

# HOW TO TIGHTEN COVERING ON ARF MODELS

Due to the nature of mass production, your ARF model's factory-applied covering will probably require some attention to make it look the best that it can. Its appearance can also be affected by variations in temperature and humidity between the time covering was applied and the time you remove your new model from the box. Please note that removing wrinkles by hastily going over them with a heat gun or a covering iron will not provide the best, longest-lasting result. You should **take your time to diligently** go over the **entire** model with a covering iron as described below.

Some models are shipped with tape holding some of the parts together. Before proceeding, remove the tape and use small paper towel squares dampened with naphtha (lighter fluid) to wash off any glue left behind. Later, after you have tightened all the covering, CA debonder may be used to clean off any pigmented adhesive that gets deposited on the model.



After attaching the covering sock to your iron, the next thing to do is set the iron to the correct temperature for the covering that is on your model. If your model is covered with Top Flite® MonoKote® and you are using the 21st Century covering iron, set the temperature dial to 325°F [160°C]. This should provide an actual surface temperature on the bottom of the sock-covered iron of approximately 280°F [140°C].



If you do not have a 21st Century covering iron or if you are not certain what covering was used, you can determine the ideal iron temperature yourself. Most coverings work best using as much heat as possible, but

not so hot as to cause seams to pull away or the covering to form “bubbles” over where it is attached to wood. To find the optimum temperature, set the dial on your iron to a medium/low heat. While pressing down on the iron, glide it over covering on part of the model that is over wood, such as leading edge sheeting or the bottom of the fuselage. Observe the covering to see if any bubbles appear. If bubbles do appear, the covering is too hot. Try using a lower temperature until you can get the covering to shrink and stick without bubbles forming.

If no bubbles appear, try more heat and repeat the test until you can “zero in” on a temperature that will get the covering to stick and shrink the most without causing the seams to pull away or bubbles to form.

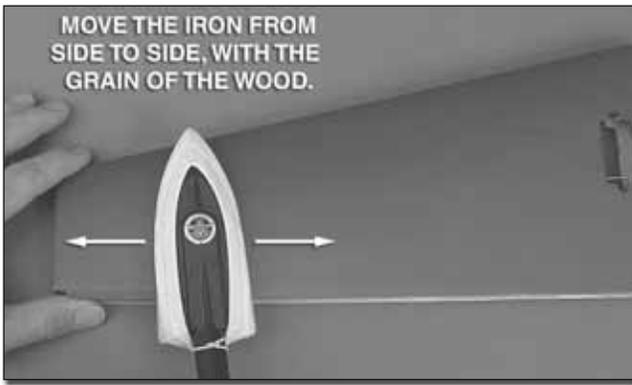
Once the ideal iron temperature has been determined you are ready to begin. There are three objectives:

- 1) Remove wrinkles.
- 2) Tighten areas of loose covering (even if there are no wrinkles visible).
- 3) Over framework and sheeting, securely bond the covering to the wood.\* To do all three correctly, and to provide lasting results, you should go over the **entire** model—including areas where loose covering or wrinkles may not currently be present. For most medium-sized models, this should take about an hour.

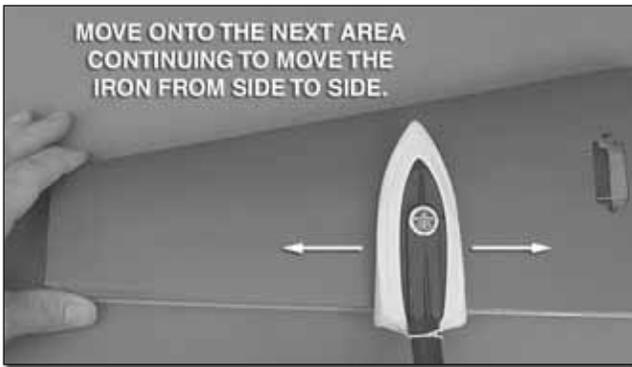


A model airplane covering iron with a protective cloth cover will be required. The Coverite™ 21st Century® Sealing Iron (COVR2700) is recommended because it has a contoured shoe, a calibrated temperature dial and a long cord. A covering cloth protects the covering and balsa underneath, but more importantly, distributes heat from the iron more evenly. The cover cloth for the Coverite iron is the 21st Century Cover Sock (COVR2702).

*\*Even though there are no wrinkles and all the covering appears to be tight, do not skip Step 3. Wherever the covering is over wood it must be stuck down. Otherwise, over time or in the heat of the sun, bubbles or other areas of covering that aren't bonded to the wood may turn into wrinkles.*

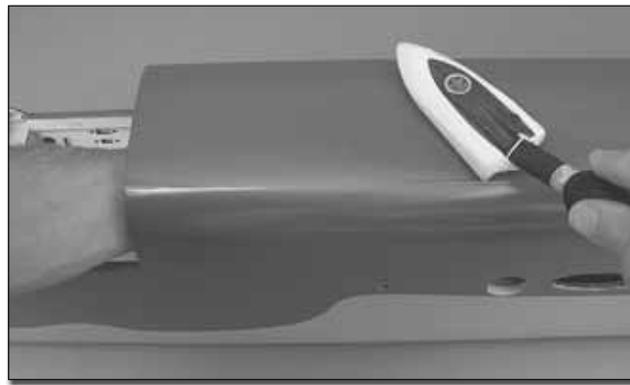


To begin, using little pressure, place the iron on the part and glide it from side to side over a 3-4" [80 – 100mm] area. Once you can see that the covering has tightened up continue moving the iron back and forth but apply pressure to stick the adhesive on the bottom of the covering to the wood—this is why a covering sock is required. Otherwise, the iron could scratch the covering and dent the wood.

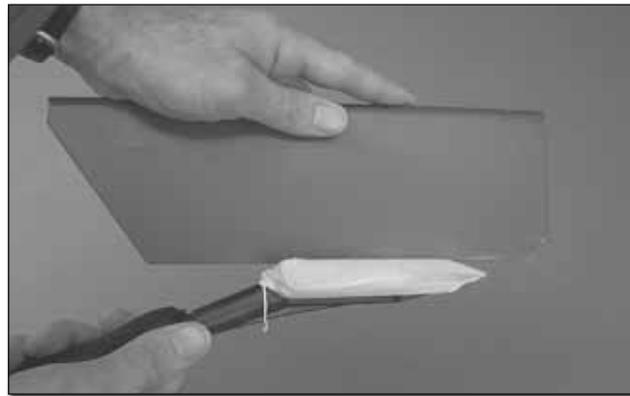


Once you can detect the wood grain through the covering you know it is stuck down. Move the iron over to the next area and continue this process until all the covering has been securely bonded wherever it is over wood. If bubbles appear in the covering, move the iron faster or use less heat. When you get to parts of the covering that are over open structure (such as between wing ribs on a wing that is not sheeted) do not apply any pressure.

In some cases, where you just can't get air bubbles to go away, use a sharp, new #11 blade to poke small vent holes in the covering over the bubble and go back over the area again. Sometimes, bubbles are caused by resins in the wood or adhesive that may have been left behind or wicked up through from the bottom.

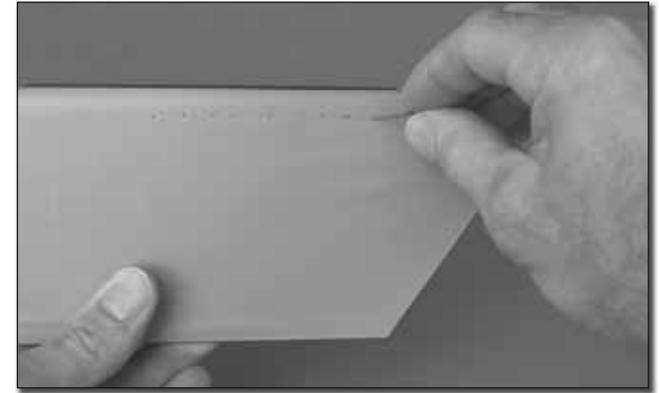


Where sheeting is thin or soft over unsupported structure (such as between wing ribs or between stringers and bulkheads in the fuselage), it may bend inward causing the covering to stretch even though you are trying to shrink it. Where possible, reach down inside the model and support the sheeting with your fingers while going over the outside with the iron. Where you can't reach in, lightly glide the iron over the area using little or no pressure—more heat may also help even if it causes the covering to bubble slightly. If you still cannot get the wrinkles to disappear, use a second iron without a protective sock to apply even more heat. Once the wrinkles over soft sheeting are gone, you can lightly go back over the area again with your sock-covered iron.

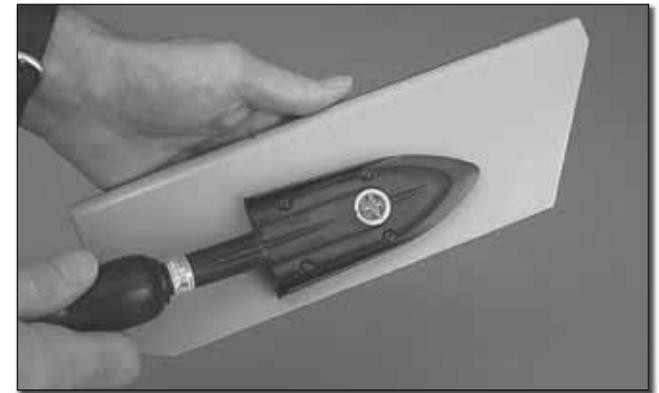


When tightening covering on smaller parts that have open structure (such as elevators, rudders, or parts of small models), the covering must first be securely bonded to the structure all the way around. And, if there is not enough overlap between the top and bottom pieces of covering and around the edges, and if the edges are not stuck down, the covering may loosen and pull away from the structure. Use your iron with a covering

sock to bond the covering to the framework all the way around. Press down and make sure the covering is thoroughly attached.



Additionally, air inside smaller parts needs to be ventilated. Otherwise, sealed in air will expand, causing the covering to stretch instead of shrink. Use a pin to poke small holes in the **bottom** of the covering between each rib.



After the covering has been bonded to the framework and vent holes have been punched, the covering may now be tightened. If you can't get all the wrinkles out or if you can't get the covering tight enough, use a covering iron without a protective sock to apply more heat, but don't heat the edges at the same time or the covering may pull away.