



Altimeter Tune Up

RAA

SOME ULTRALIGHTS have altimeters that do not have the correct relationship between the altimeter pressure setting in the Kollsman window and the field elevation. Typically the pilot sets the field elevation and just goes with that because the flights are an hour or so and the landing is at the home field.

It is not difficult to adjust the Kollsman knob. Set the field elevation in the window and get the altimeter setting number from ATIS. Next to the adjuster knob on the face of the raised boss is a screw that must be removed. If you look inside the hole you will see a pin with a threaded hole, the threads into which your face screw was fitted.


Now that the face screw has been removed the pin can be slid out about 1/16" using a paper clip or a small jeweller's screwdriver. This will then release the adjuster knob and it can be pulled away from the altimeter about 1/8", which is enough to release its gear from the altimeter geartrain. It will still be engaged with the geartrain for the Kollsman window, so you can just turn the Kollsman window to the current setting number.

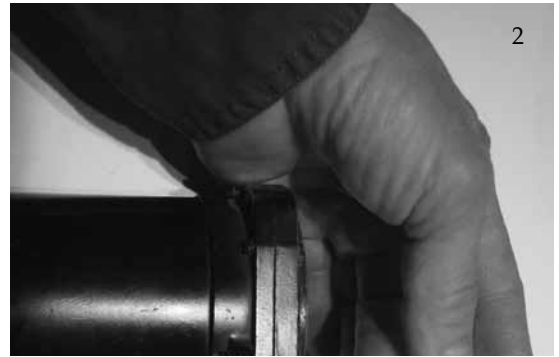
Gently push the knob back in to engage the altimeter geartrain. You might have to wiggle it slightly. Once it is home you can push the retaining pin back in, and check that the knob can no longer be pulled out. Set the pin's slot to position the threaded hole and gently refit the face screw.

The altimeter will now have correlation between the field altitude



and the Kollsman window. This is as much as one should do to an altimeter. The accuracy required of an altimeter is in the range of 25 ft at low altitudes and 80 ft at 10,000 ft, and resetting the Kollsman does nothing to verify or correct accuracy throughout the range. The real question is, at one time the altitude and Kollsman presumably had correlation, so what happened to put them out of whack? If anyone knows, please email the office.

There is a leakage test that you can perform to ascertain the general condition of an altimeter. Connect a hand operated vacuum pump or a syringe to the static port and pull enough vacuum to raise the reading 1000 ft above airport elevation. The standard for a VFR altimeter is no more than 100 ft altitude loss in one minute. If yours has more leakage than this and you already had a Kollsman correlation problem, it is time to take the altimeter to a repair shop. 



Above: Begin by setting the field elevation, then removing the brass screw that holds the lockpin.

Fig 1: Look in the hole and you will see the threaded hole in the lockpin.

Fig 2: insert a paperclip or a small screwdriver into the threaded hole and slide the pin outwards. It will probably be stiff, but it will click and move 1/16". This frees the adjusting knob.

Fig 3: Now pull the adjuster knob outwards. It will click and move 1/8". This uncouples the altimeter but retains engagement with the Kollsman.

Fig 4: Keep the knob pulled out while adjusting the Kollsman to correspond to the ATIS altimeter setting

Fig 5: re-engage the gear and push the lockpin back in place. Ensure that the threaded hole is aligned to receive the screw. On this altimeter the slot aligns with the axis of the threaded hole.

Fig 6: Pull a vacuum to raise the altitude to 1000 ft above airport elevation. The altimeter must lose less than 100 feet in one minute (CAR 571 Appendix B)