

EFI / Windows Boot Repair Instructions

Framework Laptop 13 (AMD Ryzen 7040 Series) — dual boot with KDE neon

Diagnosis summary: The EFI System Partition (/dev/nvme0n1p1) still has intact

Linux boot files (EFI/neon, EFI/kde, EFI/ubuntu) — Linux boots fine. However,

EFI/Microsoft is empty: bootmgfw.efi and the Boot Configuration Data (BCD)

store were accidentally deleted and are unrecoverable (they were moved to /tmp, a

RAM-backed tmpfs wiped on reboot). The Windows Boot Manager entry still exists in

NVRAM (efibootmgr) pointing at \EFI\Microsoft\Boot\bootmgfw.efi — it just

needs the files restored at that path.

What you need

1. A USB drive or SD card with Windows 11 installation media written to it in UEFI/GPT mode (ISO used: `Win11_25H2_Dutch_x64_v2.iso`).
2. Your Framework laptop, plugged in (recommended, to avoid running out of battery mid-repair).

Step 1 — Boot from the USB/SD card

1. Insert the USB drive / SD card into the laptop.
2. Power on (or restart) the laptop.
3. Immediately start tapping **F12** repeatedly — this opens the one-time boot menu on Framework/Insyde firmware.
4. Select the USB/SD card entry from the boot menu.

If F12 doesn't bring up a menu, try again and tap it earlier/faster right after the power

button press. F2 opens BIOS setup instead, in case you need to check boot order there.

Step 2 — Enter the recovery Command Prompt

1. At the "Windows Setup" language/region screen, click **Repair your computer** in the bottom-left corner (do not click "Install now").
2. Choose **Troubleshoot**.
3. Choose **Advanced options**.
4. Choose **Command Prompt**.

Step 3 — Identify the EFI System Partition

In the Command Prompt window, run:

```
diskpart
list disk
select disk 0
list partition
```

Look for the small (~100–260 MB) FAT32 partition — this is the EFI System Partition (ESP). On this machine it corresponds to `/dev/nvme0n1p1` when viewed from Linux. Note its partition number, then run:

```
select partition <N>
assign letter=S
exit
```

(Replace `<N>` with the actual partition number from the listing — typically partition 1.)

Step 4 — Confirm the Windows partition's drive letter

Still in the Command Prompt, check which letter your Windows installation is under (often already `C:`):

```
dir C:\Windows
```

If that doesn't show the Windows folder, try other letters (`D:`, `E:`, etc.) until you find it.

Step 5 — Rebuild the bootloader and BCD store

Run (adjust `C:` if your Windows partition uses a different letter):

```
bcdboot C:\Windows /s S: /f UEFI
```

This recreates `\EFI\Microsoft\Boot\bootmgfw.efi` and the BCD store on the ESP. It should report "Boot files successfully created."

Step 6 — Reboot and verify

1. Type `exit`, then remove the USB drive/SD card.
2. Reboot the laptop normally.
3. Use **F12** at boot to check that "Windows Boot Manager" appears in the boot menu again, and confirm it actually boots into Windows.
4. Your Linux (KDE neon) entry is untouched and will still boot as before — nothing else needs fixing there.

Why no extra NVRAM step is needed: The existing "Windows Boot Manager" boot

entry in firmware (seen via `efibootmgr -v`) already points at `\EFI\Microsoft\`

`Boot\bootmgfw.efi`. Once step 5 recreates that file, the existing entry will simply

start working again — you do not need to add a new NVRAM entry manually.

Lesson for next time

`/tmp` on this system is `tmpfs` (RAM-backed) and is wiped on every reboot. If you need to move/stage system files temporarily and want them to survive a reboot, use `/root`, `/var/tmp`, or your home directory instead.