10.1 Inspection (The Importance of Good Lighting)

Before starting the refining or correcting (polishing) process, it's essential to have a clear picture of the condition of the paintwork and the blemishes that need to be addressed. Too often time is spent polishing paintwork to what appears to be perfection, only to take it into bright sunlight and discover a myriad of spider web-like swirls and or holograms.

Lights list their intensity in lux and/or lumens, so it's useful to understand the relevance. Lux is light intensity as perceived by the human eye and is measured in lumens. 1 lux = 1 lumens per metre squared. Full daylight is between 10,000 and 25,000 lumens. Direct sunlight is around 100,000 lumens. If your lighting source lists its ability in lumens or lux – the higher the number, the more imperfections it will show!

Colour Rendering Index (CRI) is a measure of a light sources ability to discriminate between different colours. The maximum CRI possible is 100. A low CRI will render colours a different shade to their real colour. The higher the CRI, the more accurate the colour. Fluorescent lights of the types found in most garages and workshops have a CRI of around 50. LEDs have a CRI of around 80. However, a high CRI does not necessarily mean it will show up more blemishes on paintwork.

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There are 3 main types of lighting:

Fluorescent lights work effectively for general purpose work, but tend to be too diffuse to adequately show up all of the inherent paint defects. Typically they are ceiling mounted.

Halogen lights will only show up certain defects as they have a limited spectrum resulting in difficulty picking up subtle differences in colour. They also generate a lot of heat, so working under them for prolonged period gets quite uncomfortable. Typically they are available as one or two spot lamps mounted on tripods for easy positioning close to the panel being worked on.

Metal Halide lights, although initially more expensive, last up to 30 times longer and are up to 4 times brighter than the equivalent halogen lights. They use 75% less power, making them an ideal choice for detailing studios.

For close up inspection, a high quality LED torch (swirl finder) will focus an intense beam onto a specific area, with a brightness similar to direct sunlight. Ideally it will have a ‘fish-eye’ lens to focus the beam on to one area without causing a ‘dark spot’ in the centre – caused by a lack of overlap of light spill as a result of the positioning of the bulbs. A good LED will show up any particular areas that require further attention and allow you to accurately work on them.