



Learning About Labels

How does the HP-Indigo digital label press work?

It was the author Arthur C. Clarke who said that any sufficiently advanced technology is indistinguishable from magic. This certainly applies to the HP-Indigo digital printing technology. When you watch it in operation you see a bunch of moving parts and magically labels appear out the end of it.

Of course, it is not magic but very advanced technology. What follows is a brief explanation of how it all works. By looking at the diagram opposite you will be able to follow the explanation much more easily.

A press ready graphics file arrives at the press with instructions for the laser writing head. This writing head then sends laser beams on to the Photo Imaging Plate (PIP) which is a thin green foil plate. The PIP gets negatively charged, and the laser discharges this negative charge. HP-Indigo inks carry an electrical charge and the ink adheres to all the areas on the PIP that have been hit by the laser. The laser will image each CMYK (four color process) color separately on to the PIP. Ink is now adhering to the PIP, but it looks nothing like the finished image because each CMYK color has been imaged separately.

Now, the PIP will transfer each color on to the positively charged blanket that is attached to the ITM drum, and when the blanket has all the CMYK colors it will transfer the completed image on to the label material. In the HP-Indigo world we talk about frames, and a frame is actually just one revolution of the blanket. The whole process is repeated again for the next frame.

