

CLEANING EYEPIECE AND TELESCOPE OPTICS

Optics of any type should be cleaned only in a clean environment. Most optics get scratched by being cleaned too often, under less than ideal conditions. Never clean lenses under "field" conditions. And never try to clean lenses using a red light; you won't be able to see the scratch-causing particles that need to be blown off.

Prepare a clean work area, such as a freshly washed kitchen table. Get a bulb-type puffer from the pharmacy (an ear syringe will do), some Q-tips and clean tissue, such as untreated facial tissue or bathroom tissue. Avoid tissues with perfumes or lotions, as they will leave a film on the lens. Also, an inspection lamp would be helpful.

Choosing a cleaning fluid is the most widely debated topic involving lens cleaning. The anti-reflective coatings on eyepieces and objective lenses are durable enough so that almost no liquid (short of a corrosive) is going to damage them, although some cleaning fluids can leave a film. Reagent grade acetone and methanol are ideal, and may be available in some pharmacies, but alcohol or acetone from a hardware store can also be used. Do not use nail polish remover, as this usually contains perfumes and oils which will leave a film. Windex or Glass Plus can be used to remove water-soluble deposits. If you have a favorite lens cleaner, feel free to continue using it. Methodology is what's most important.

First, use the bulb-type puffer to blow off any dust or loose particles from the lens surface. Don't blow the dust off with your mouth, as droplets of moisture can get on the lens, causing spots. If the eyepiece or objective lens has particles stuck to it that can't be blown off, moisten (do not soak) a tissue with Windex and gently blot the surface, without rubbing. On smaller lenses, use a Q-tip or fold a tissue into a steep triangle, moistened with Windex. Use the puffer again to blow off any more dust.

Second, moisten (do not soak) a Q-tip or tissue with alcohol, acetone or your favorite lens cleaner and gently wipe from the center out to the edge, using a circular motion. Move the Q-tip or tissue slowly enough so that the cleaning fluid appears to "follow" the Q-tip or tissue around and is re-absorbed. If you move it too quickly, some of the liquid will "break away" and dry separately, leaving spots. You'll probably use several tissues or Q-tips to thoroughly clean a lens. Use a new tissue or Q-tip after each swipe; this will prevent any contaminants from getting back onto the lens or scratching it. Do not touch the lens with your fingers, as the grease on your hands and fingers will cause smudges. Also, be careful the grease from your hands and fingers does not get on the Q-tips or tissues; it will smudge the lens. If it does, throw it away and use a clean one.

Cleaning the edge of a lens is the most difficult part, especially where the Q-tip or tissue is lifted from the surface. Don't use too much liquid or put the liquid directly onto the surface being cleaned, because capillary action could draw the liquid inside. Try folding a tissue into a sharp point, moistening it slightly and use it to wipe around the edge.

If, after cleaning, any spots remain, try "fogging" the lens surface with your breath, then wiping it with a Q-tip or tissue moistened with alcohol. This method usually works with spots that are water-soluble. Because pure alcohol and pure acetone contain no water, without the moisture from your breath to help, neither can remove water-soluble spots.

IMPORTANT NOTE: Don't use acetone on binocular or camera lenses, only alcohol. Many of these lenses have painted surfaces surrounding the lenses; acetone will dissolve and smear this paint across the lens and may damage any parts made from plastic or other materials.

