

A-10A BUBBLE CHAMBER REFILL PROCEDURE

1. Remove the bubble chamber from the sextant by removing the two screws securing the light, and the four screws securing the bubble chamber to the sextant.
2. Remove the lower lens retaining nut by turning CCW. Remove the spring washer and the soft washer.
3. Remove the lens by tapping the chamber on a hard surface. (Use caution - the bubble chamber and retaining nuts are soft brass and can be easily damaged.) Save the gasket that is under the lens.
4. Carefully clean the lens. Any smudge will show later.
5. Remove the reservoir cup retaining nut with a 1 inch standard socket. Remove the gasket pressure ring under the nut.
6. Remove the gasket located under the pressure ring carefully. Slip a small, thin blade between the gasket and the wall of the bubble chamber. Pry the gasket out slightly and slip a small wire hook behind and under the gasket and pull out. The wire hook must be very strong steel. Remove the reservoir cup.
7. Clean the inside of the reservoir cup and lens chamber with xylene and a Q-tip. Blow dry with air.
8. Fill the reservoir cup about two thirds full with xylene and reinstall with the gasket, pressure ring and nut. Use care with the brass threads. Tighten the retaining nut snugly.
9. Remove the travel limit screw on the top of the bubble adjusting knob.
10. Hold the chamber upside down and fill the lens chamber with xylene. Rotate the bubble adjusting knob both directions until bubbles stop coming from the diaphragm chamber (may need to refill the lens chamber).
11. Fill the lens chamber well over full. Replace the lens gasket, making sure it is seated in the groove. Replace the lens carefully so that no air bubble are trapped inside.
12. Replace the soft washer on the lens and the spring washer on that. Reinstall the retaining nut carefully. Make sure it is threaded properly. The soft brass can be damaged easily.
13. Tighten the lens retaining nut snugly.
14. Replace the bubble adjusting knob travel limit screw. The knob should be completely free of the diaphragm when fully CCW.
15. Test the bubble forming ability then reinstall the bubble chamber on the sextant.