# RETROFIT CHEAT SHEET

Six steps before you touch a wire | The Fire Alarm Expert

**Retrofit = Planning + Engineering + Code Knowledge + Risk Management**

## 1. Quick Reference: The Six Steps

| # | Step | Golden rule | Kill this mistake |
|---|---|---|---|
| **1** | Site Survey & Assessment | Know what you are walking into | Assuming wire is reusable |
| **2** | Code Review & AHJ | Verify with the AHJ before you start | Grandfathering trap |
| **3** | System Design & Devices | Design around what exists (engineer's job) | Skipping engineering |
| **4** | Installation | Label before you disconnect | Leaving the building unprotected |
| **5** | Panel Changeover & Programming | One circuit at a time | Multiple circuits at once |
| **6** | Test, Inspect, Document | 100% tested before the fire department arrives | Inspector finds what you should have |

## 2. Step 1 Survey Checklist

| Item | What to record |
|---|---|
| **Panel** | Make, model, age, years installed |
| **Devices** | Physical count; check prior test reports; look for added or masked devices |
| **Wiring** | Type, gauge (16/18), splice boxes, T-taps, EOL, water damage, THHN |
| **NAC / Power** | Added power supplies needed? Fuse disconnect or dedicated panel? |
| **Monitoring** | POTS, IP, or external DACT; reruns or new communicator? |
| **Condition** | Working system? Repairs inside budget? Replacement wire contingency? |

## 3. Step 2 Code Review Checklist (verify to adopted code and AHJ)

| Item | Verify |
|---|---|
| **Detector spacing** | Smoke, heat, and duct detectors in the right spots and spacing |
| **Strobes** | Candela rating for ceiling vs wall mount, large areas, corridors |
| **Audibility** | Required dB per space; voice intelligibility if using speakers |
| **Pull stations** | Correct height; 200 ft corridor rule; at every exit; both sides of wide exits |
| **Amendments** | Local AHJ or government-client amendments identified |
| **Triggered items** | New requirements from the modification (example: detector in the panel room) |

## 4. Self-Assessment: Are You Retrofit Ready?

*Answer yes or no before every retrofit. Any no is a stop sign.*

| # | Question | Y / N |
|---|---|---|
| 1 | Do I know the panel make, model, and age? | ☐ / ☐ |
| 2 | Do I have a verified device count from a test report or database? | ☐ / ☐ |
| 3 | Have I inspected the wiring type, gauge, and splice boxes? | ☐ / ☐ |
| 4 | Have I found every T-tap and confirmed EOL locations? | ☐ / ☐ |
| 5 | Do I have a wire replacement contingency in the price? | ☐ / ☐ |
| 6 | Do I know how the system is monitored, and what changes? | ☐ / ☐ |
| 7 | Have I confirmed the current adopted code and any AHJ amendments? | ☐ / ☐ |
| 8 | Have I called the AHJ about new requirements this change may trigger? | ☐ / ☐ |
| 9 | Is there an engineer-approved design and changeover approach? | ☐ / ☐ |
| 10 | Have I chosen one-for-one or section by section with the client? | ☐ / ☐ |
| 11 | Is management or the PM coordinated on schedule and hours? | ☐ / ☐ |
| 12 | Is there a written fire watch authorization if the system goes offline? | ☐ / ☐ |
| 13 | Do I have labels ready for every wire? | ☐ / ☐ |
| 14 | Do I have the sequence of operations at the panel? | ☐ / ☐ |
| 15 | Is my documentation package template ready for Step 6? | ☐ / ☐ |

## 5. Changeover Sequence (Step 5)

1. Transfer one circuit.
2. Verify supervision on that circuit.
3. Confirm addresses and labels are correct.
4. Move to the next circuit. Repeat.
5. Program to the sequence of operations: inputs match outputs, elevator recall, fan shutdown, door and stair pressurization.

## 6. Final Test & Documentation Package (Step 6)

| Test everything | Paperwork ready at inspection |
|---|---|
| Horn dB levels / voice clarity | As-built riser diagrams (final, engineer-updated) |
| Strobe sync and candela | Battery calculations (standby, alarm, low) |
| Troubles and supervisories | Voltage drop calculations |
| Batteries, phone lines, AC loss | Device address and location list |
| Tamper switches | Record of completion and NFPA forms |
| Input modules (dampers), monitor points | PDFs for every device |
| Central station signal receipt and labels | Fire alarm control panel manual |

## 7. Pro Tips

- Slow is smooth, smooth is fast. Rushing Step 5 doubles your Step 6.
- A 10-minute call to the AHJ at Step 2 saves a week of rework at Step 6.
- Reuse sound conduit: less damage, no firestopping, more margin.
- Never accept a handshake for downtime. Get fire watch authorization in writing.
- Work clean. It is an occupied building, not a new-construction shell.
- Any device change goes on the as-built and back to the engineer.

## 8. Resource Roadmap

| Resource | Use it for |
|---|---|
| **NFPA 72 (nfpa.org)** | Code answers when you are unsure |
| **Your AHJ** | Amendments and triggered requirements |
| **NICET certification** | Credibility; prep content in the Skool community (NICET I to IV) |
| **Fire Alarm Business Blueprint** | Bi-weekly free live training, licensing roadmap, bonding, estimating, marketing. Next session: October 7, 2026 |
| **Spark Series Pocket Edition** | Reference book (discount code in the video description) |

*Code figures reflect what was stated in the training. Always confirm your adopted code edition and AHJ.*