

QUARTERMASTER CORPS

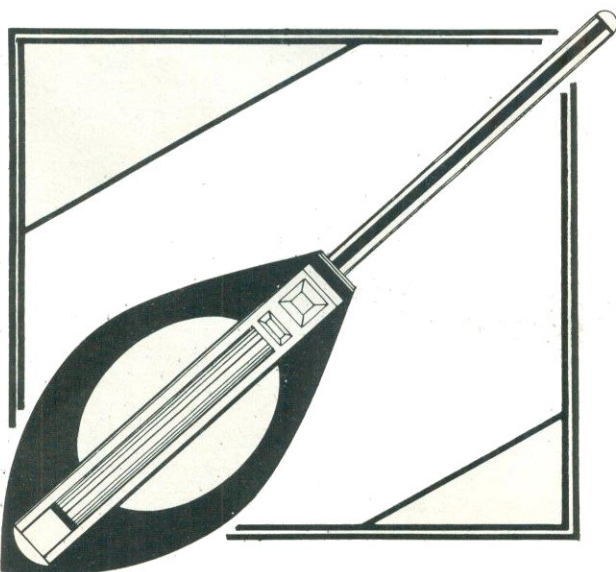
by Pete Rogan

Emergency Laser Signal Light: Found in the most well-equipped survival packs, the Emergency Laser Signal Light is the 23rd century equivalent of a signalling mirror. It is intended to serve as an emergency signalling device, to draw attention to itself and transmit (but not receive) messages in code. In appearance, the ELSL (also known as "the Light") is a metallic-grey ovoid approximately 35 cm. long by 20 cm. in diameter. One end of the football-shaped Light is flat, and on this end is mounted the stepped aiming tube. An elongated raised surface running nearly the length of the Light is the activation switch, in two parts.

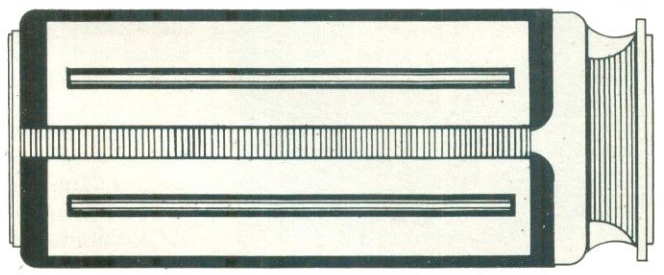
When the button nearest the tube is pressed, a high-intensity, narrow-angle beam is emitted. Though not powerful enough to do more than ignite leaves or paper, it can cause eye damage. When the button farthest from the tube is pressed, a low-intensity, wider-angle beam is emitted, capable of causing eye damage but otherwise harmless.

Of course, the narrow-angle beam is used for long-range signalling, the wide-angle for closer signalling. When both buttons are pressed, the Light rapidly blinks between wide and narrow-angle beams twice a second, making a highly noticeable stroboscopic signal. The Light can be used to blink Morse or Universal code messages on either setting by tapping the appropriate button. Its wide-angle setting is useful for attracting attention when the precise location of a viewer is not known, and the narrow-angle beam can reach as far as line-of-sight can extend, even to ships in orbit.

Its battery life is more than twenty hours of constant usage, and can be recharged by various low-tech means (solar cells, and so forth). The Light has limits, of course; it cannot penetrate dust, smoke, clouds, fog, or overthick atmosphere or water, but it is a simple and robust device that can survive a great deal of mishandling, high and low temperatures and pressure from vacuum to Venus-type atmospheres. It masses only .75 kg.



Liquid Insulation: An ingenious and highly-useful substance that resembles thick paint. In fact, it comes in a wide variety of colors and dispensers, from large dipping tanks to self-loading brushes and rollers and even an aerosol spray. Liquid Insulator is a thick plastic liquid that protects against heat, electric current, and most forms of radiation. It is also highly resistant to physical abrasion, though it will not resist sharp tools.



As a spray or a very thin brush-applied coating, it provides a firm, grippable surface that protects against mild electric shocks, seals minor cracks, and makes for a smooth, solid surface. It is very useful when trying to force handleless sliding doors, or trying to grip any unwieldy or clumsy object. The coating can be scraped off later, with or without solvent.

As a paint, it can seal larger cracks, provide any flat surface a small amount of radiation resistance in an emergency, and insulate large areas of metal or other conductive material. It forms a tough skin as it dries, and can even be used to cover liquid with a seemingly-solid but flexible skin.

As a dipping substance, it can be made thicker, to provide very adequate protection against all but very high amperages of current or great extremes of temperature, as well as the shielding potential of one-fourth its thickness of lead.

Liquid Insulator will withstand vacuum and the heat and cold of space for nearly a week, but it will progressively degrade over that time and become at last unserviceable. The interval varies, depending on the actual conditions and the method of application. Though it is not recommended for such use, it is often found used as a temporary repair for environmental suits or as a sealer for airtight structures. Such use voids the manufacturer's warranty and can result in a dangerous "cosmetic" disguising of a potentially serious problem. A cracked air hose patched with Liquid Insulator may continue to split, with the result that when Liquid Insulator fails, the original damage may be much worse. It is nontoxic, but ingestion is not recommended.

In a famous usage aboard the yacht *Malina*, Liquid Insulator was liberally applied to the skin of several engineers trapped in a leaking compartment by a failed radiation baffle. The Liquid Insulator "suits" and coated metal shields allowed them to bypass the radiation leak and reach safety. It took nearly three hours to peel the Insulation off, in which time one of them collapsed from heat exhaustion caused by the Liquid Insulator's retaining all his body heat.