# Bubble in Compass

Silva liquid-filled compasses are filled with a customised formula of anti-static liquid to stabilise the rate at which the compass' magnetic needle moves making it easy for you to take a reading. The liquid allows the compass to absorb shocks, bumps, knocks and drops. Liquid-filled compasses are prone to bubbles forming in the compass under certain conditions.

# What causes a bubble to develop in a compass?

## Surrounding Temperature

Bubbles in liquid-filled compasses are not unusual. There are a number of conditions that can cause a bubble to form in a liquid compass. Environmental conditions such as the cold atmospheric temperatures and pressure at high altitudes can cause the liquid in the compass housing to contract therefore creating a bubble in your compass.

Because temperature is one of the leading factors of bubbles forming in a compass, you may notice bubbles forming in the morning when surrounding temperatures are lower or at night when the surrounding temperatures drop. When temperatures rise usually midday the bubbles often disappear.

### Atmospheric Pressure

The pressure at higher altitudes can also cause bubbles in your compass. If you were travelling at high altitudes (approximately 500 meters above sea level) the change of pressure in the air can cause the liquid in your compass to contract which forms bubbles in the compass. Hiking or flying may also cause such atmospheric pressure changes.

## Is a bubble in my compass an issue?

As long as the bubble in your compass is not larger than 6mm in diameter then it does not serve as a problem. Small bubbles in a compass does not affect its accuracy and will usually disappear when the ambient temperatures rise again or the compass reaches sea level.

A bubble in a compass is actually beneficial to the performance of a liquid-filled compass. A bubble serves as a buffer that prevents the compass case from breaking when the liquid expands as ambient temperatures rise.

Generally, legibility of a compass is compromised if the bubble is larger than 6mm. You can return your Silva Compass if it is still under the warranty period which is 5 years from date of purchase (Please read Silvas' Warranty Information).

## What if the bubble is larger than 6mm?

A larger bubble in a compass which will not disappear usually means there is a leak in your compass. Other tell-tale signs of a leak from you compass are traces of moistures or mineral deposits around the compass.

If the leak significantly decreases the amount of liquid in your compass you should get this repaired as this can cause inaccurate measurements.

# How do I get rid of bubbles in my compass?

Returning your compass back to warmer temperatures or back to sea level will rid your compass of bubbles as the liquid expands. There are a number of ways to do this. For example, your body temperature can be a good source of warmth, so placing your compass close to your body, in a pocket, can increase the compass ambient temperature, liquid expands and bubble disappears. Placing the compass in any place where the air is warmer will allow the air bubble in your liquid-filled compass to disappear as its liquid expands. Give this process some time to work and if the bubbles persist, do not hesitate to contact Survival Supplies Australia for any questions you may have on (08) 6118 6369.