



Tri-State Modelers Newsletter



January, 2010

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Latest News & Upcoming Events

Next meeting: Wednesday, January 13, 2010
7:00 **at Mt. Pleasant Home.**

I hope everyone is having a good building season ... it certainly is too cold to consider flying (for me anyway!). I found lots of interesting things to put into the newsletter so it is a bit longer than recent issues.

Dues for 2010 are payable any time now. Per the form at the bottom of the newsletter, please tell us if you have changed addresses, frequencies, etc. Dues remain at \$50 ... and trust me ... that is a real bargain.

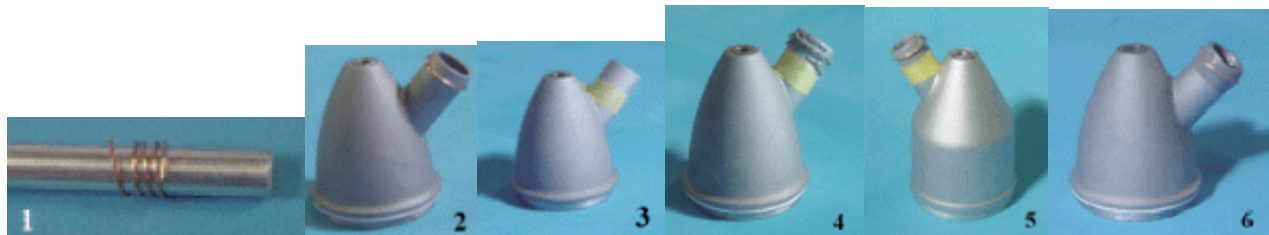
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From the Radio Control Club of Detroit, Clinton Township, Michigan

A Secure Silicone Exhaust Deflector

by Noel Hunt



The newer breed of engines are great at retaining the fuel and oil in the engine, discharging it only from the exhaust outlet. Unfortunately, that outlet often discharges onto a fuselage side, or a wing surface, and so we still need to clean the aircraft at the end of the day's flying. Such was the case with my Norvel .40. I tried the standard silicone exhaust deflectors a couple of times and they did keep the airplane clean, but only for a flight or two. Then the airplane would land with the deflector missing and sludge on the fuselage and wing. Chances of finding the deflectors? Zero!

I devised a neat, simple, inexpensive, solution that works. And it will work on any muffler that has a smooth muffler outlet. (Some of the manufacturers are now including a zip-tie groove in the outlet that serves the same purpose.) I have since flown the Norvel with the same deflector for more than 50 flights. So I modified a few more mufflers and took pictures as I did so.

Step One: What you'll need:

- Appropriate size silicone exhaust deflector for your muffler, and zip-ties.
- JB Weld.
- Isopropyl alcohol and masking tape.
- Paper towels.
- Short length of 16 or 18-gauge solid copper bell wire.
- Side cutters.

Step Two: Thoroughly clean the muffler outlet using a clean piece of paper towel and isopropyl alcohol. Do this three or four times to ensure all the oil is removed.

Step Three: Wrap the copper wire around the muffler outlet about twice to get a consistent radius for at least one turn. Remove from the outlet and decrease the radius slightly for a snug fit on the outlet. (Or you can wind it around something that has a slightly smaller diameter—I used an Exacto knife handle.) Cut the ends so you have just one coil and the ends butt against each other. If it does not come out just right, repeat until you get a good fitting copper “o-ring.” (Pictures One and Two.)

Step Four: Cut a thin strip of masking tape and apply it to the muffler outlet, leaving only about ¼ inch of the outlet unmasked. Include a fold-over at the masking tape’s free end, to facilitate easy removal. (Picture 3.)

Step Five: Mix some JB Weld on a clean piece of disposable card. Apply a thin layer to the ¼ inch of exposed muffler outlet. Slide the copper o-ring onto the outlet and center (about 1/8 inch from the end). Apply more JB Weld to the outside of the o-ring. (Picture Four.) Using a clean piece of paper towel, wipe away most of the JB Weld. (Picture Five.)

Step Six: Carefully remove the masking tape while the JB Weld is still wet. This is where the fold-over will help. (Picture Six.) Allow the JB Weld to cure per the instructions. It is not like 30-minute epoxy; I give it 24 hours.

Step Seven: Install the silicone exhaust deflector on the muffler outlet and retain it in place with the zip-tie on the “north side” of the new copper o-ring.

These days my airplane requires very little cleaning, at least from oil residue. About all I clean is mud splash when the field is soggy. That’s going to be a tougher problem to solve. Mmm! On second thought, the Avistar might look good with wheel pants! →

From the Middle Point RC Flyers, Murfreesboro, Tennessee

Airplanes for Flying in Windy Weather

by Ivan Cankov

All too often, on an otherwise nice but windy day, folks just don’t fly. Obviously, for a beginner, that’s common sense—but for someone who has some experience, the wind can be a challenge that adds some spice to flying.

While it’s easy to see that experience level has a lot to do with how much wind is too much, it may not be quite as apparent that the type of model you’re flying also can have a great effect on your ability to handle winds.

Let’s go through some airplane design features to see which ones give us the best flying characteristics to handle winds and the resulting turbulence:

Size: In general, the larger the airplane, the better it will handle winds of all kinds; large models don't "flop around" as much!

Dihedral: The more dihedral in a model's wings, the more they are going to be affected by crosswind gusts; it is hard to keep the wings level, therefore lineup to the runway is difficult in a crosswind situation.

Wing Loading: The higher the wing loading, the less an airplane will be affected when hit with a gust.

Aspect Ratio: Lower aspect ratio (stubby) wings will be less bothered by gusts; there is less leverage for side forces to upset the airplane, and lower aspect ratio wings have a greater tolerance to changes in angle of attack caused by gusts.

Power: Having the power to overcome the force of wind is necessary. The same thing goes when you get into a sticky situation.

Lateral Control: Ailerons are beneficial in a crosswind landing and takeoff phases. The ability to dip a wing into a crosswind without changing heading is essential, as is the ability to rudder the airplane parallel to the runway heading while keeping wings level with ailerons while landing.

Landing Gear: Models with tricycle landing gear are easier to land and take off in a crosswind than tail draggers; in addition, the wider the spread on the main gear, the better.

Maneuverability: This one is a bit harder to quantify. You want a model with stability, yet you do need good maneuverability to cope with gusts. Therefore, you want a model that is stable, yet responsive.

Wing Mounting: Generally, a low-wing airplane will handle crosswinds better. This is because the center of gravity of the airplane is nearer, in a vertical sense, to the aerodynamic center of the wing.

Therefore, a side gust does not roll the model as easily. Moreover, by mounting the main landing gear on that low-wing model, they can be spread wider.

It's unfortunate that almost every preceding item is in direct opposition to the characteristics found in many popular trainers. The main exception is the requirement for tricycle landing gear. But even with trainers, there are differences. Compare a Seniorita with the Kadet Mk2. While the Seniorita may be a bit slower and a bit easier to fly, the Kadet, with its ailerons, higher wing loading, lower aspect ratio, and lower dihedral, is a far better airplane when flying in windy conditions. Going a step further with the same kit manufacturer, the Cougar (.40)/Cobra (.60) kits embody all the right characteristics for windy flying.

In closing, I offer Confucius' only known saying about RC flying: "To learn to fly in wind, one must fly in wind!" →

From the Mid Atlantic Radio Kontrol Society, Snow Hill, Maryland

Learning to 3-D and 3-D Well; Hovering and Torque Rolling

by Jeremy Chinn

Part 4 of 5

In the past installments, you got the appropriate virtual and real airplanes to fly, as well as practiced

methods to help speed your learning. During that time you also built two of the fundamental building blocks necessary to learning 3-D aerobatics—the Harrier and High Alpha Knife Edge.

It is now time to put those skills together to learn an advance level 3-D skill—the Hover. Why is the Hover an “advanced” level 3-D skill, and why did you learn to Harrier and fly Knife Edge first?

When hovering or flying a torque roll, you must use the tail of the airplane to control the model and keep it in a state of balance or equilibrium while hanging from the propeller disk. To do so, you must be very competent with the rudder and elevator to steer, or correct, the airplane. Learning to fly the Harrier and the High Alpha Knife Edge teach those skills rapidly and effectively.

The other reason is based on safety and airframe longevity. When an airplane falls out of a Hover or Torque Roll, it always passes through an attitude similar to a Harrier or a High Alpha Knife Edge. Since that attitude also generally requires slower movement to maintain altitude, it is generally best to “catch” the airplane as it falls out of a Hover or Torque Roll when it reaches Harrier or High-Alpha-Knife-Edge.

Once again this maneuver is much easier to learn on a simulator first using the “reduced time” method and then transfer the skills to real life.

The optimum conditions to learn to Hover start on a day with a mild constant breeze. Start with the airplane in a low (one to two feet off the ground) upright Harrier flying into the wind. I like a distance of about 40 feet away from myself for this exercise. Chose a spot over the field and gradually increase the throttle while initially increasing the elevator back pressure at the same time until the airplane is totally supported by the propeller disk. Inevitably, the airplane will begin to wander or lean left, right, or another direction.

Once the airplane gets out of Hover position, you have two choices to exit the maneuver:

1. Go to full throttle and climb up and out of the Hover. This is most pilots’ gut reaction and is fairly effective; however, if the airplane is totally out of shape, or in an orientation the pilot is not comfortable with, going to full throttle in that position can be scary or even downright dangerous.
2. The better alternative to the full throttle exit is to allow the airplane’s nose to fall until the airplane is either upright or inverted on the wing. The pilot can then fly out of the maneuver easily in either an upright or inverted Harrier, which was mastered earlier. Exiting in this manner is generally safe and also allows the pilot to get back into Hover position more quickly.

Some things to avoid for the person learning to Hover:

- Many people try to enter a Hover by flying in at high speed and pop the nose up rapidly to enter the Hover. Unfortunately, in this case, the airplane has a large amount of energy to bleed off before it can hit the “sweet spot” and initiate the Hover.
- Don’t waste time trying to learn to Hover two, three, or even four mistakes high. When at that altitude, there is no way you can see the airplane well enough to make the right corrections and keep in the Hover.

Continue this exercise until you can enter a Hover at will and enter and exit the Hover safely and fully under control. For extra practice, try entering a Hover from a High Alpha Knife Edge or Inverted Harrier. →

Tri-State Modelers

Minutes of the December 9, 2009 Club Meeting

Meeting Location: Mt. Pleasant Home

President: Carl Heidesch brought the meeting to order at 7: 00p.m. There were 13 members present. The minutes of the September 2009 meeting were read by Jerry Anderson & approved.

Treasurer's Report: (Bob Merrick) As of September 4, 2009 the balance was:

Cash_____	\$ 80.00
Checking_____	\$ 138.14
Savings_____	\$ 854.75
Total_____	\$ 1,072.89

Discussion Items

1. John Hauptert was thanked for cutting the tall weeds around the field. He was asked if it was possible for his brush hog to clear the area alongside the access road from the park gate to the field. We would first have to hand cut the larger growth, then John said he would clear the smaller growth. Gil Spence has always allowed us to cut any trees that cause the lane to be too narrow.
2. Fred said the battery is still in the tractor. He will treat the tractor with Heet then remove the battery and have it recharged. Fred needs a new key for the small shed.
3. Merlin has placed mouse poison in the sheds hoping to avoid any more mouse damage.
4. An election of 2 members to a 3 year term on the Board of Directors was held with Bill Gibson and Jerry Anderson elected. Members elected to the board will then be appointed to the various officers' positions at a special board meeting following the regular meeting. Members whose terms are up this year are Fred Foldenauer & Jerry Anderson.
5. A discussion regarding the Moles that have made there home at the field. Various ways of getting rid of the moles was discussed. It was decided that when we get close to flying season, we will work on getting rid of the moles.
6. Jerry Anderson presented a map resulting from the Leisure Services study of FDR park. There was concern about the location of the parking area for the Disc Golf area near the end of the EW runway. It was also noted that there was a restroom facility located there. Copies were distributed to the members so they can study it more. Jerry will be contacting our area VP and asking for AMA's input. Overall the study result was not too bad however, no input was asked for or provided by the club as was expected originally.
7. Mike Anderson brought a copy of the THonline.com Telegraph Herald from Thursday December 3, 2009 which lists the various club meetings. George Farmer was listed as a contact along with Keith Kettler. Jerry Anderson will contact the TH and up date the listing.
8. Mike Anderson advised that he had updated his copy of RealFlight to G5 and said that it was a big improvement over G3.5. Mike brought his laptop with the G5 and had it available for members to tryout after the meeting.

The meeting adjourned at 7:51 pm.

Next meeting: January 13, 2010 at 7 PM at Mt. Pleasant Home

Bring a friend

A reminder that the Iowa City Aero Hawks Swap Meet will be in the big hangar at the Iowa City Airport on the last Sunday in January (31st), 2010. This is a very good swap meet.

A Board of Directors meeting was held following the regular meeting. Officers for 2010 are as follows:

President: Mike Anderson

Vice President: Bill Gibson

Secretary: Jerry Anderson

Treasurer: Bob Merrick

Safety: Blake McKahin

Board Member: Carl Heidesch

Tri-State Modelers 2010 Membership Renewal Form

Name: _____ **Address*:** _____

City*: _____ **State*:** _____ **Zip*:** _____

Phone Number*: () _____ **Transmitter(s) Frequency No(s).*:** _____

I have renewed my AMA membership for 2010 – _____

Member Signature

AMA No. _____ **(required for all flying members)**

Remember AMA membership is required to fly at our club's flight field.

E-mail Address*: _____

Adult Member Dues **\$50.00** **Youth (< 19) Member Dues** **\$25.00**

Make Checks Payable to: Tri-State Modelers **Total Amount Enclosed** _____

Mail to: *Bob Merrick*
14273 Green Hill Dr.
Dubuque, IA 52003

***Note: Please provide additional membership information only if different from last year.**