso,
President, Muroc Model Masters ✈

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AUGUST, 2013

AMA INSIDER

Basic Servo Linkage Geometry, Part 1

Jack Sallade (jack@flyrc.info), www.flyrc.info

When setting up our model aircraft we often make decisions on which servo arm or control horn to use on a given flight surface. Of course the torque and speed rating of the servo comes into play as well but I'd like to discuss the linkage geometry so you can understand what effect these decisions have on how the airplane flies. Here's the basic idea.

When you choose equal length, standard, one-inch control horns and servo arms and use the outermost holes to attach the linkage you are getting exactly what the manufacturer advertised. A 10° rotation of the servo arm will also rotate the control surface 10° and will do so while applying (as needed) the specified torque. Let's use a Hitec 425 operating at 4.8V as an example.

This servo produces 46 oz/in of torque. This would be an appropriate choice for a standard 40-size trainer. Using the standard arm and horn, this should give adequate service in this application. But what if you now move on to something a bit more interesting? The manual calls for these same servos on your new mid-wing, semi-aerobatic aircraft, but because of the way the pushrod guides are routed, it appears that you are going to need a two inch servo arm. (Okay my example is a bit extreme but work with me here!) Are your servos still okay for this airplane? You didn't change anything important right? The answers are maybe and you definitely did!

In reality the servo horn and control linkage are levers and, like any lever, increasing or decreasing the length of that lever on one side of the pivot point will affect the amount of force being applied as well as changing the amount of travel. Force and distance of travel are essentially a tradeoff for one another.

In the case of the servo arm, lengthening it will effectively lessen the amount of force the servo is applying to the surface while increasing the surface travel. Looked at in reverse, the surface is "pressing against the servo" the same amount, but you've given it a longer lever to push on, increasing the force needed from the servo to push back against it. Shortening the arm will effectively increase the force applied while decreasing the available travel. The exact opposite applies to the control horn attached to the surface. In our example we made the servo arm twice as long so we decreased our force applied from 46 to 23 oz/in while doubling the travel. This is a simple ratio of control horn over servo arm length 1/2 times the amount of torque produced by the servo. Note that because this is a ratio, if we use any equal length horn and arm we have actually changed nothing. Getting back to our example, you may have just created a big issue.

Not only have you now drastically cut the amount of torque available, but making the control surface move that much farther only increases the amount of wind resistance that surface is likely encountering. That first high-speed dive and attempted pull out could be the last for that aircraft. Once enough air is flowing against the surface at a great enough angle to need more than the available torque, the servo will simply stall and the surface may even blow back as the forces grow. Without an understanding of the linkage geometry the following is likely to be heard soon after: "I pulled and it just didn't respond!? It must have been a radio problem!"

In part two, I'll discuss some ways to use this knowledge to do more than just avoid disaster! ✈

Tips & Tricks

The following are from the newsletter of the First State R/C Club, New Castle DE

Preventing covering from peeling up

If you are having problems with your model's covering peeling up at the edges and it will not iron down, CA glue can fixit. I use a regular super glue dispenser to wick CA like a pen along the overlapping MonoKote joint to seal it permanently.
After the glue has dried, I wipe off the CA haze with a damp cloth and I am finished.
Done carefully, this works great and even glow fuel will not peel it up. This can also be used to spot the corners of the lettering and any pin striping. If you make a mistake you can clean it up with acetone on most non-fabric coverings.
Always wear safety glasses when using CA glue as it can easily splash or flick into your eyes (source: www.rcdon.com/html/hints_and_tips1.html).

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AUGUST, 2013

MMM Meeting Minutes 9 July 2013

Club President, Tony Accurso opened the general membership meeting at 6:36 P.M. at Rosamond Elementary in Room 26.

The reading of the June meeting minutes were waived and approved by Jerry Rice and seconded by Lou Figueroa.

Treasurer Ken Zakar gave a current financial report.

Old Business:

The base is currently working on the land lease agreement for the Muroc Model Masters as well as R2515 Airspace Requirements. President Tony Accurso has been working with key individuals during this process to secure the clubs future on Rosamond Dry Lake. Right now, everything is looking good and we should see an R2515 Letter of Agreement which defines our airspace and the times we will be able to fly in that airspace.

New Business:

The Board of Director's will be holding a meeting on Wednesday, July 24, 2013 to review and revise the MMM By-Laws. Changes which have already been unanimously approved by the membership are:

- RC Cars and Model Rockets are prohibited at the MMM Field and on Rosamond Dry Lake.
- Pets are not allowed at the MMM Field or on Rosamond Dry Lake.
- Altitude Limit will change from 500ft. to 400ft. AGL per AMA Rules.
- Any reference to NASA will be removed.
- No video cameras or still cameras will be allowed on model aircraft at the MMM Field

Items for further BOD discussion will include RC Helicopter/Quadcopter operations. R2515 notification procedures and signs posted at the MMM Field. Other topics will include placing a key personnel phone list placed in Frequency Box, new field equipment and security procedures when confronting unauthorized personnel flying/attempting to fly at the MMM Field.

The membership discussed creating MMM 30th Anniversary Polo Shirts. Tony Accurso will research the shirts, embroidery and overall cost.

John Sturgeon received word from the Boron Revitalization Committee that they would like MMM to fly demos at the town festival held on October 6, 2013. Tony Accurso will contact the Committee POC for further details.

Newsletter Editor John Sturgeon is always looking for photos to add to the website and newsletter each month. Please send photos of your latest project or photos taken at the field to John's email at oldcrow@bak.rr.com.

Charlie Threewit moved to close the meeting at 7:45 P.M. and it was second by Ken Zakar.

Show and Tell:
Phil Holmes brought his Herschel P75. Tony and Evelyn brought the FMS 1450mm P-51D Big Beautiful Doll.

There were 10 members in attendance: Tony Accurso; Evelyn Accurso; Ken Zakar; Jerry V. Rice; John Sturgeon, Phil Holmes, Bob Smith, Charlie Threewit, Lou Figueroa and Ron Scaggs

Volunteer Secretary Evelyn Accurso compiled these minutes on 9 Jul 2013.