Wing Fold and Unfold Procedure
Apollo Fox
Apollo Aircraft Inc.
Appendix to the Aircraft Operating Instructions
Preface:

One of the great advantages of buying the Apollo Fox is that one can fold and unfold the wings by one’s self in a relatively short amount of time (about 10 to 12 minutes). This is part of normal operations for the Apollo Fox and can be accomplished by the owner given that the owner has thoroughly read and understood this procedure and practiced it with another pilot acting as a helper to minimize possibility of damage to the aircraft.

It's however prudent to practice this procedure first with a helper so that they can help you do it right without damaging the airplane, keeping an eye out on the flaperons pushrod connection as you swing the wing back for folding or swing it forward for unfolding.

After a couple of times of doing this with a helper, you will find it easy to do it alone and have a very good idea on how to do it without rubbing the flaperons on the pushrod connections.

**CAUTION** The wing fuel tanks should be half full or less before folding the wings. If necessary drain the tanks till they are half or less full

**Tools Required:**

- Wing Folding tool supplied by Apollo Aircraft, Inc.
- Gust locks for the rudder supplied by Apollo Aircraft, Inc.
- Bungee for gust locking the sticks supplied by Apollo Aircraft, Inc.
- Medium sized Ziploc or similar plastic bag
Folding the Wing (Stepwise Procedure):

Apply parking brake as shown

Use the provided rudder gust lock and slide it gently over the vertical stabilizer as shown
Take the skylight window off as shown by undoing the quarter turn fasteners and gently and cleanly sliding the window upwards.
Start with the left wing.  
Detach the pushrod connection for the flaperons by undoing the safety pin and undoing the nut. After detaching the pushrod, the fasteners can be put back in place as shown so that they don’t get lost.

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<tr>
<th><img src="image1.png" alt="Image" /></th>
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<tbody>
<tr>
<td><img src="image2.png" alt="Image" /></td>
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<tr>
<td><img src="image3.png" alt="Image" /></td>
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Detach the flaperons counterweight towards the inside of the wing by simply rotating it to unscrew. The weight located at the outside of the wing cannot be detached. Place the counterweight immediately in the seat so that it cannot be forgotten while assembling the plane back for flight.

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<th><img src="image4.png" alt="Image" /></th>
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<td><img src="image5.png" alt="Image" /></td>
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<td><img src="image6.png" alt="Image" /></td>
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Undo the safety pin from the wing’s tapered pin as shown

Carefully place the notched end of the wing disassembly tool provided by Apollo Aircraft so that the notch fits around the pointed tapered end of the tapered wing pin. There is a slight bend in the tool and it should become obvious which way this bend should be so as to not be in conflict with the gull doors of the aircraft which should be kept closed.

**CAUTION** Be careful to not slip the tool initially or it can scratch the finish

Tap the tapered wing pin with the provided weight acting like a slide hammer very gently at first to drive the tapered pin upwards and out of its slot/bushing. (See Caution above). Once the tool end has slid inside the bushing/slot for the safety pin the taps can be a bit more forceful than initial taps.
Once the wing tapered pin is out, the tool should be all the way in the bushing keeping the wing “in place”.

Now start walking yourself to position outward on the wing struts from where you will be able to walk the wing back into its folded position.

This is done by grabbing the struts as shown by your hands and then slowly allowing the tool to drop out while your arms and hands take over the job of supporting the wing’s weight.
At this point you should have walked yourself to the outside of the wing strut and have a hand on the back strut and flaperon.

**CAUTION** You want to keep the flaperons straight so that it goes above these fittings as you slowly and carefully swing the wing backwards.

Pay close attention here as it is possible to rub the flaperons against the disconnected pushrod fitting and skylight fastening tabs for the quarter turn fasteners. (See caution)
Once you have past all these fittings, you can then turn the flaperons upwards as shown as there is no more fittings remaining to be able to snag on it.

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Walk the wing back holding the flaperons in one hand and holding the back wing strut towards the outside in the other supporting the weight of the wing.

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<th><img src="image3.png" alt="Image" /></th>
<th><img src="image4.png" alt="Image" /></th>
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Grab hold of the handle at the aft of the fuselage provided for maneuvering the aircraft on the ground while keeping the right hand on the wing strut and let the aircraft settle gently onto the ground or a tail stand if you have one.

| ![Image](image5.png) | ![Image](image6.png) |
You can follow very similar steps to fold the right wing as well.

**CAUTION** Make sure that the BRS pin is in the BRS handle and it cannot be accidentally engaged.

Use the supplied bungee with plastic ends to wrap around the sticks and the X structural brace as shown to secure them in place. This is also used for gust locking in this aircraft. Secure any loose hardware into Ziploc bags and place it on top of the seats. (See Caution)
**Unfolding the Wings:**

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<tr>
<th>Step</th>
<th>Image</th>
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<tbody>
<tr>
<td>Position yourself as shown starting on the left wing</td>
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<tr>
<td>Start walking the wing forward slowly</td>
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<tr>
<td>The flaperons can be kept straight up to about this point after which it should be turned so as to avoid snagging against the tabs and pushrod fitting in its way. If necessary push the pushrod fitting down before starting to get it out of the way.</td>
<td><img src="image3.jpg" alt="Image" /></td>
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<tr>
<td>You will need to walk yourself inwards while supporting the wing by hands</td>
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Using the provided Apollo Aircraft slide hammer for wing folding, insert the long end into the wing tapered pin slot.

Insert the tapered pin from the top and press in. You may have to maneuver the wing with the wing strut to line up just right for the pin to start pressing in just a bit. The slide hammer can then be taken out and the bottom end of the slide hammer that has rubber tubing cover can be used to tap the tapered wing pin down.

Secure the wing pin with the safety pin.
<table>
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<tr>
<td>Screw on the flaperon’s inward counter-weight snugly</td>
<td><img src="image1.png" alt="Image 1" /> <img src="image2.png" alt="Image 2" /> <img src="image3.png" alt="Image 3" /></td>
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<tr>
<td>Secure the flaperons connection to the pushrod as shown</td>
<td><img src="image4.png" alt="Image 4" /> <img src="image5.png" alt="Image 5" /> <img src="image6.png" alt="Image 6" /></td>
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<tr>
<td>Repeat above steps for the other wing</td>
<td><img src="image7.png" alt="Image 7" /> <img src="image8.png" alt="Image 8" /> <img src="image9.png" alt="Image 9" /></td>
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Gently place the skylight in place as shown. Notice that we start at the front of the skylight and place the front of it under cockpit top.
Make sure that the quarter turn fasteners are properly pushed in and secured
WARNING

Make sure that there are NO KINKS that happened in the fuel line going between the wing tanks and the cockpit while the folding procedure took place. If there is evidence of any fuel line kinking, correct it NOW!

Now … Pre-Flight. (See Warning)