

1

At the computer

Everything here is reversible. Everything after here costs cardstock.

GATE
Confirm the printer is actually reachable before anything else. Some machines are network-resident and always up; some are USB-only and usually unplugged. If yours is the second kind, nothing below works and no amount of checking from software will tell you why. *Page 5 says which yours is.*
☐ Printer connected, powered on, idle at its own panel.

Wake the queue before you trust it
A queue set to stop on error disables itself after **one** failed job, silently, and every job after that vanishes into a held state. Check first, every session.

CUPS (Linux, macOS) `lpstat -p <queue>` must say *enabled*.
Windows Fix: `cupsenable <queue> && cupsaccept <queue>`
Printers & scanners → the queue → open queue. Clear *Pause Printing* and *Use Printer Offline*, then cancel any stuck job.

Split the deck
Decks differ in length. Never copy a page list from a previous run; the script derives it from the file.
☐ `bun split-deck.ts <deck>.pdf`
☐ It refuses an odd page count. If it refuses, you have the wrong PDF, not a broken script.

The settings chain (this is one chain, not two places to check)

1. Driver or queue defaults — what the printer is configured to do

↓

2. The print dialog's remembered settings — last-used, per application

↓

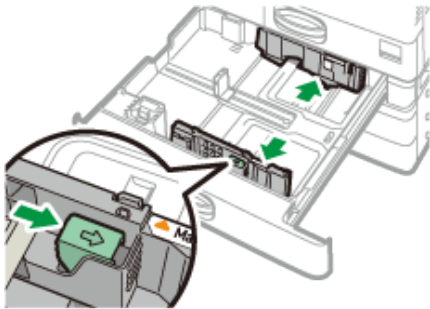
3. What the printer actually receives. Step 2 overwrites step 1.

GATE
A print dialog is never “configured once”. Almost every dialog remembers what it last sent and re-sends it, overriding the queue default you carefully set. Open the dialog and read all five settings every single time.

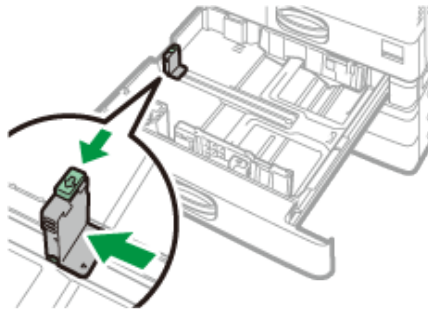
Must be	Called, depending on the dialog
Single-sided	Two-Sided: None · Print on Both Sides: off · Duplex: off · 1-Sided
No scaling	Scale: None or 100% · Actual Size · Fit to Printable Area: OFF · <code>print-scaling=none</code>
Heavy media	Paper Type · Media Type · Paper/Quality. <i>Exact name: page 5.</i>
The right tray	Paper Source · Input Slot. Name the tray, never <i>Auto</i> .
No auto-rotate	Auto-Rotate and Center: off · Orientation: fixed, not automatic

You will load this tray twice per deck. The dry run on page 3 is on plain paper and the real run is on cardstock, out of the same tray. Plan for the swap now rather than discovering it mid-procedure.

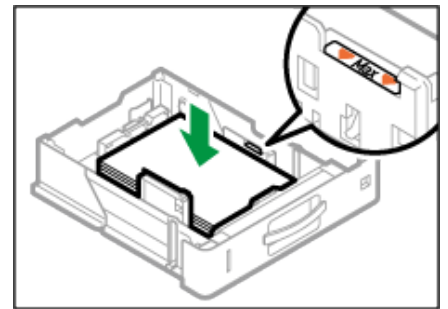
- ☐ Take the everyday paper out and park it **on top of the printer**, not on a desk in another room. Page 5 puts it back.



Side fence release.



End fence release.



Jog square; set the indicator.

- ☐ Pull the tray fully out. Squeeze the side-fence release and open both fences wide.
- ☐ Squeeze the end fence and set it to the paper length you are using.

GATE

Fix an orientation now and record it. The corner mark, the flip axis and “the same way round” on page 4 are all measured against how you load the tray here, and in six months you will not remember it.

- ☐ Start with **print side up, short edge leading**, then write what you actually did into the capture box on page 5.

A starting convention, not a verified fact about any printer. All that matters is that pass 2 reproduces whatever you chose.

Load a small, square, consistently-seated stack

GATE

A nearly-full tray is worse than a small one, and this is counter-intuitive. The side fence is a rigid wall, so it comes to rest against the single most-protruding sheet in the stack. Every other sheet, including the one that actually feeds, keeps that sheet's clearance plus its own. A dumped 400-sheet stack has far more spread than a hand-jogged 20-sheet one, which is why squeezing the fence harder never closes the gap: the wall is already touching, just the wrong sheet.

- ☐ Load **about 20 sheets**, not the 6 to 12 the deck needs. Same stock throughout.
- ☐ Jog the stack square against a flat surface before it goes in.
- ☐ Push the squared block firmly against **one** side fence, then close the other fence onto it. Same fence every time, every pass.

Jogging alone still leaves the block free to sit anywhere in the gap. Jogging plus a consistent datum turns random slop into a repeatable bias, which is the only kind that can ever be corrected.

- ☐ Stay under the Max line. Set the tray's size indicator. A size mismatch makes some printers silently rescale the job.
- ☐ Close the tray in one steady push. Slamming it re-opens the fences.

GATE

Set the media type at the machine, not only in the driver. The driver tells the printer which tray to pull from; the tray's own setting is what raises fuser temperature and slows the process speed for heavy stock. If they disagree you get poor toner bond, a mismatch prompt, or a silent substitution to another tray.

- ☐ At the printer's own panel, set this tray's paper type to the heavy band that contains your gsm.

Exact band name and gsm ranges: page 5.

GATE

You run this page twice. Same steps both times. What changes is the file you open and what is in the tray.

- ☐ **Dry run first:** `test-fronts.pdf` on plain paper. Go all the way through page 4 before any cardstock is touched.
- ☐ **Then the real run:** `fronts.pdf` on cardstock, reloading per page 2.

The dry run is two sheets rather than one on purpose. One sheet can reveal a flip-axis fault but cannot reveal a sheet-order fault, and order is the open question this whole procedure exists to settle.

What the plain-paper run does NOT tell you. It settles **sheet order** and **flip axis**, which are geometry and carry over to any stock. It says nothing about **drift**, because drivers run a different profile for heavy media and the feed path grips it differently. A clean plain-paper result never predicts a clean cardstock result. Re-run the checks below on the first real sheet.

Mark the stack before it leaves your hand

This is the entire verification mechanism for pass 2, and it costs one pencil dot.

- ☐ Before printing, pencil a small dot in the **top-left corner of the face-up side** of the top sheet in the tray.

Print

- ☐ Open the file for **this** pass. Re-read all five dialog settings from page 1.
- ☐ Print. Let every sheet land before you touch the output tray.
- ☐ Lift the whole stack out **without squaring, fanning, or turning it**. Orientation is data now.

Check the sheet, not the settings

Both checks take a minute and both are on the **printed sheet**. A dialog that says Scale None can still have been overridden; only the paper knows.

- ☐ **Ruler check.** Measure the deck's calibration line if it has one, or a card's width against its stated trim. Wrong by any amount means scaling crept in. Fix it and reprint this sheet before going further.
- ☐ **Light check** (after the backs exist). Hold a finished sheet to a window. The cut guides should overlap through the paper. A gap inside the card's own white border is normal drift. A gap reaching into the art is real misregistration.

GATE

On the dry run only, answer this before going to page 4. It is the one fact the rest of the procedure is built on and it has never been written down.

- ☐ Find the marked sheet in the output stack. Is it on **top** or at the **bottom**? Record it in the capture box.

This answers two questions at once. It tells you where to look for the mark on every future run, and it is what decides whether the backs need reversing, because it is exactly the stacking behaviour the two backs files disagree about. Answer it once and both branches collapse.

If nothing came out

- ☐ Check the queue per page 1. If it went disabled, the job failed and the error policy did its job. Re-enable, fix the cause, then reprint.
- ☐ Never resend blind. A held queue plus repeated sends is how you get four copies at once later.

A slow start on the first job after an idle period is usually the connection waking, not a fault. Let it finish before resending.

Page 5 notes whether yours does this.

GATE

Do not use auto-duplex for card decks. An internal duplex unit re-grips the sheet to print the second side, and that re-grip is a second chance to misfeed that a simplex pass never takes. Assume both bind modes drift on heavy stock until you have proved otherwise on your own machine. Two single-sided passes is the supported path.

Page 5 records what yours actually did.

Flip the stack on the long edge

Turn the stack over about its **long** edge, like closing a book. Do not spin it around. Reload into the same tray, the same way round.

GATE

The fences do not move between pass 1 and pass 2. You are reloading a stack, not resetting the tray. Seat it against the same fence you chose on page 2. If a fence did move, or the tray was emptied and re-closed, pass 2 is being centred independently of pass 1 and any offset that run shows proves nothing.

Read the pencil mark. It tells you exactly what you did.

Mark now reads	What happened	What to do
top-right	Correct long-edge flip.	Carry on.
bottom-right	You flipped on the short edge.	Re-flip long-edge and re-read this table, or print <code>backs-flip-topbottom.pdf</code>
top-left	You did not flip at all.	Flip it. Nothing is wasted yet.
bottom-left	Flipped and spun around.	Undo the spin, keep the flip.

Decide the sheet order on the test sheets, not the deck

GATE

Read this before you decide, not after. Sheet order is not settled in advance and cannot be reasoned out. Face-down output argues for reversed; the long-edge stack flip inverts it again and argues for forward. The two effects can cancel. The two test sheets are the only authority, and page 5 is where the answer gets recorded so this is decided once and never re-guessed.

- ☐ Print `test-backs.pdf` onto the two dry-run sheets.
- ☐ Check **which card** each back landed on. If the backs are on the right sheets, `backs.pdf` is correct. Record that and use it for the real run.
- ☐ If each back landed on the **wrong card, in mirror order**, meaning the first back is on the last sheet, switch to `backs-fwdorder.pdf`. Record that instead and use it for the real run.

	backs sat right way up	backs came out upside down
backs on the right cards	<code>backs.pdf</code>	<code>backs-flip-topbottom.pdf</code>
backs on the wrong cards	<code>backs-fwdorder.pdf</code>	<code>backs-fwdorder-flip-topbottom.pdf</code>

Then the real run

- ☐ Reload cardstock per page 2. Re-read the five dialog settings. Print the backs file the test chose.

GATE

Put the everyday paper back before you write anything down. Cardstock left loaded means the next ordinary document prints on 300 gsm, days later, with nothing to connect it to this job. Do it now, in one action, while the stack is still on top of the printer where page 2 put it.

- ☐ Swap the cardstock out and the everyday paper back in. Reset the tray's paper type at the panel.

Symptom to remedy

Symptom	Cause and fix
Backs upside down	Wrong flip axis. Re-flip long edge, or take the -flip-topbottom file from the page-4 grid.
Backs on the wrong cards, mirrored	Sheet order. Take the -fwdorder file from the page-4 grid.
Front and back off sideways, varying run to run	Tray slack. Smaller jogged stack, same fence datum, per page 2.
Front and back off sideways, identical every run	Machine registration bias. Not a loading fault; a fixed offset in the artwork can cancel it.
Front and back off vertically by several mm	You used the duplexer. Do not. Two passes only.
Whole image shifted or cropped	Scaling crept back in. The dialog overwrote the queue: re-check Scale = None.
Toner rubs off	Media type is not set to a heavy band, at the machine as well as the driver. Fuser ran cool.
Nothing printed, no error	Queue disabled or paused. Re-enable per page 1.

Your machine

Printer and queue	<u>model · exact queue name, and which queue is NOT the duplex one</u>
Connection	<u>network or USB · is it always reachable, or does it need plugging in?</u>
Tray	<u>which tray · what size each tray is already set to</u>
Heavy-media band	<u>the panel's exact band name for your gsm · does the driver expose it, or only the panel?</u>
Weight ceiling	<u>max gsm the tray takes · max the bypass takes</u>
Queue quirks	<u>error policy · anything that looks like a fault but is not</u>
Auto-duplex	<u>did you ever prove duplex works on heavy stock? date it, or write UNTESTED</u>

Last successful run

Date and deck	<u>name, page count</u>
Tray loaded	<u>print side up / down, which edge leading, which fence was the datum</u>
Sheets in the tray	<u>count · did the fence close with no visible gap?</u>
Marked sheet ended up	<u>top of output stack / bottom</u>
Backs file that worked	<u>backs.pdf / backs-fwdorder.pdf</u>
Offset, if any	<u>mm · same direction every run, or does it reverse?</u>
Offset across the sheet	<u>same on every card, or different top row vs bottom row?</u>

The last two fields are the open investigation. An offset that reverses sign is tray slack and page 2 fixes it. One that never reverses is a machine bias and can be cancelled in the artwork. One that differs between the top and bottom rows of the same sheet is the stack sitting rotated, not shifted, and neither fix applies.