CMYK Offset Printing Calibration Checklist
With the Optimal Method and PressCal Open-Source Software

Goals and Pre-Press

☐ Meet with management and production personnel to discuss the goals and methods of the calibration process

☐ Determine the calibration goal(s) (e.g., Optimal Match to Proof, G7 certification, TVI)

☐ Choose an ICC profile as your color reference, typically the same profile used for proofs (e.g., GRACoL2013_CRPC6, SWOP2013C3_CRPC5, FOGRA51)

☐ Download example press forms:
http://optimalmethod.org/resources/Press_Forms.zip

☐ Choose the press form with the appropriate PressCal charts for your goal(s) and equipment

☐ Alternating stripes (50 K and 50 C 40 M 40 Y) give visual estimate of CMY color balance and provide ink load

☐ Add your own test images and important brand colors (images should be tagged with reference profile)

☐ No images should be placed in-line with the PressCal measurement charts

☐ Add standard company color bars

☐ Send a PDF of the completed test form to _____ for approval

☐ Determine digital front-end (DFE/RIP curve file format) _____ (load sample curves as a test e.g., Kodak Prinergy, FUJI XMF, ESKO.ted, etc.)

Verify Proof

☐ Print a color managed Prepress Proof of an IT8.7/5 chart (assign reference CRPC Profile)

☐ Verify Prepress Proof color aligns with the reference CRPC profile – use PressCal **Grade Tool** and **Curve Building Tool**

Printing Preparation

☐ Make linear plates (no curves applied, uncalibrated) – if possible, measure tone values on plates

☐ Choose test paper(s) - typically your regular house stock, and others (quantities for a stable press run)

Press Work

☐ Mount the test plates and makeready the press (standard CMY color rotation)

☐ Press mechanics (normal TVI, no slur or doubling on all units)

☐ Press blankets, dampening and inking systems in good condition

☐ Begin with a regular house coated stock; use coating if that is your normal practice

☐ Begin with standard densities (adjust color & register as a normal job – uniform densities across the press-sheet)

Ink Balance

- ☐ Make spectral measures of the test chart of a single press sheet
- ☐ Run the PressCal **Ink Balance Tool** to compute adjusted solid ink densities, for balanced RGB overprints to more closely agree with the reference ICC profile (likely several repetitions)
- ☐ Record these new solid ink densities (SID) as revised company standards for future work

Press Run (Uncalibrated)

- ☐ After achieving ink balance, print a stabilized press run at normal speed
- ☐ Repeat with other paper stocks (coated first, then uncoated)
- ☐ Make spectral measures of multiple test charts (PressCal will average and compare color difference of the uncalibrated printing to the CRPC reference ICC profile)
- ☐ Run the PressCal **Curve Building Tool** to calculate tone curves using the desired calibration method (TVI, G7, Optimal, SCTV)

Calibrated Press Run

- ☐ Load the new calibration plate curves into DFE
- ☐ Output verification plates with calibration plate curves applied
- ☐ Verification press run – operator makes normal press adjustments to verify a match to the stated goal (e.g., printing is a good visual match to the proof)
- ☐ The operator's skill continues to be required to produce a good overall result and match-to-proof for each job

Optional Grading for Certification

- ☐ Make colorimetric measures of multiple test charts from the verification run
- ☐ Run PressCal **Grade Tool**, which compares chart measures with the certification aims. The deltas and pass/fail are displayed for your designated grading standard.