

**Balancing flesh tones:
An RR Donnelley Hoechstetter TipLine Publication**

We find, industry wide, four common hazards that should be looked for, and corrected, in order to reproduce the best possible flesh tones.

- Magenta and yellow values too high overall
- Magenta and yellow not balanced correctly to one another
- Cyan weak or missing
- Images printing together not balanced to one another

These can be easily corrected, using the following general guidelines:

Magenta and yellow values too high overall

Magenta and yellow values should not generally climb much above 50%. Values in the 75% to 85% range will almost certainly create a problem on press. These values need to be brought down, and can usually be brought down easily by cutting a quick mask and making a selective color adjustment of -10 or -15 units in reds. This correction will pull 8 to 10% from each channel. A further correction of 20 or 25% is likely to leave an artifact and probably ought to be avoided. When faced with a radical move, a good rule of thumb is to go halfway.

Magenta and yellow not balanced

Yellow should generally fall a little higher (5-20%) than magenta. 15 M and 16Y will yield a baby bottom pinkish skin tone. 20M and 25Y produces a light Caucasian skin tone. Higher values like 40M 60Y will be tanned and very rich, and are approaching pleasing maximums. Asians, Hispanics and light skinned Africans will generally have a little higher gap between magenta and yellow. A Selective Color adjustment of magentas and yellows in reds is once again a good way to correct.

Cyan missing or too weak

Cyan values need to be 30 to 50% of magenta to keep flesh tones balanced and to give your printer an opportunity to maintain a pleasing balance on press. Cyan a little less than half of magenta is a good rule of thumb. Cyan should come up a little relative to warm colors in shadows. A flesh tone made exclusively of M and Y is a two-legged stool, and invites press problems. If cyan values are near zero—a not uncommon problem—the lack of detail in the cyan printer hampers the addition of cyan. Without complicated and risky channel swapping, you can really only add a flat tint, and the altered subject may appear painted and flat.

Images printing together in layout or imposition not balanced to one another

Two images may look fine in isolation, but when viewed in proximity, may look out of balance. A very red subject may make another appear green, or a very warm subject, in simultaneous contrast, will make a balanced image look cold. Or when run in the same zone of a press sheet they may require opposite—and unachievable—color adjustment. Ask to view contract proofs in full press sheet format, and adjust color with final imposition in mind.

Stochastic printing

The rules are the same for stochastic printing as for conventional, but stochastic, because of its higher dot gain, is less forgiving than a conventional dot. Because a more radical plotting curve is applied, out of balance images that proofed as marginal can swing badly out of balance. 20/90/85/5, already potential trouble, may end up to plate something like 14/87/80/5, with a deep cut in the cyan printer that was too weak to begin with.

Examples

It may be hard to imagine typical corrections without seeing the images, but the numbers really do tell the story. A few images that needed help in one project looked like this:

#1—No cyan at all and too much yellow. Values like 1/43/60/0 and 0/34/57/0 show a total lack of cyan and very high yellow. Cut yellow about 10-12%. Adding cyan would be beneficial if there were detail there, but a flat tint may do more harm than good.

#2—Very orange shadow values in an African flesh tone also lacked cyan. Values like 0/40/73/x ought to have some yellow subtracted. Another subject, with similar yellow and magenta values but 8% cyan in side of face, is therefore more balanced and would probably print well.

#3 —A fair skinned subject with a too hot shadow on chin, with values like 20/76/87/9. A Selective Color move of -15 units of yellow and magenta from reds will lower those values about 10%, and should print well. Lighter values on the subject's temple of 12/26/35/0 are okay as long as we are not trying to run magenta down on press to compensate for the too-red chin.

#4—A problem of internal balance. Two subjects, neither of which looks too bad in isolation, but one is too yellow 0/35/69/x and the other is too magenta 20/50/27/x. Reduce yellows on the first and magentas in the second to avoid running at cross-purposes on press.

#5—Values on this subject looked like this:

Highlight 0/15/2/0	Needs yellow (Mask and bring Y up to 7 or 8)
Middle tone 17/41/37/x	Reduce M 6-8 points
Shadow 29/58/55/x	Not too bad, maybe a little red

#6—Typical 10/22/30/0 values would be better with M up and C down slight (about 2% less), something like 8/26/30/0.