Print Quality Trouble Shooting Guide

V-Series

Version 1.0

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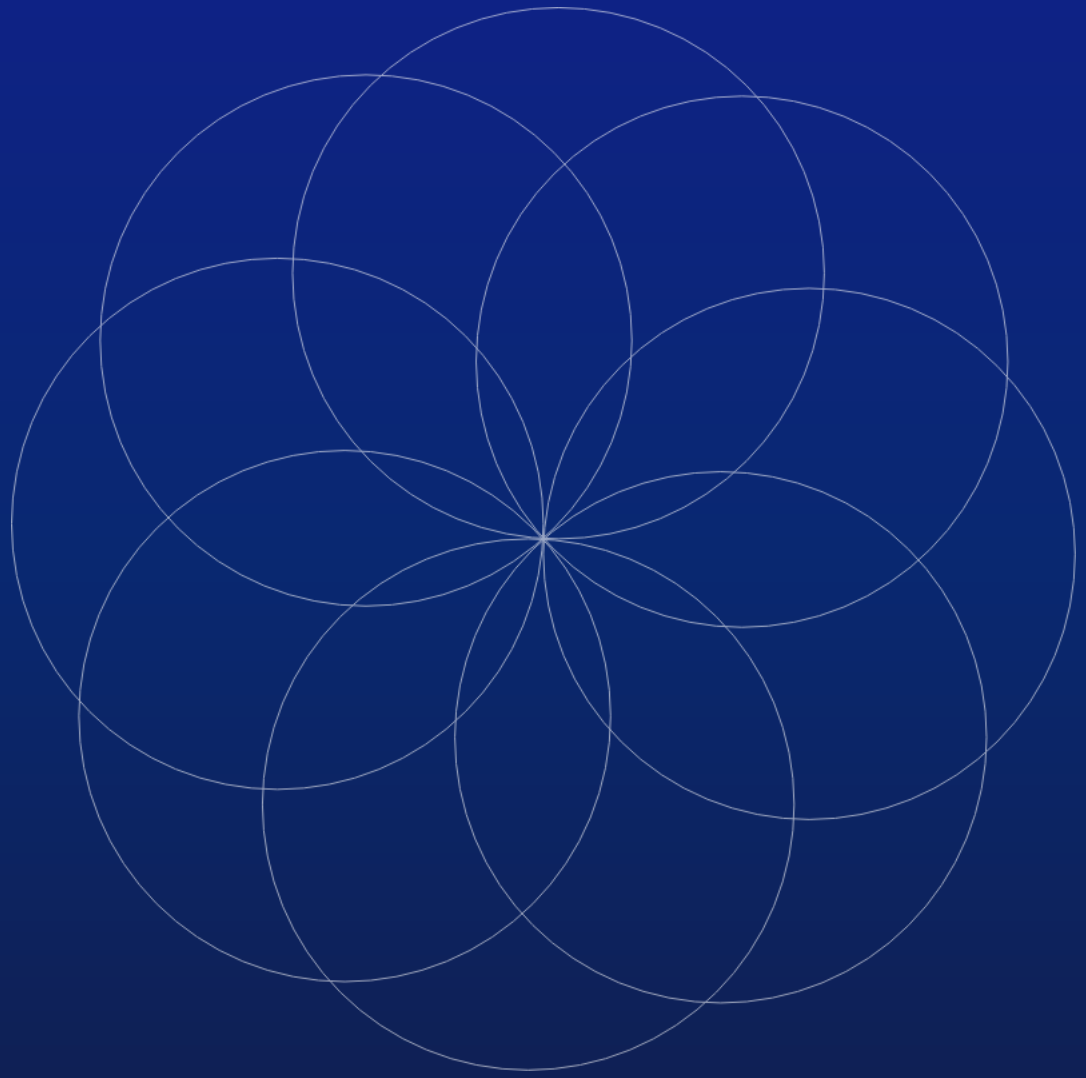

Print Quality Troubleshooting

Print Quality Troubleshooting Guide


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Blurry (Sections)


Head Strikes


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UV Banding


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Wet


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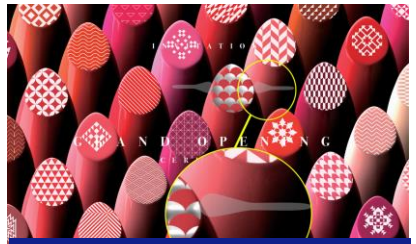
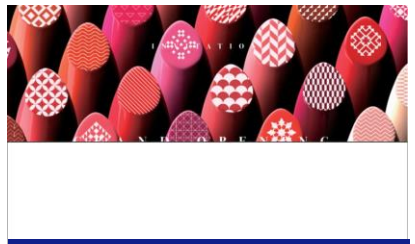
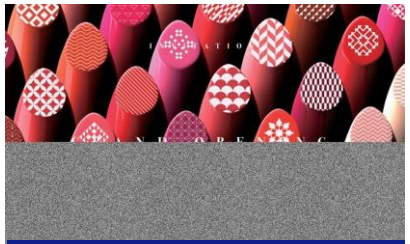
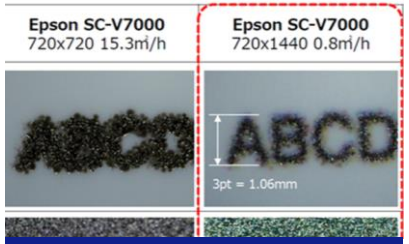

Tactile Spread


Incomplete Job


Job Data Corruption



Fine Text

Click the thumbnail to jump to the corresponding section.

Blurry Print-Omnidirectional

Causes

- Head set too high
- Low quality images
- Poor quality media/absorbent media
    - EG: Styrofoam, Cardboard, Wood (Soft/Porous), Fabric
- If print is wet may be curing issues

Solutions

- Ensure proper head height
- Use a higher quality image
- Increase white base layers or use higher quality/alternative media
- If wet: see section on wet/curing issue

Effect: Print is blurry across entire job

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Blurry (Left to Right/Text)

Causes

- Head misalignment (bidirectional)
- Platen gap too high
- If confined to a corner, could be an unlevel bed

Solutions

- Run head alignments/bi-directional adjustment and head alignment.
- Print unidirectionally
- Platen gap. Measure media and set manually.
- Fine text print mode for white.
- Level bed

Effect: Blurry Image (Left to Right/Horizontal)

Blurry Sectional

Causes

- Leveling issues (bed) 4-Corner test.
- Especially if in corner
- Textured media (unevenly)- e.g. 5-10 mm diff in protrusions
- Bowed or uneven media (If measured at high point)
    - EG: Paneled door
- Uneven suction

Solutions

- Level bed
- Flatten or replace media
- Increase suction of vacuum bed/ensure suction is on.
- Cover all vacuum active holes to increase overall suction.

Effect: Blurry Sections (not affecting the whole image)

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Head Strikes

Causes

- Head too low
- Bowed uneven media. Run 4 corner media height test.
- Bed leveling (quadrant too high) – two tenths of a mm
- Measure at low point of media or uneven bed
- Heat from curing could bow certain media/plastics (1/4-inch acrylic)-make sure to cover all active holes in vacuum section that are not covered. (This is Important)

Solutions

- Increase suction (ensure vacuum quadrant open/closed properly)
- Remeasure media/Set head height
    - Raise head
- Level bed

Effect: Head strikes media causing print imperfections

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Overspray

Causes

- Head is set too high
- Rip/controller settings (incorrect measurements input)
- Environment
  - Lack of humidity
  - Static
- Hardware X/Y Coordinates unaligned

Solutions

- Verify media height and set manually.
- Adjust head height
- Correct coordinates/controller settings
- Introduce controls for environmental variables such as increasing humidity in dry area. Using anti static devices to remove static.
- Verify Adjustments color and same color.

Effect: Spray extends beyond intended print target

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Chipping

Causes

- Poor Cutter/Media Combo or dull blade
- Ink Density too high / tactile prints (building raised texture layers) at cut points.
- Media may have poor adhesion or if aged coating may have reduced efficacy
- UV Curing may be too high.
- Darker colors will cure quicker and lowering the UV Light intensity can resolve this.

Solutions

- Try a different cutter type or replace blade
    - Note: Cut media prior to see if media chips without ink
- Reduce layers
- Varnish chips faster than regular colors
- Use an adhesion promoter, newer media or a better media
- Decrease UV light intensity on Chiller.

Effect: When media is cut, chipping occurs along cut line

Adhesion

Causes

- Old Media or Media in Poor Storage Conditions
    - EG: Old corrugated plastic over time micropores from mechanical adhesion process can close or fill up
- Corona treatment expired
- Dirty media/not cleaning or prepping media
- Surface oil on some PVC
- Low surface tension or energy.

Solutions

- Clean media of dust, dirt, oil, etc.
- Use an adhesion promoter or pretreat
- Acrylic, aluminum, and plastic may benefit from corona treatment.
    - Plexiglass: Digital print media will have better tension post treatment
    - Aluminum: Use digital aluminum or prime aluminum with adhesion promoter.

Effect: Ink easily scratches or rubs off media

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UV Banding

Causes

- Media type/quality
- Head not aligned
- Printing out of spec

Solutions

- Increase white layer and adhesion
- Use better media
- Ensure alignments are proper (step adjustment)
- Ensure printing is within spec
- Print light white or varnish layer under image to change surface.

Effect: Banding that presents as a “lawnmower” effect

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Banding (White Gap or Dark Overlay)

Causes

- White Gap is typically caused by a missing nozzle (Image Left Side)
- Dark Overlay is usually caused by the ink overlaying due to media feeding too slow or the head not being aligned (Image Right Side). Head Vertical adjustment for SC-V7000.

Solutions

- Perform a head cleaning/Nozzle check
- Perform a head alignment (On flatbeds media feed does not apply).
- Perform Head Vertical adjustment for dark overlap or white overlap if all nozzles are present on the SC-V7000

Effect: Banding that presents as a white or dark line

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Wet (Not Cured)

Causes

- Curing is not being performed effectively
- Chiller error (E3-E1-E2)
- Low Coolant (E3) Error
- Cold Coolant low flow (E3) Error
- Lamp issues

Solutions

- If “wet” effect appears minor, turning on after cure mode may solve the issue. Slight tacky ink may be possible fist day of installation.
- Call support for chiller or lamp issues
    - Chiller: Check for chiller screen error
    - No Chiller Error: Lamp adjustment or maintenance may be needed.

Effect: Ink is wet

Overly Sticky Feel

Causes

- Dirty curing lamps
- Chiller or lamp issues
- After an install or service event the first few prints may have cleaning fluid and appear sticky as a result.

Solutions

- Clean the UV lamps if needed
- Turn on after cure mode may solve the issue.
- Call support for chiller or lamp issues
    - Chiller: Check for chiller screen error
    - No Chiller Error: lamp adjustment or maintenance may be needed
- Time will typically allow for the ink to solidify and reduce the “sticky” feeling on touch
- Verify percentage of UV intensity on the Chiller. Change the percentage of power may help.

Effect: Print job feels very sticky to touch

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Finger Prints

Causes

- Unclean media/dirty hands touch media leaving finger prints behind
- Human oil/grease from fingers onto media could cause issues
- Note: Most commonly this can be observed from the rear of a clear substrate like acrylic but can also show on the front side of prints

Solutions

- Clean hands or handle media with gloves, especially media prone to finger prints showing through
- Clean media before printing/if handled by dirty hands

Effect: Finger Prints appear on print job

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Poor Color

Causes

- Wrong quality selection
- Missing nozzles
- Bad color management or job build issues
- Corrupt file
- Media too absorbent
- Wrong profile being used
- Non-standard/unoptimized rips

Solutions

- Ensure you are using the correct profiles for your printer and when building your jobs
- Lay down extra white layers on porous or poor performing media
- Use a different media
- Perform a head cleaning/nozzle check
- Use the included RIP to help rule out software issues
- Change Print Quality setting to a higher setting. Increase color density.

Effect: Color appears washed or incorrect

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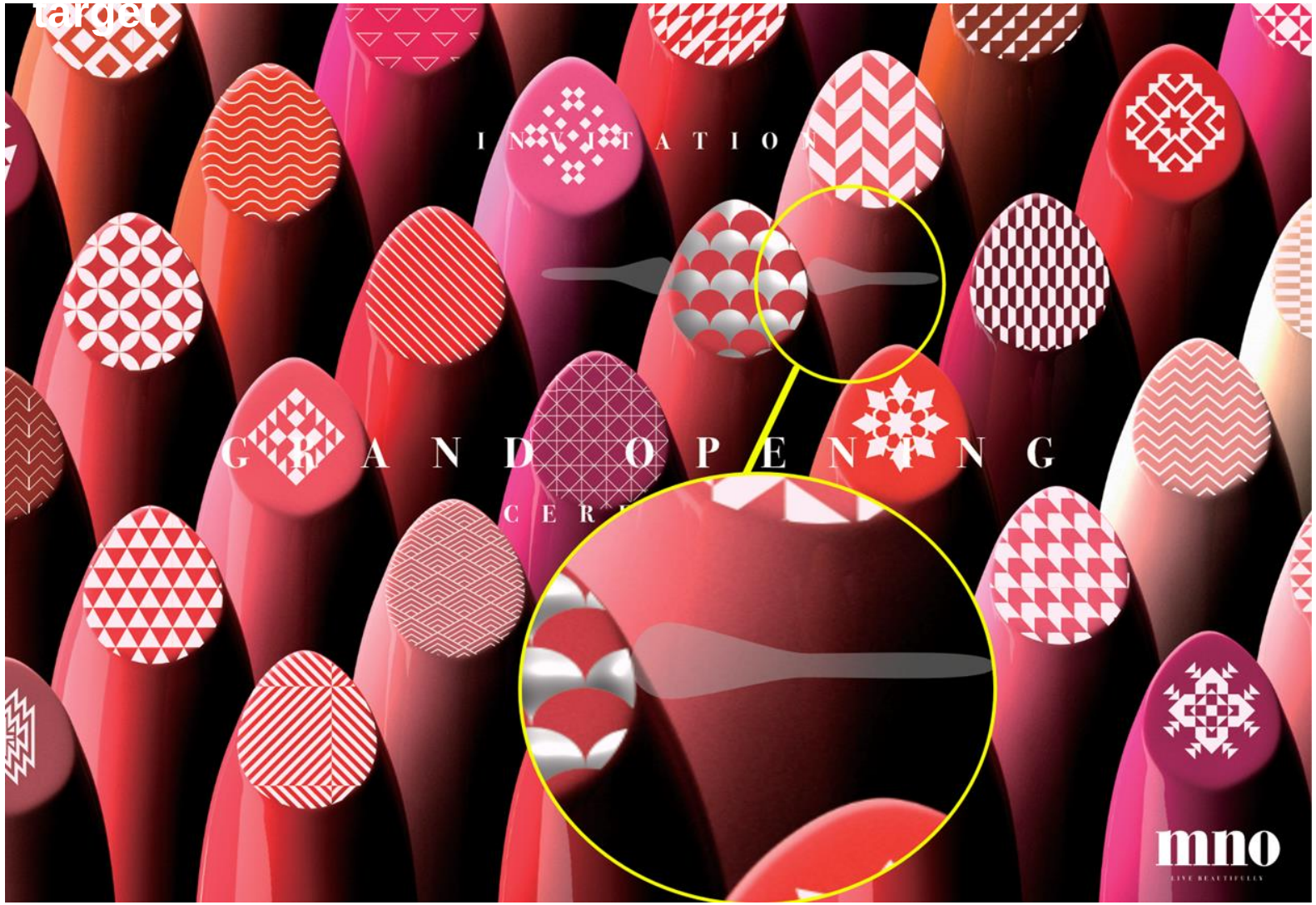
Causes

- Too much ink density may cause varnish or ink to spread past the target.
- Too many ink layers may cause white or Varnish to spread.

Solutions

- Adjust the head height between passes or send the job in stages to allow for the print head to be adjusted for the additional height
- Use less layers/find the maximum number of layers for your application.
- Decrease amount or density of Varnish. Recommend to start at 65% Varnish and increase as needed.

Effect: Tactile print spreads or overspray's past intended target



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Incomplete Job

Causes

- Issue could be caused by network or security settings
- Could be an issue with your RIP
- Possible corrupted file during network transfer.

Solutions

- Check with RIP developer for documentation/help
- Ensure needed Firewall Ports are open
- Double check network settings confirm with your organization and general best practices
- Ensure Windows has allowed application to receive data from network. No firewall.
- Bad network/USB cable, router or switch.

Effect: Job does complete (Partial Print)

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Corrupt File Data

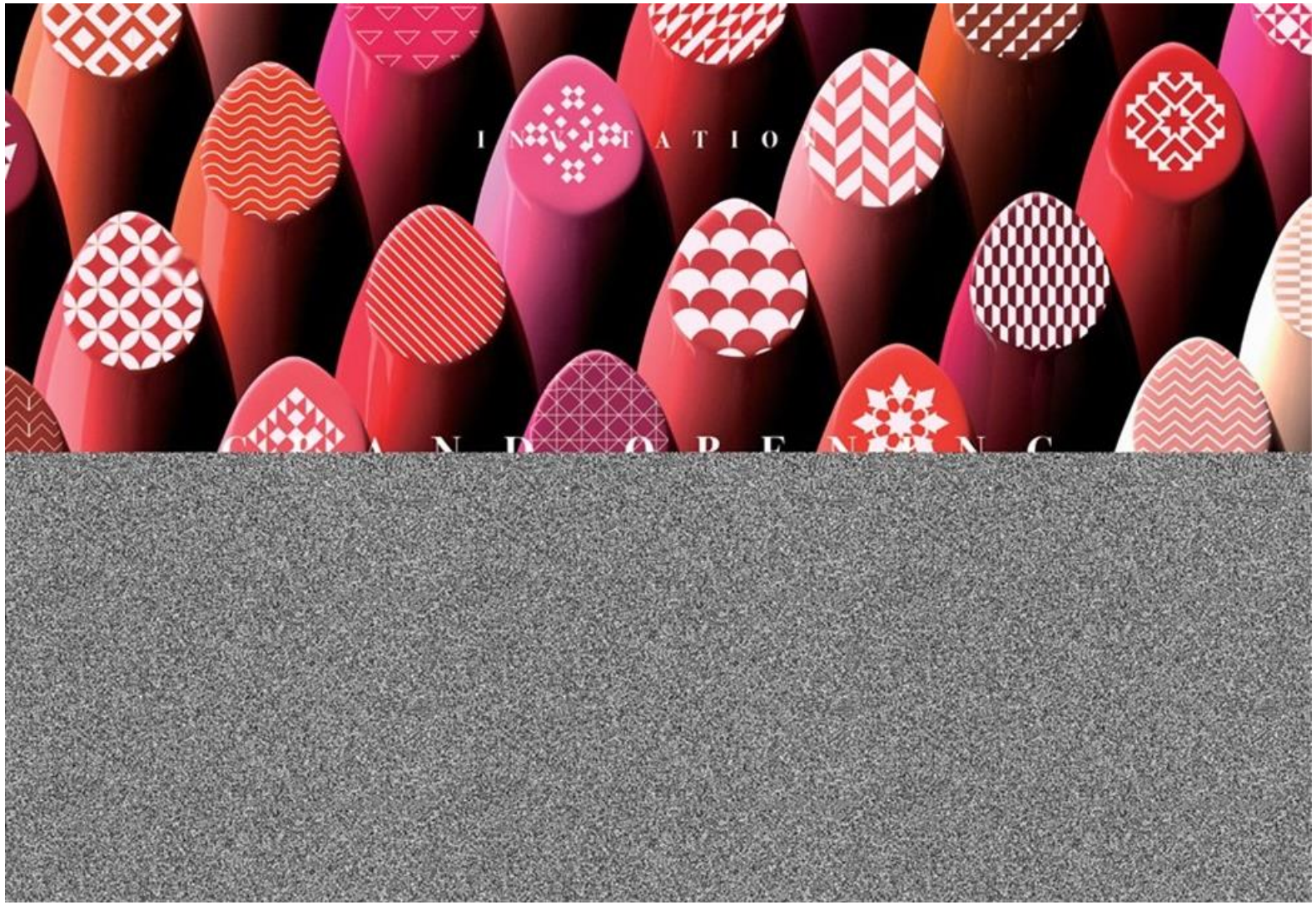
Causes

- Corrupt File
- Data transfer Issue

Solutions

- Try again
- Reproduce export file
- Verify network integrity.
- Verify cables and connections.

Effect: Portion of print does not print correctly, presents as static



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Causes

- Small text paired with a low input resolution
- Bidirectional print mode or misalignment can reduce text clarity
- Bi-Directional adjustment head left and right adjustment.
- Same color and color adjustments.

Solutions

- Use the “Fine Mode”
- Ensure source file is high quality
- Try printing unidirectionally to verify if problem is bi-directional or Head Left or Right adjustment.
- Possible static issue.
- Run adjustments.

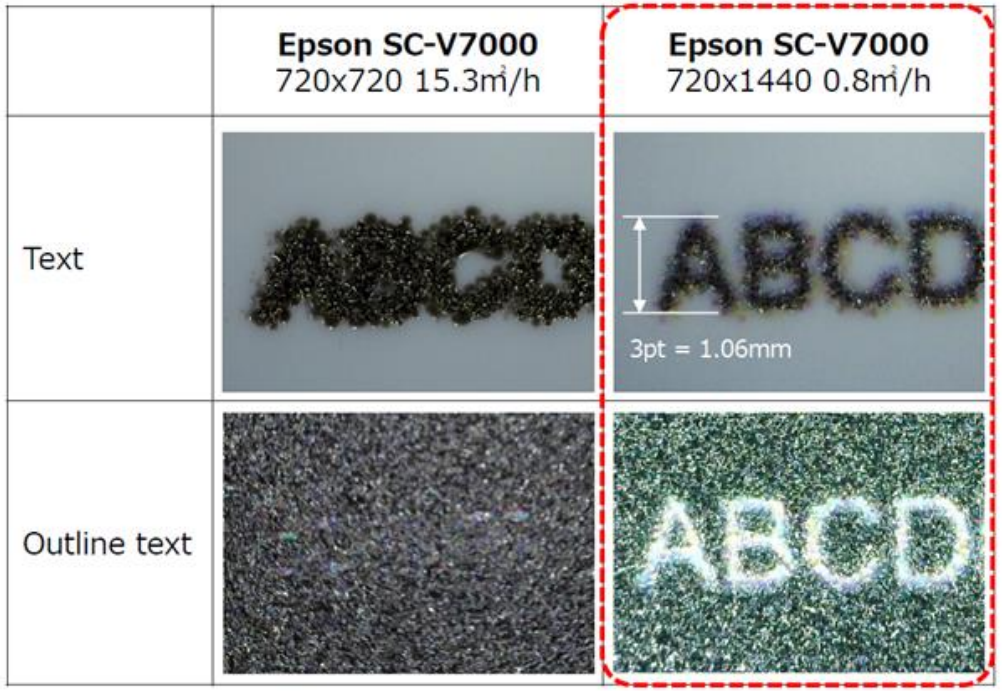
Effect: Portion of print does not print correctly, presents as static

Fine mode

Provides better line accuracy by adding newly fine mode.

<Improvements>

- Tuned CR speed to improve droplet size landing accuracy.
- Tuned minimum droplet size to improve line accuracy.



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