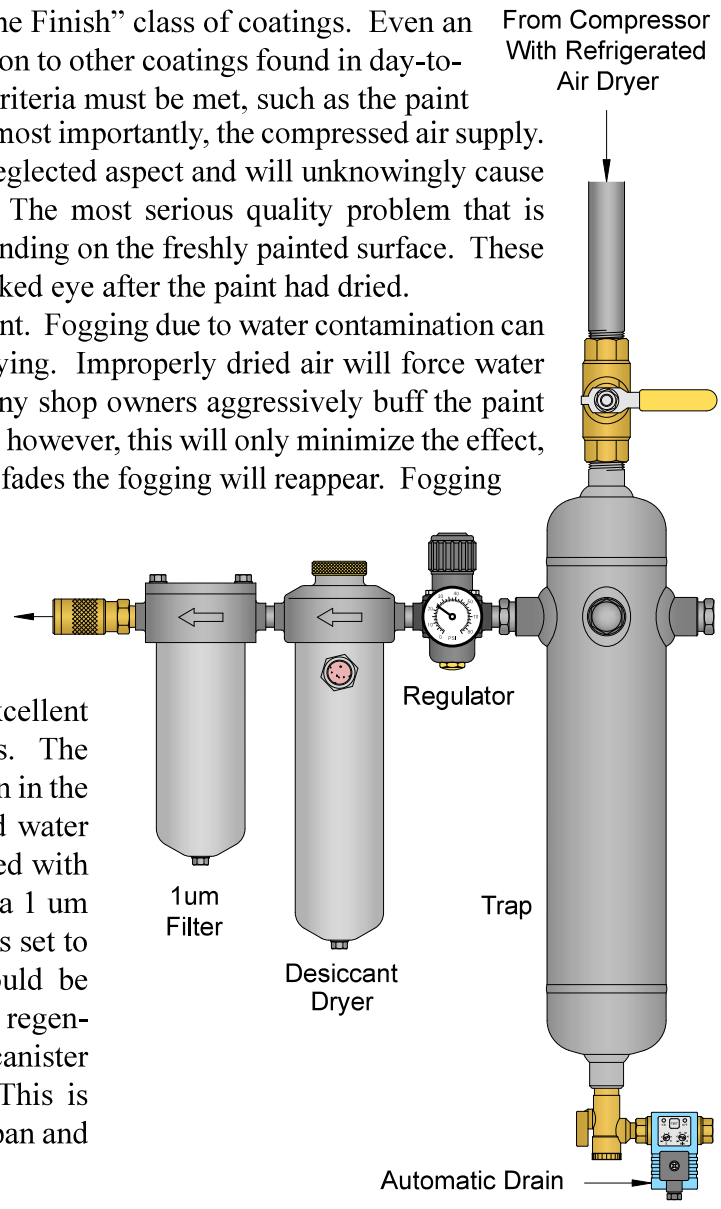
Technical Bulletin

Automotive Paint Booth Work Stations

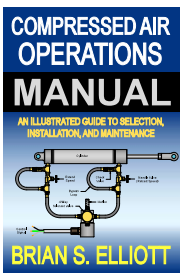
The painted surface on any automobile falls into the "Fine Finish" class of coatings. Even an ordinary car has an exceptionally fine finish by comparison to other coatings found in day-to-day life. In order to achieve this level of finish several criteria must be met, such as the paint selection, paint thinning, surface preparation, curing and, most importantly, the compressed air supply.

Unfortunately, the compressed air supply is the most neglected aspect and will unknowingly cause a great deal of rework after the car has been painted. The most serious quality problem that is normally seen takes the form of small droplets of water landing on the freshly painted surface. These droplets create small pock marks that are visible to the naked eye after the paint had dried.

Another far more common problem is fogging of the paint. Fogging due to water contamination can be identified as a chalky appearance in the paint after drying. Improperly dried air will force water vapor into the painted surface and create this effect. Many shop owners aggressively buff the paint after it has cured and then apply a heavy coat of paste wax, however, this will only minimize the effect, it will not completely remove it, additionally, after the wax fades the fogging will reappear. Fogging and the subsequent buffing can be effectively eliminated if the compressed air source is properly set up and maintained. The main air compressor should be equipped with a refrigerated air dryer, such as a JT Series dryer. This will produce excellent general purpose air for the mechanical and body shops. The paint booth work station should be further set up as shown in the illustration. A trap is necessary to assure that no liquid water enters the workstation. The output of the trap is equipped with a single tower desiccant dryer, a high quality regulator, a 1 um particulate filter and a quick disconnect. The regulator is set to the desired paint gun pressure. The particulate filter should be changed once monthly. The desiccant charge should be regenerated as necessary. When the window at the top of the canister turns pink, then it is time to regenerate the charge. This is usually accomplished by spreading the desiccant over a pan and baking at 400°F for 30 to 45 minutes. If your compressed air system is set up as recommended, and maintained properly, a dramatic improvement in finish quality will most likely be realized.



Comprehensive information on compressed air systems is provided in the book **"Compressed Air Operations Manual"** by Brian S. Elliott, ISBN: 0-07-147526-5 Published by the McGraw-Hill Book Co.



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