March 2018 Newsletter

Upcoming Events:

- April 5 – Membership Meeting
- April 21 – Work Day @ Field
- April 28 – Fly Away Cancer-Coffee Airfoilers , Tullahoma
- May 3 – Membership Meeting
- May 12-19 – Joe Nall Week
- June 7 – Membership Meeting
- July 5 – Membership Meeting
- August 2 – Membership Meeting
- August 11 – NMAD Charity Fly-In – Club Field
- August 24-25 – MTRCCA Fall Fly-In – Dickson Airport
- September 6 – Membership Meeting
- October 4 – Membership Meeting
- November 1 – Membership Meeting
- November 3 – MTRCCA Swap Meet – Antioch, TN
- December 7 – Membership Meeting

Prez Sez:

Spring has sprung, at least that's what the calendar shows; although for the most part I'm not seeing it yet. Hopefully the weather will break for good soon. In the meantime, make sure that you do all of your preventative maintenance work on your aircraft now, before the flying season starts.

We just held our 24th Annual Swap Meet on March 17. 24 years is a long time. This event has been the primary annual fundraiser for the club and it has provided us with significant operating and capital monies over the years. Without this event we would not have been able to do as much as we have at this field and at prior field locations. This year's results were very good. While we didn't have the record profits that we had last year, we nonetheless had excellent results.

We had record table sales this year. In prior years we sold 5 foot table sizes and this year we changed to an 8 foot table size. The smaller size tended to be confusing to sellers who frequent swap meets and whose tables are generally 8 foot sizes. We had a 27% increase in table sales from last year's record table sales. The change in table size is not the reason for the increase; it's due to an increase in demand. We also changed the table layout which allowed us to add more tables into the same space.

Continued…

https://www.facebook.com/groups/mprcf/

www.mprcf.com

March Meeting Minutes:

The meeting, held at O'Charley's, was called to order by Dan Wandell @ 6:10pm. There were 13 members present. There were no guests.

The February meeting minutes were accepted as published in the Newsletter.

The February Treasurer's report was read and accepted.

There were 2 new members added since the last meeting.

Old Business:

Upcoming local events:

- MPRCF Swap Meet – March 17
- Cancer Charity Fly – April 28 – Tullahoma Club Field
- Joe Nall Week – May 12-19
- Association Fellowship Fly-In- June 9 (rain date 6/10) – Peeler Club Field

Field Development:

Since February Meeting:

- The field gate has been temporarily shored up to eliminate the sagging. Will do a permanent fix later.

Pending Actions:

- Remove trees at north approach
- Remove stumps in runway at the north end
- Remove rocks and other debris in the east runway perimeter
- Add "X" to runway ends
- Install giant scale starting stations
- Install sign with field's address and emergency responder phone numbers
- Seed runway
- Fix runway area erosion. Need to determine the drainage solution.

Prez Sez (cont.):

I want to thank all of those members who helped in some way with this year's Swap Meet. It was one of the smoothest Swap Meets that I can remember. A big thank you goes out to those members who helped with setup, helped run the event, helped with teardown, and who rented tables, paid for admission and/or bought raffle tickets. And a big shout out to all of the Middle Tennessee R/C clubs who publicized our event with their members. Later in the Newsletter are some pictures of the event.

Between all of the rain showers this month we have actually been able to make some improvements at the field. We purchased and installed an accordion style gate for the inside of the container. It was a fairly inexpensive solution and was easy to install. A benefit of this style of gate is that it allows ventilation throughout the container rather than blocking ventilation. This allows us to reduce the number of vents that we need to install. With the gate installed we are now able to separate the club assets into those that are available to members when they are at the field and those that we want to keep secured. Once we have things in the container organized we will change the container lock combination to be the same as the gate combination so that members can retrieve items from inside of the container. Later in the Newsletter is a pic of the gate.

John D. has been very active this month with field maintenance and improvements. He has made progress with the solar charging station. He has designed and is constructing the exterior shelf where the charging will take place and he has started to acquire the electronics for the station. John has also done repairs on several of the starting stands and has made temporary repairs to the sagging field gate. We are planning a work-day for April. I will send out an email with the details once we have determined the date.

Progress has also been made on correcting the drainage issue that we have had at the road gate. Clint R. has done some grading of both sides of the road and we have already seen significant improvement in the water runoff. There is some fine-tuning that Clint needs to do and we should be in great shape once he's done. Thanks Clint!

On April 28, our friends at the Tullahoma club are holding a benefit fly-in to support patients in need at Tennessee Oncology. If you want to experience another flying site, come on out; many of us are planning to go. See the event flyer later in the Newsletter for more information.

Well…that's it for this month.

Dan

March Meeting Minutes (cont.):

Field Maintenance Items:

- Fix drainage at the entrance gate and field gate – Clint volunteered to grade the entrance area in order to fix the drain issue and will assist with the field gate area.
- Evaluate/repair starting stations – Some repairs made. John D. handling. ($300 budget)
- Clean tables/chairs/bleachers – will coordinate with Dan who has a water tank.
- Relocate pilot stations more to the south
- Install first aid box/fire extinguisher – will install inside container after the dividing wall is installed. Members will have access to the container.

A budget was approved of $2,500 to correct the erosion issue and seed the field. This budget replaces the prior budget approved for the seeding.

Swap Meet:

The Swap Meet will be held on March 17. Sold 40 8' tables so far. This is equivalent to 64 5' tables which was the size we sold in prior years. Will need additional tables since the armory has less tables than prior years. If anyone has any connection for tables let Dan know. We will begin setup at 1:00 on Friday; volunteers are needed. An email will be sent. Need volunteers for concessions and teardown.

Airplane Setup for Gerry Rollins:

Purchased an e-Flite 1.2m BNF T-28 from Family Hobbies. $120 of budget remains for batteries and a charger. After the items are purchased the airplane will be presented when it can be coordinated with Gerry.

Storage Container:

- We purchased and installed an accordion locking gate to divide the container; cost was $221.22. Need to install a lock.
- The container code will be changed to the same as the entrance gate codes so that members will be able to access the container to make use of items.

Charging Station:

- We have batteries and some of the electronics.
- The remaining equipment needs to be purchased and installed. A budget increase was approved to complete the project. The new budget is $800.
- John Dudinetz has developed the specification for the system. Components can now be ordered.
- Storage container venting/cooling solution needs to be investigated.

Garage Port(s):

Inquiries were made with several suppliers: Watson's Portable Buildings, MetalMax Steel Buildings, Horizon Steel Structures and Eagle Carports, etc. Further evaluation will need to be made to determine size, number of units, and placement prior to purchase. Once the weather breaks, a meeting will be held with any interested members to make these decisions.

March Meeting Minutes (cont.):

Club Orientation Airplane:

The club received a donation of a "Sport 40" ARF (with glow engine and Hitec FM radio/servos). Mark Cramer volunteered to complete all of the assembly except for the electric conversion. Greg Doe volunteered to look for an electric motor and ESC at the Swap Meet to be used in the plane and volunteered to install the electric power system.

TN Veteran's Home Presentation/Field Visit:

The TN Veteran's Home, located in Murfreesboro near the VA, asked if the club could make a presentation to their residents and allow them to visit the field sometime. Dick Tonan and Doug Hopper volunteered to handle the details. No action yet.

2018 Events:

- The club will hold a Model Aviation Day event (together with Cane Ridge) on August 11. A sanction has been acquired.
- We may hold an Open House once we feel that the field is in a condition to do so.

Membership Renewal:

Memberships not renewed by March 1, will incur a $15 reinstatement fee is added to the dues amount. Members are reminded that a current AMA is required to fly.

New Business:

AMA Site Development Grant:

A grant request was submitted in February. We now must wait to see if we are awarded any funds.

April Meeting Location:

The April meeting will be held at O'Charley's.

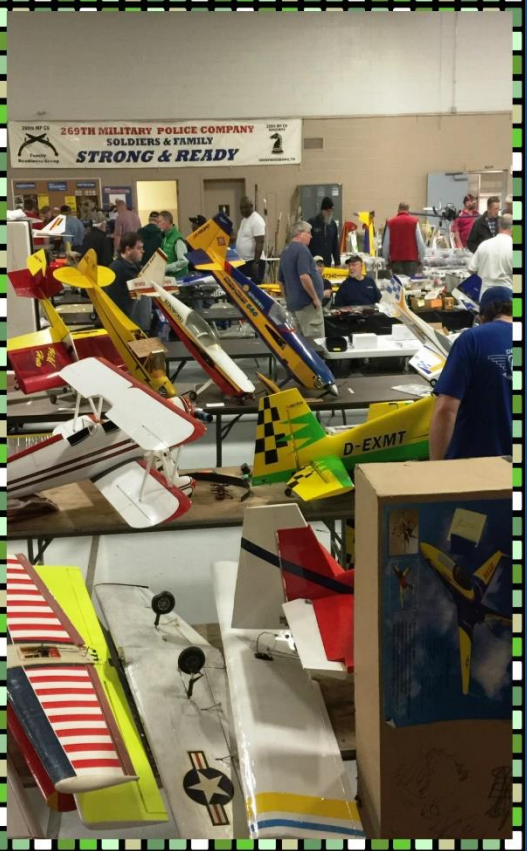
Meeting adjourned at 7:36pm.

Photos from Field March ‘18

Club Meeting !

April 5, 2018 @ O’Charley’s 6:00PM

2018 Swap Meet



April 28, 2018

FLY AWAY CANCER

Coffee Airfoilers, Tullahoma, Tennessee

$25.00 Landing Fee
Includes Lunch

All proceeds to benefit patients in need at Tennessee Oncology, Tullahoma

Open at 9:00 a.m. Raffle Drawing at 3:00 p.m.

Any donations gladly accepted.

C.D Bill Crawford

615.969.9288

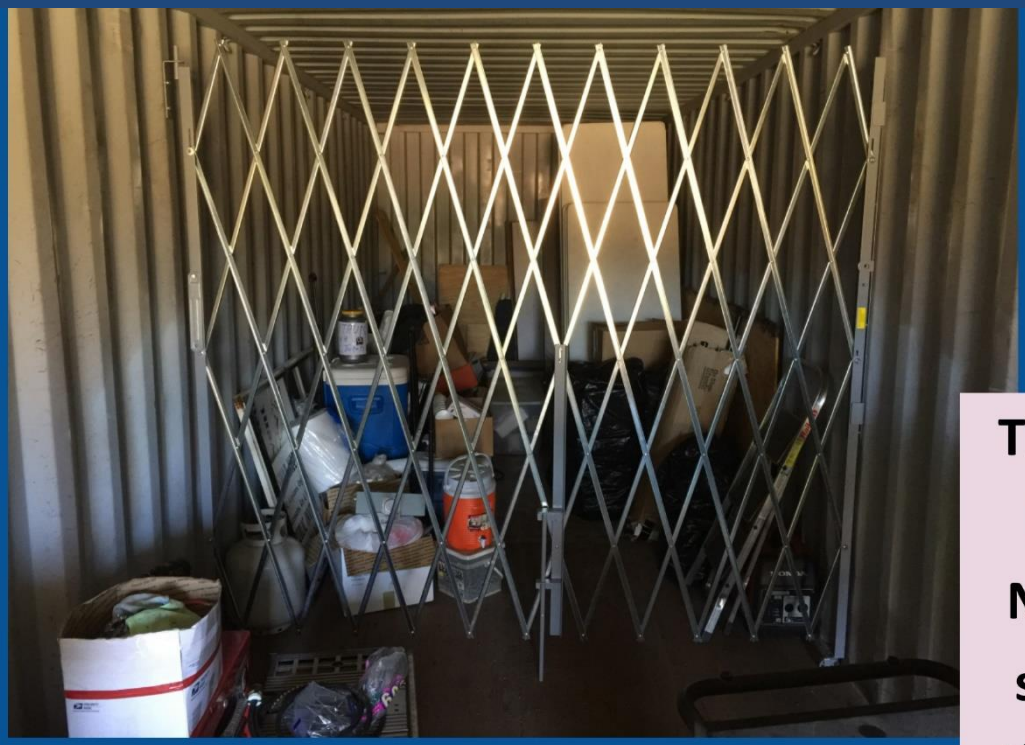
Come fly with us. Fly anything - gas, glow, electric, foamies, jets. drones and gliders. They are all welcome.

Directions.

If you are coming from Interstate 24, get off at Exit #117 and go west. You will be on the Wattendorf Memorial Highway (Arnold Center Rd.). Drive approximately 12 miles. Once you pass the Golf Course (on the left) we will be the next left. Don't worry you can see us from the road. If you are coming through Tullahoma, follow Hwy 55 east. Turn right on S. Anderson St, then take the left fork onto Forrest Blvd for approximately 1.5 miles. Field entrance will be on your right. For the ones who use a GPS, our coordinates are: 35° 21'29.6"N 86°10'44.8"W 35.358227(lat), -86.179113(lon).

Do you have used metal shelving that you could donate to the club? We could use shelving of any size for inside of our container to help keep things organized. If you do, let us know at mprcflyers@gmail.com.

Thanks!!



The container divider has been installed. Now...if we only had shelving to organize this mess. Hint, hint.

Article

How to Cover a Model Airplane

Model Aviation

This article is a tutorial on the process of adding a covering to a model airplane. You might do this to repair your plane from a crash, to customize it or to give new life to an old model. For instructions on preparing for this project, please see the article Preparing to Put a New Covering on a Model Airplane (**see MPRCF's February Newsletter**). It contains information on:

- Project tools and supplies
- Removing the old covering and preparing the surface
- Creating a covering plan and selecting the appropriate covering material
- Making a cutting plan

Project tools

Finding the Right Temperature

The iron is hot, but is the temperature right? Setting your covering or trim iron to the correct temperature will make all the difference between a great covering job and hours of frustration and burned or melted plastic. The two temperatures you need to know (MicroLite temperatures shown in brackets) are:

- Temperature for affixing the covering to wood: A low temperature (175°-195°F) is used to tack or seal the film to wood. The film won't shrink much at this setting.
- Temperature for shrinking the film: The temperature at which the film will shrink tight. Note that this is a range (230°-250°F). Ideally, use the lowest temperature you can to tighten the film. If you want to retighten it later you will have to use a higher temperature than what you originally used, By using a lower temperature to start with, you will have some temperature latitude to tighten it later if needed

It's worth noting that this last temperature only makes sense if you are using a covering iron to shrink the film. A heat gun for shrinking film works fine but these have no accurate means for setting temperature.

To learn what the correct settings are for the film you choose, read the directions that came with the film. Manufacturers like Coverite and retailers like Tower Hobbies publish information sheets and technical notes on specific coverings which are quite helpful.

Once you learn what the correct settings are for your film, the fastest and surest way to set the correct temperature on an iron is by using a Coverite Pocket Thermometer. To use the Pocket Thermometer, turn on the iron, warm it up for 15 minutes, then set the gauge on the sole of the

iron and get a direct read of the temperature. The Sealing iron has a direct read thermometer and a light to indicate when it is up to temperature. This little item is inexpensive and will last forever.

An alternative to a thermometer is to make tests on scraps of balsa to see at what setting the iron affixes the film to the balsa. Start low and turn up the heat slowly to avoid burning the covering. Once you know the setting, write it down.

If you think your project might be interrupted at some point, it is a good idea to use a metal tool rest for sealing and trim irons and put them on a tile square well away from anything flammable (such as thinners). Remember to unplug irons when you will be away for any length of time, but using a tile gives added insurance against accidents.

The Covering Process

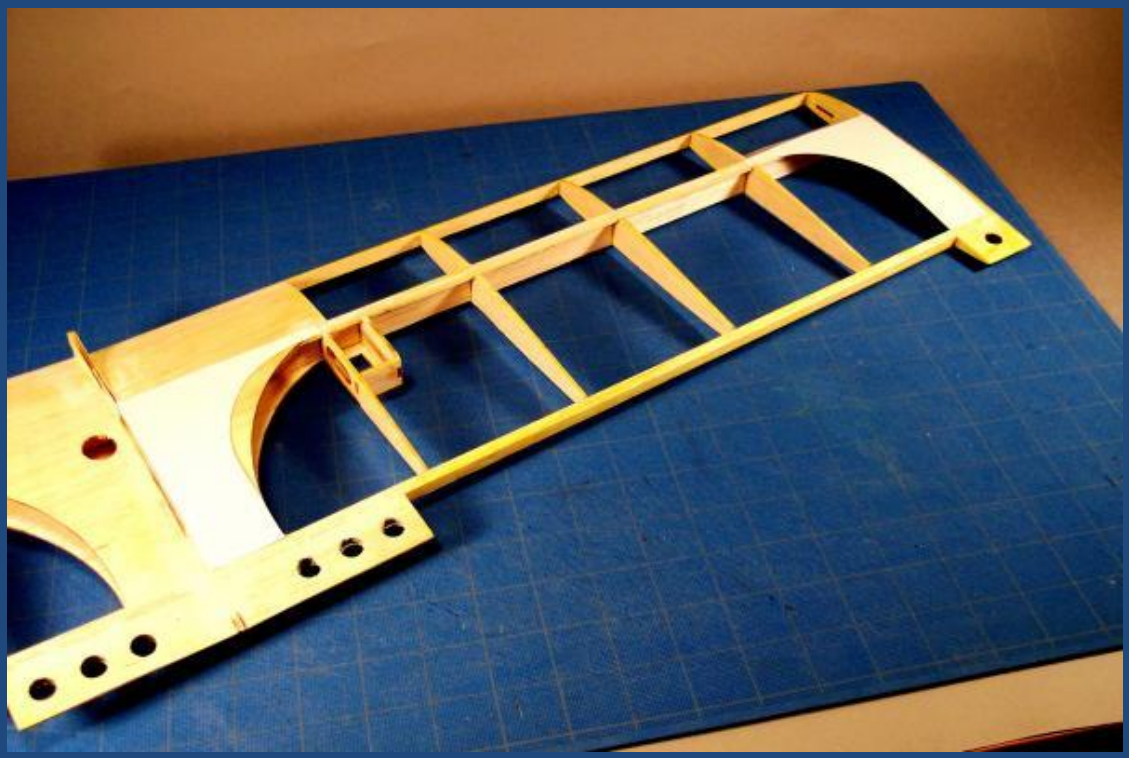
If you follow a logical process, it makes covering easier. There is a definite logic to covering and several main points to remember:

- Start small or start simple. Learn to cover by practicing on scrap balsa or on a smaller object like a simple wing, a rudder or stabilizer until you have a feel for temperature and the tools. Do more difficult items like a fuselage later.
- Cover bottom to top, back to front. Imagine air and fuel running over your model from front to back and from top to bottom. If the edge of a seam faces down or back it will be much less likely to show when light hits it, catch air from the slipstream, or collect fuel and dirt under the seam.
- On wings and stabilizers, cover the bottom first and the top last. Overlap the top covering around the leading edge and slightly over the bottom by $^1/_8$. On a fuselage, cover the bottom first, then sides, then top. There can be exceptions to this depending on how the model is constructed.
- Overlap dark over light, opaque over transparent: On a two-color scheme, try to have the darker color overlap the lighter one or opaque overlap transparent covering. With the Tiger 400 color scheme, the white on the front of the fuselage and wings will overlap the transparent yellow.
- Hide seams under trim. If a trim piece is applied on the side of a fuselage or striping on a wing, use it to hide a seam if there is one. On the Tiger 400 the red wing striping hides the seam where the white overlaps the yellow. White MicroLite is not very opaque and some of the yellow color would show through without this trim layer. It also hides the sometimes not-so-straight cutting lines.

Covering the Wing

Covering the wing and control surfaces in two colors is not that hard. We decided to cover the wing in two colors: transparent yellow over the open rib sections and opaque white on the leading edge, wing tip bay and center section. This will create transparent "windows' in the wing and to me this improves visibility at a distance besides looking great. If you don't want to get involved in a two color covering job, you can follow these directions and cover the entire bottom of the wing first and then the top. Most directions that come with rolls of covering illustrate covering a simple wing as an example.

The design drawing for the Tiger 400 (read that article here) showed a curved shape for the transparent sections on the wing. One way to do this is to add small sections of balsa sheet in the shape of the curve at both tips and the center section of the wing. Here's how:

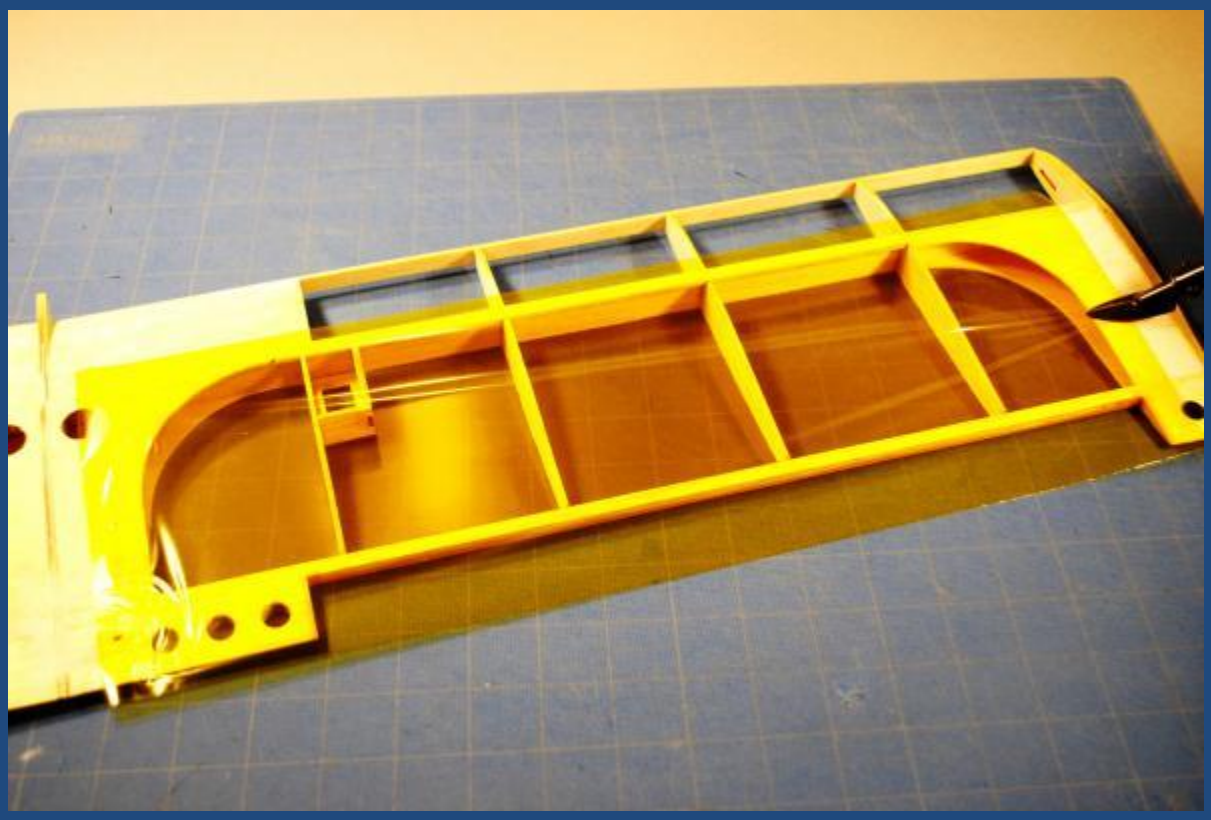


Cardstock patterns for the curves

First, make cardstock patterns for the curves and transfer these curves to $^1/_{16}$ sheet balsa. A tip shim pattern is made to fit $^1/_{16}$ under size at both the top and bottom edges. Cut out of balsa and then glue in place. The $^1/_{16}$ square balsa strips are added at the leading edge to catch the balsa curved piece. With these in place, you now have something to anchor the curved sheet balsa pieces. Once the pieces are glued in place, fill any imperfections and lightly sand.

Begin the wing by covering small items like the inside edge of the aileron cavity. A trim iron is ideal for these small pieces. The forward edge of the aileron cavity will be covered by the film from the top and bottom of the wing. It is helpful to place the wing on a towel to avoid scratches to the film while working on it.

Wings are covered bottom first, top last, so that the top film overlaps the bottom film. To begin covering, cut the transparent yellow covering according to the cutting guide. To cut the covering, lay it on a cutting board; adhesive side up. With transparent material, a cutting board marked with a 1-inch grid makes this operation a snap. Mark the covering with the water-based Pilot pen. Cut the covering from the roll using a steel rule and a sharp hobby razor knife. Then, remove the backing and lay the covering on the bottom of the wing.



Try to employ a V-pattern for attaching the covering whenever you can (see photo above). Begin by tacking the inside center seam and then stretching the film tightly to each side of the center. Then form a symmetrical V out to the tip. Once the V is formed, begin at the center of each side and tack at about 1-inch intervals out to four corners. Once it is tacked, seal it down to the wood.

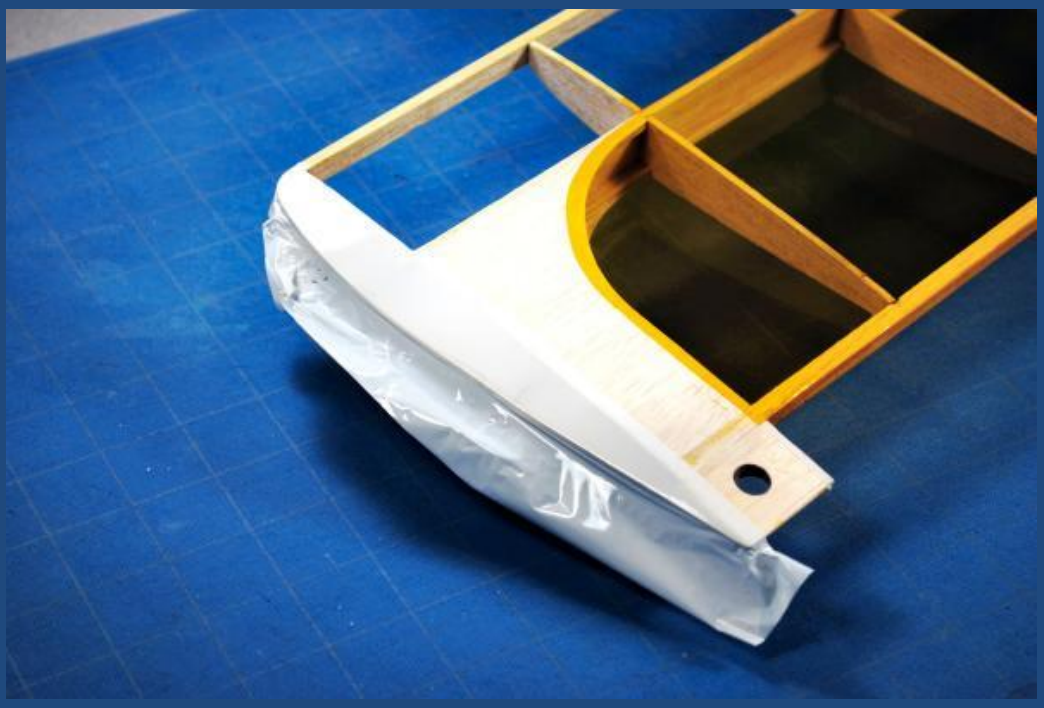
Cut notches for the film around each rib and seal it down to the spar, then seal it to the trailing edge as well as the center and tip of the wing panel. Seal all edges again and then shrink with heat gun. A good tip is to employ a tactic of sealing down more edge than you know will eventually remain on the model to assist in keeping the film attached while you heat-shrink it. Make it routine practice to reseal film after shrinking with a heat gun as the gun can loosen the adhesive. When all this is done, trim the panel.

Using a Heat Gun

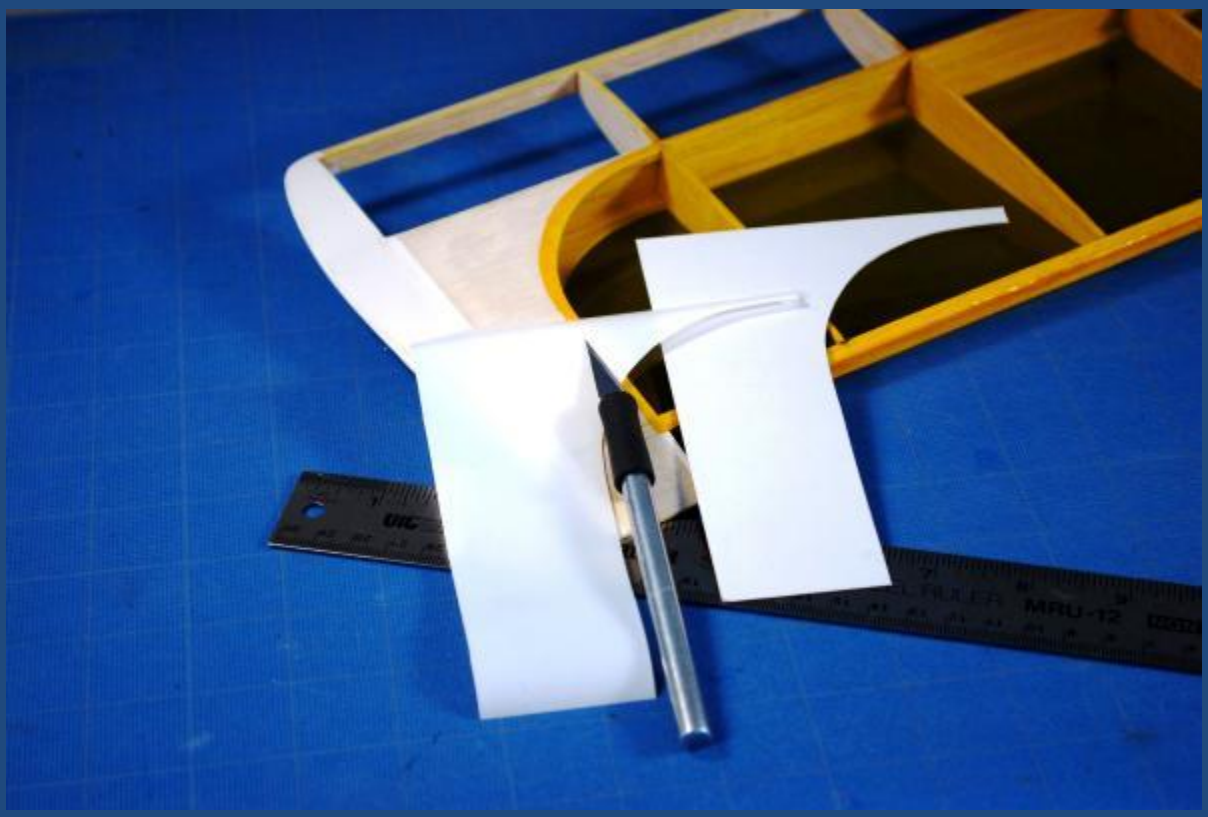
Shrinking film with a heat gun is more art than science. Generally, try to work the entire piece at one time, starting 3 – 4 inches above it. When using a heat gun, remember that you can always get closer and bring more heat into contact with the film. If you are using a covering iron, remember that you can always turn up the temperature. If you get too close with a heat gun, you can easily burn a hole in the film and that usually means you will recover that panel.

Keeping the heat gun or covering iron continually moving across the film will help avoid burn holes. Covering neighboring film with cardboard or a wet rag is a great tactic to avoid burning film. Once the film is taut, rub down any area on sheet balsa with a cotton ball to work air bubbles out and help set the glue. For small creases that don't pull out with the heat gun, you may wish to remove them with a trim iron rather than risk getting too close with a heat gun. Reseal all seams after shrinking with a heat gun.

The ends of the finished, heat-shrunk, yellow wing panel are now trimmed using a cardboard pattern, a new hobby razor blade and a light touch. Apply just enough pressure to cut only the film and not the balsa under it. The trailing edge is also trimmed leaving about $^{1}/_{8}$ in. wrapped around the upper side of the wing.



The tips are covered in opaque white. If you are doing a one-color covering job, cover the tips first so that the wing film will overlap them. On the Tiger 400, start with the bottom of the tip and then cover the top. Tack the film on the high point or spar position of the top of the end rib and then stretch and seal down that rib to the trailing edge. Repeat this for the leading edge. Then, beginning at the same spar location, stretch the film down and seal it to the outer edges of the tip. When done, carefully shrink it and trim off the excess. Repeat this for the top of the tip, making sure to overlap the bottom, and you have one tip done. Tips take time but the reward is worth it.



To cover the remaining curved portions of white near the tip and wing center, make a cardboard pattern to fit the space. This will be almost the same shape we filled with sheet $^{1}/_{16}$ balsa. Add some extra film on the non-curved edges. To make the pattern and most of the other ones we will be using, use thick poster board and a sharp blade on your hobby knife to ensure a smooth cut. When done, cut out 8 pieces of opaque white film.

For attaching the white panels, a trim iron again comes in handy. Keeping the seam small, tack at the lowest point of the curve and pull and seal down to the trailing edge overlapping the yellow slightly. Then finish the curve. Next seal down the center seam as well as the top edge. Finally, smooth out wrinkles, pushing out air bubbles and close up the seam at bottom. Shrink the panel with a gun or iron.

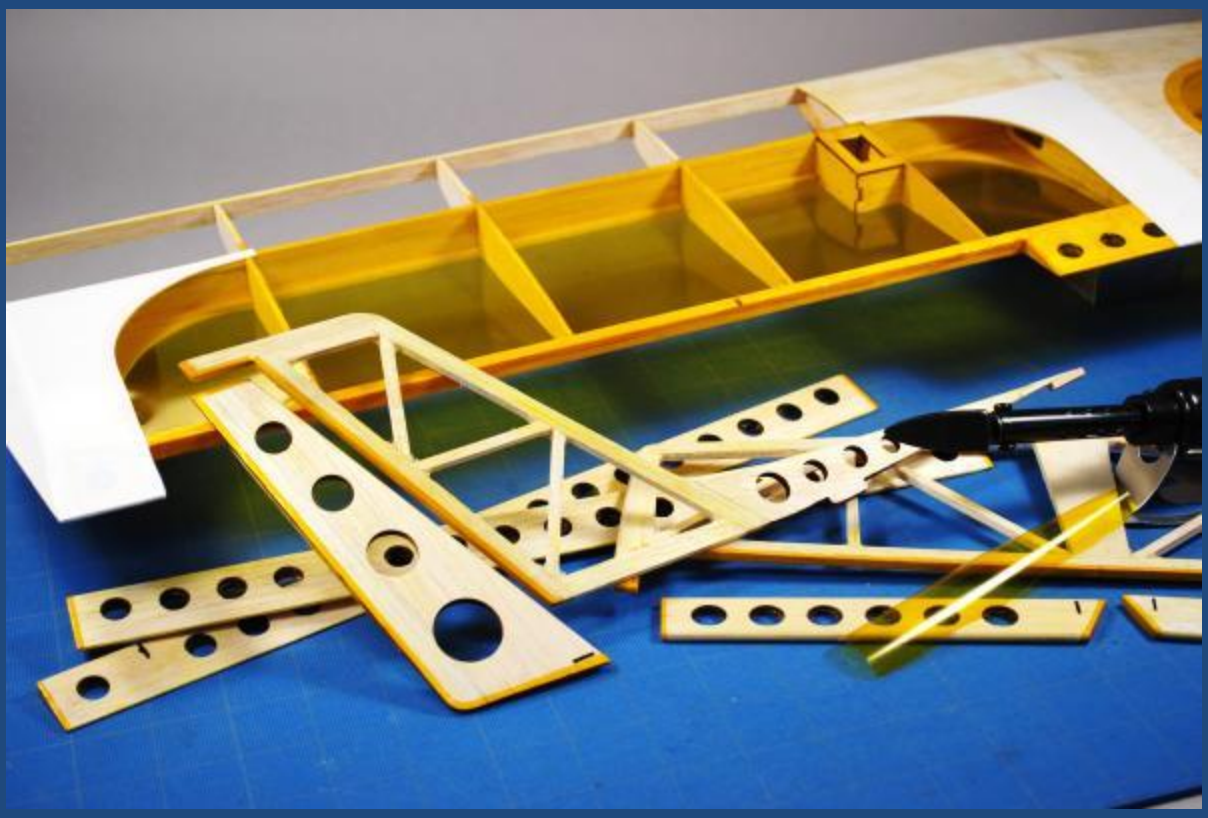
If using a heat gun a delicate touch is required. Cover up the yellow panel next to it with a piece of cardboard or a damp cloth to avoid burning it. Cotton is used to work out any air bubbles. Repeat this process for all the panels. When done, you can apply Top Flite MonoKote Trim Solvent with a small swab to seal the edge between the white and yellow film.

After these panels, you'll find the wing's leading edge is a snap to cover in opaque white. The bottom side is done first so that the top film overlaps it. The film is attached along the spar line, tacking it first at the center and then stretching and sealing down to the tip, taking care to keep the line straight. The leading edge is tacked in the center of the wing panel and tacked and stretched at one inch intervals in both directions.

When done, all edges are sealed down and the panel is shrunk and the excess trimmed off using a straight edge. Cover both bottom panels and then both top panels. The wing is now completely covered in yellow and white film. All that remains is to attach the red trim. (*Note: In seam areas that will be hit hard with exhaust residue on glow aircraft, such as the top wing's red over the yellow/white seam, it is a good idea to wet a cotton swap with some trim solvent and quickly run it along the seam. This adds an additional seal to help fuel-soaked areas resist the oil. Wipe up any excess solvent quickly with a dry paper towel to protect the finish.*)

Covering the Control Surfaces

The next step is to cover the control surfaces. Most small pieces like the vertical fin, rudder, stabilizer, elevators, and ailerons need to have small strips of yellow added on their edges. This process can be tedious but is necessary for a good final product. The pieces are then covered in transparent yellow using the same process we used for the wing; bottom first, top last.

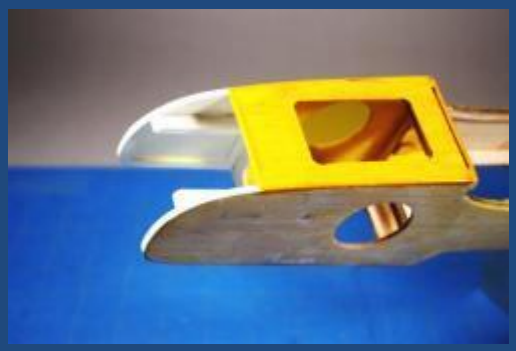


If possible, cover all of one color (such as yellow) and then clean the covering and trim irons before switching to a second color. Irons pick up color from the film. Cleaning irons between colors helps avoid yellow or red smears across your snowy white film. Use Ironex to clean the irons when they are cold. Remember to avoid fumes.

Covering the Fuselage

It is time to cover the fuselage. Before covering the fuselage, paint the engine compartment using a paint color that matches the film near it. Use a fuel-proof spray paint, dope or polyester resin if the model is fuel powered. The Tiger 400 is an electric and was sprayed with non-fuel-proof white spray paint.

On a two-color scheme like the Tiger 400, plan ahead on the fuselage so that you cover dark over light, opaque over transparent, from bottom to top, and back to front. On the Tiger 400, the opaque white is on the nose with a stripe running down to the tail. The remainder of the fuselage will be transparent yellow with some red trim.



The bottom front and rear of the fuselage are covered first. Seam the front panel along the firewall followed by the back and sides. Shrink and trim off the excess. On the bottom rear fuselage, seam it aft of the wing and stretch and form a V to the tail. Then tack down and seal the sides. Shrink it and trim off any excess using a steel rule. Depending on the model, let about $^1/_8$ to $^1/_4$ in. overlap upwards onto the sides.

To cover the fuselage sides, seal the fuselage at the nose then pull and form a V back to the tail. Then tack and seal down the sides starting at about the wing saddle and the cockpit working fore and aft in both directions. You'll have to make small tabs in the film in the area of the wing saddle and cockpit to tack down the film. Seal the edges and trim the film. The top film on the fuselage is added last finishing off the transparent yellow film covering on the fuselage.

The first step in applying the white film to the fuselage is to attach the rear portion of the white side strip over the yellow. The white nose portion then overlaps the rear side strip. The easiest way to attach this strip and much of the other trim on the model is to use Windex, a method that can "virtually" eliminate air bubbles between layers of film. Spray a light coat of Windex on the plastic, align the white film where you want it, and squeegee out the excess Windex with a credit card. Then clean up or work out any remaining Windex with a tissue.

Pushing the credit card rather than dragging it works better and the edge of it can be used quite effectively to nudge pieces of film into place. If you do have any persistent air bubbles, prick them with a sharp pin and work out the air. Let one side dry over night before doing the other side or you may regret it. If it overlaps an edge, such as the leading or trailing edge, tack the film to that edge with a trim iron. When the film is dry you can use very low heat on a covering iron to set the adhesive in the trim film and then seal the edges with trim solvent. If a piece does not look right when dried, it can usually be easily lifted, sprayed and repositioned.

To apply the white film on nose of the fuselage, make a poster board pattern to cut away the yellow under it leaving about $^{1}/_{8}$ for an overlap. Align the cut film to the stripe and tack it. Then, stretch it carefully and tack along the edges of the nose. Shrink it with an iron or a heat gun. The red film trim strip was applied with Windex in the same manner as the white side stripe it overlaps.

The fin and stabilizer are always fun parts because they mean the covering job is nearing its end and your "brand new" airplane is nearly ready to take to the air. For the white and red film on the fin and stabilizer, cardboard patterns were made and the white film was then applied using the Windex method.

Finishing Touches

To finish off the wings, $^{1}/_{4}$ in. red trim was cut from film in strips and curves using a very sharp hobby razor knife. The cardboard patterns for the curves were made easily with help from a Hobbico circle cutter. All red trim was applied using Windex, the adhesive set with an iron at low heat, and then sealed using trim solvent.

One of the hardest things to do is cut out small trim pieces like the $^{1}/_{4}$ in. wide curves for the red trim and still get a smooth cut. Here are some tips: Use a new, sharp hobby razor blade. Make sure the pattern is smooth so the knife blade will not hang up on it. Tape one side of the pattern down and, while keeping pressure on the pattern, cut the un-taped edge in one smooth, continuous motion. Without moving the pattern, put tape to the other side of the pattern, remove the original tape and cut the remaining side. When designing these curved pieces allow extra film to overlap the adjoining piece.

At this point we decided to deviate from the plan and add red, $^{1}/_{8}$ in. Great Planes Kwik Stripe striping tape on top of the white side stripe and $^{1}/_{16}$ in. white tape along the back edge of the tail surfaces to echo the line formed on the wings. Once the airplane was done, it felt like it really needed one more stripe to complete the trim scheme. Striping tape was a fast and easy way to do it. We also cut the black canopy down in both height and length; giving it a sleeker appearance.

The March Newsletter contained the Article: Preparing to Put a New Covering on a Model Airplane