

Covering Airframes with Iron-on Covering

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General Principles:

1. Always check the temperature range needed for your brand/type of covering. The following table lists three of the more popular ones:

Guidelines for Covering Iron Temperature Ranges			
	<i>Covert Black Baron</i>	<i>Ultracote</i>	<i>MoneyKote</i>
Low (a)	~190° F	~250° F	~250° F
Medium (b)	~220° F	~ 280° F	~300° F
High (c)	~240° F	~330° F	~350° F

Note: Here's how to conduct the "taste test" for coverings:

- a. Low range: Adhesive side begins to melt/for foam attachment
 - b. Medium range: midway between low & high/for wood and plastic attachment
 - c. High: piece of covering dropped on iron adhesive side up will wrinkle & distort/for shrinking
 - d. Beyond that: a piece of covering dropped on iron adhesive side up will **melt**
2. Cover a complete area with one piece; or, cover from rear to front, such that a seam has the front piece overlapping the one farther back – this keeps the slipstream from lifting a seam.

Fillets and Inside Corners:

Fig. 1.

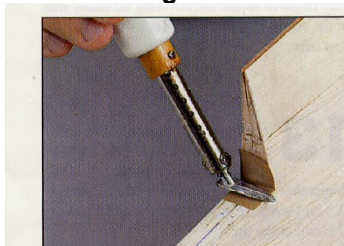
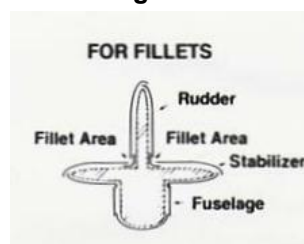


Fig. 2



1. Do these first, on any surface/airframe component.
2. A small iron as shown in Fig. 1 is useful, but not usually necessary.
3. Seal fillet to one end, then use an iron or heat gun to work toward the other end, pressing the fillet down with the iron, a rag, or an oven mit.

There are 2 basic shapes to the business end of irons:

Fig. 3 TopFlight

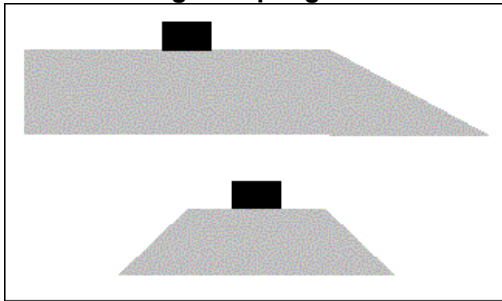
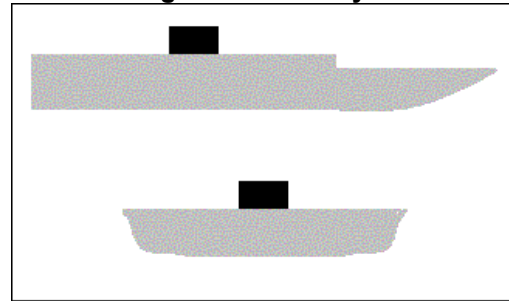


Fig. 4 21st Century



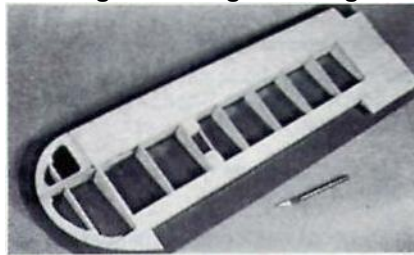
Each shape has its strong and weak points, and either can be used for any covering task. I believe the 21st Century iron is better for fillets, but I have done them with the TF iron, also.

Surface preparation:

Fill all holes and dents. Be sure the surface(s) is/are completely sanded smooth, and then use a tack rag moistened with water, denatured alcohol or acetone (use gloves for acetone*) to clean off all dust.

Wings:

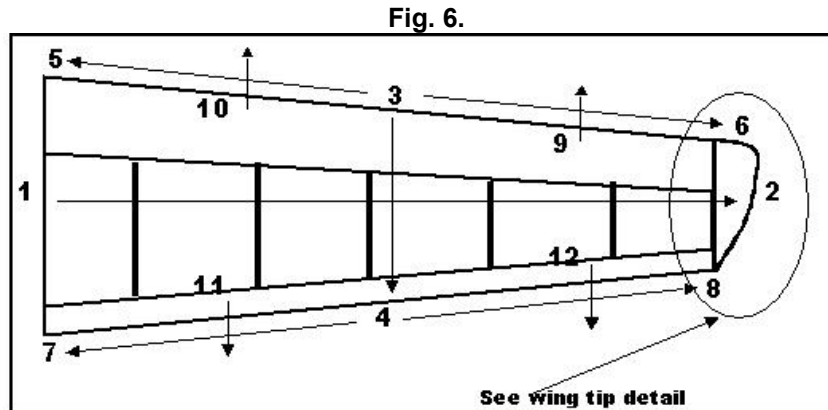
Fig. 5 Cutting covering



Cut covering larger than the area to be covered, as shown in Fig. 5. Actually, in order to have some covering to pull on while sealing, it should be larger than shown in that figure. An extra inch to inch-and-a-half is good.

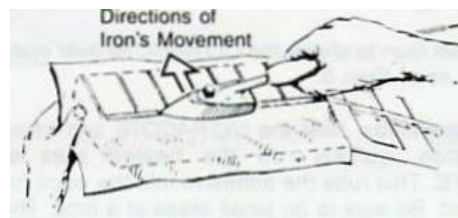
* Acetone is a liver poison that is readily absorbed through the skin – therefore, latex gloves will protect you.

For open framework wings, tack around the edges in the order shown in Fig. 6:



Spot-tack in the numbered sequence, pulling the covering snug in the directions the arrows show. Next, seal along the root rib and tip **rib** (not the tip, itself). Pull the covering snug away from the part of the wing being sealed, but don't put large wrinkles in it. Once sealed, it can be shrunk tight using an iron or a heat gun.

Fig. 7 Sealing along spar



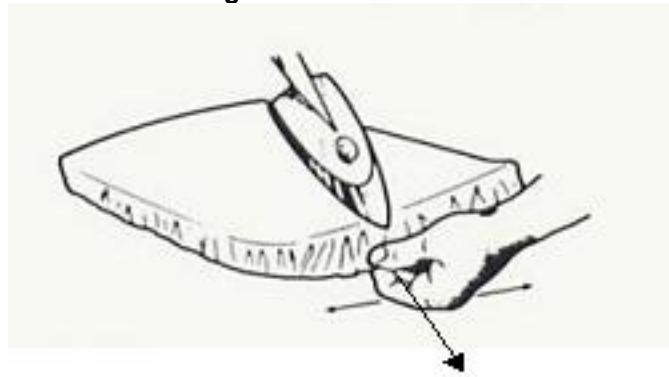
If there is an exposed main spar, sealing along it, as shown in Fig. 7, is a good technique. This would be between points 1 & 2 in Fig. 6.

For fully sheeted wings, follow the preceding technique, except leave the tip area unsealed. As you work your way from the root toward the tip, the air needs a place to escape. Using a head gun or iron, work your way outward by heating the covering until wrinkles disappear, rubbing the covering down with an oven mit or rag.

Wing Tip:

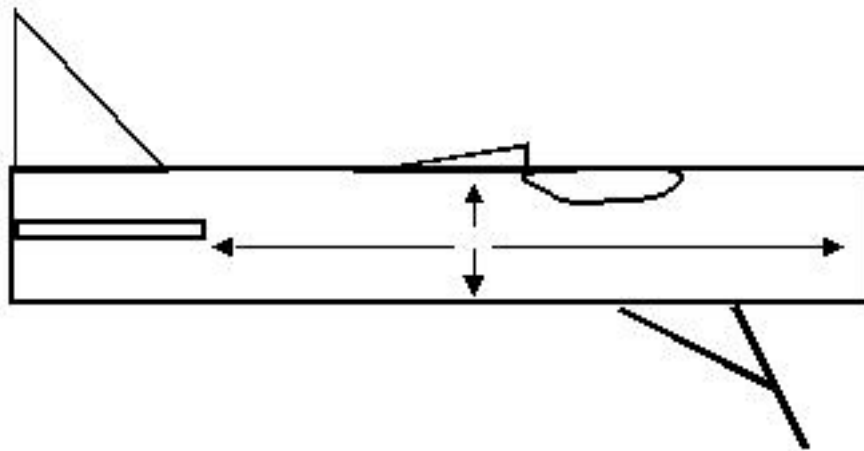
(Section from the Black Baron instruction sheet.) Compound curves should be done slowly, about an inch at a time. Pull the covering over the outermost part of the curve and tack it; move about an inch away, pull covering snug, and tack again...and so on until the entire tip is tacked. Then seal the entire edge of the tip, and shrink the rest of the covering. See Fig. 8.

Fig. 8

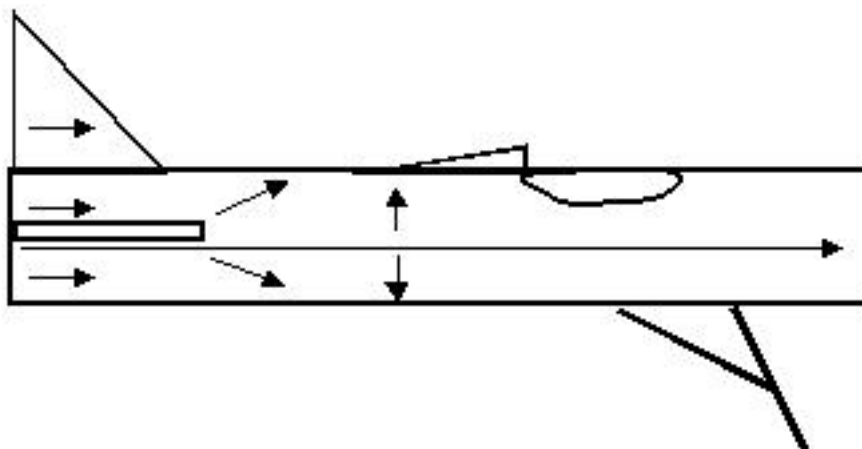


Fuselage & Empennage:

These techniques are also used to cover the tail surfaces. For the fuselage, covering progression should be as shown in the figures below.



-- or --



Either technique will work well – I prefer the second.