RESUMING THE RV-8 BUILD

A Learner Report Addressed to the Builder After a Long Pause

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Research conducted by AI agents (Claude, Anthropic) under human direction.
See LAB.APPLIEDPEDAGOGY.COM for methodology and verification framework.

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1

THE COGNITIVE SETUP

You are not starting from zero. You are also not where you were in October 2019. The difference is a Layer 4 (metacognition) decay specifically. The Layer 1 knowledge — what an AN3 bolt is, why edge distance matters, why ProSeal needs a long cure — is mostly intact; what you know, you know. The Layer 2 skill — the muscle memory for setting a rivet, the feel of the bucking bar — is partially decayed but recovers fast with focused practice. The layer that decayed most and that you cannot self-detect is Layer 4: your ability to recognize when your own work is below the standard. The same work that you would have rejected in 2019 will look acceptable to you in June 2026 because your acceptance bandwidth widened during the seven-year off-period, and you cannot directly see it widening.

This is why the *first thing* is an EAA Tech Counselor visit, before any new rivet is set. Not because there is something definitely wrong with the parked work, but because you are the wrong person to evaluate it. The counselor sees what you can't.

2

THE NEXT WEEK, THE NEXT MONTH, THE NEXT YEAR

2.1 THE NEXT WEEK

1. **Survey the shop physically.** Walk the bench, walk the wing jigs, open the tool drawers. Photograph the existing wing assemblies; photograph the tool inventory. The shop walkthrough is the foundation of everything else. Spend an hour. 2. **Sign in to EAA, locate Chapter 226 (Anderson/Muncie Aces) and Chapter 67 (Noblesville) on the chapter locator.** Email both chapter presidents. Tell them you are restarting an RV-8 build, ask for the Tech Counselor roster, ask for a counselor with RV experience to come visit. The visit may take 4-8 weeks to schedule; start the request now. 3. **Order the four Mike Busch books if you haven't already** (you may own some) and start reading *Manifesto* first. 160 pages. Read it this week. It is the philosophy that runs through everything you will do on the engine for the rest of your life. 4. **Download the AMT Handbooks** (FAA-H-8083-30B / -31B / -32B) as free PDFs from faa.gov. These are the spine of the knowledge an A&P would acquire; you can have them on your tablet by tomorrow at zero cost. 5. **Subscribe to Kitplanes** (digital is fine). 6. **Subscribe to Aviation Consumer digital** ($40/year). 7. **Subscribe to EAA** if not already. Sport Aviation magazine and the Hints for Homebuilders video archive come with it.

That is the week. Nothing in the shop; everything is paperwork, books, and counselor scheduling.

2.2 THE NEXT MONTH

1. **The deliberate-practice protocol.** Three weeks of practice on scrap from `skills-and-practice.md` § "The protocol summary for the PI's re-onboarding." Logged. Pass-rate tracked. The point is not the rivets; the point is the recalibration of your acceptance standard. By the end of week three, your rivet-gauge result should be ≥90% pass-rate, and you should be able to *predict* the outcome before you gauge — that prediction calibration is the Layer 4 work. 2. **Tech Counselor visit** when scheduled. Walk the counselor through everything — the spars, the wings, the punch list, the W-707G issue, your tool inventory. Ask the counselor specifically: "Look at the rivets I set in 2018-2019. Is anything I should drill out?" Ask for a written list of items to address. *Believe the list.* 3. **Read *Mike Busch on Engines*.** 500 pages, dense but readable. By the end of the month you should have the modern reliability-centered-maintenance framework in your head. This goes alongside the airframe restart, not after — the engine knowledge takes years to settle and starting now means it's ready when the engine arrives. 4. **First real new work: the ailerons.** Per your own re-entry punch list. Small, replaceable, every-skill-the-wing-uses. By the end of month one you should have one aileron done. The other one in month two.

2.3 MONTHS 2-3

1. **Finish the left wing.** Through the bottom-skin work that was paused mid-stream in October 2019. Tech Counselor visit at the end of the left wing assembly. 2. **Order the right rear spar W-707A-R web** *concurrently with* the QuickBuild fuselage order (Section E of `best-build.md`) so the freight is shared. Order placement: end of month 2 or beginning of month 3. 3. **Continue**

Mike Busch reading. *Airplane Ownership Vol. 1* in month two; *Vol. 2* in month three. Watch one Savvy webinar a week. By the end of month three you have the philosophy. 4. **Subscribe to the APS (Advanced Pilot Seminars) online course** ($395). Take it over month three. 5. **Begin the AMT Handbook reading.** The Powerplant handbook first; one chapter per week. By the end of month three you have read the engine theory portion at depth, alongside Busch.

2.4 MONTHS 4-9

1. **Finish the right wing.** Including the W-707G/W-707A-R repair, sequenced after the QB fuselage arrives so the W-707A-R is on hand. 2. **Start the QB fuselage** as soon as it arrives. Plan: 6-8 months of focused work. 3. **Continue AMT Handbook reading.** Airframe vol. 1, Airframe vol. 2, then General. By the end of month 9 you have read the full AMT curriculum at depth. 4. **Tech Counselor visit at the close of each major assembly** (wings closed, fuselage major assembly, fuselage canopy).

2.5 MONTHS 10-18 (YEAR 1-2 BOUNDARY)

1. **Order the engine** (Lycoming IO-360-M1B, factory new). Lead times in 2026 are 6-12 months; order with this in mind. 2. **Finish kit work.** Engine mount, gear, fairings, canopy work. 3. **Continue the Busch-and-Savvy curriculum.** Watch the borescope training, the oil analysis training, the engine monitor interpretation training. 4. **Subscribe to SavvyAnalysis** ($189/year) when the engine is on the way; you'll need the data analysis support before first flight.

2.6 YEAR 2-3

1. **FWF installation.** Per `research-streams/powerplant.md` § FWF. 2. **Avionics installation.** Per `research-streams/contested-choices.md` and `best-build.md` Section G. The Daniels AFM8 D-sub crimper is the make-or-break tool here; do not improvise. 3. **First engine ground run.** Per Lycoming break-in protocol. 4. **DAR inspection** for airworthiness certificate. 5. **First flight.** Flight Advisor on the ground. Cool, dry day, light winds, long runway. Phase I begins. 6. **Apply for the Experimental Amateur-Built Repairman Certificate** at Phase I sign-off (FAR 65.104). This is the "free" credential — do not skip.

2.7 YEAR 4+

1. **Post-Phase-I paint and interior.** Per Section H of `best-build.md`. 2. **Operate on condition** per the Busch philosophy. SavvyAnalysis subscription continuous. Engine monitor downloads after every flight. 3. **Annual Condition Inspection** signed by you under your Repairman Certificate. 4. **The A&P question reopens** (see below).

3

ON THE A&P QUESTION

You asked whether to pursue A&P as a second career. The honest answer is in `research-streams/ap-pathway.md`. The structural conclusion of that research:

> The house-bound constraint defeats the Part 147 route. Even the closest, cheapest option (Vincennes ATC at Indianapolis, $13,750 / 24 months) requires five-day-a-week commuting for two years. Post-2022 hybrid programs reduce in-residence time by 25-40%, not 80-100%. There is no fully-online Part 147 program in 2026 and likely won't be within your planning horizon.

The same research found that *building* an Experimental Amateur-Built airplane does *not* count toward the 14 CFR 65.77 practical-experience pathway. This is the settled FAA interpretation. Only post-airworthiness *maintenance* on an FAA-registered aircraft counts, and even that is at FSDO discretion. EAA has been lobbying for a rule change here for years; as of mid-2026 no rule has been published.

What this means for you:

Plan against the A&P certificate not happening. The certificate is unavailable to you under current rules and your current constraints. The Experimental Amateur-Built Repairman Certificate (FAR 65.104) is available to you, is essentially free, and covers everything you actually need for the RV-8 — the Condition Inspection, the routine maintenance, the ongoing care of your own airplane in perpetuity.

Acquire the A&P-equivalent knowledge anyway. The free AMT Handbooks are the spine of what an A&P student reads. Read them. Take the APS online course. Watch the Savvy webinars. Subscribe to SavvyAnalysis. By the end of year 2 you will have the *knowledge* an A&P has; you will not have the *credential*, but the credential matters only if you intend to work on other people's airplanes for compensation, which is not what you described.

The Light Sport Repairman with Maintenance rating (Rainbow Aviation, ~$4,000, 15 days, Kingsville MO). Educationally valuable, will not directly authorize work on the RV-8 (which is not LSA), but the course covers everything a Light Sport mechanic does and is a useful structured-curriculum experience. *Consider it after the airplane is flying* and the house-bound constraint has relaxed enough to afford 15 days at a residential course. Not a near-term action.

Revisit the A&P question if and only if: - The airplane is flying (post-Phase I) — so you have the regulatory standing and the practice base. - Your house-bound constraint has relaxed enough to afford 24 months of commuting OR a credible fully-online Part 147 program exists. - A concrete economic upside (work, side business, a specific role) makes the credential matter.

Until at least two of those three triggers fire, the A&P certificate is the wrong target. The Repairman Certificate covers what you need.

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ON THE LONG PAUSE AND WHAT COULD HAVE GONE WRONG

The PI mandate explicitly asked for an honest assessment of failure modes from the long pause. Here they are:

Failure mode 1: Storage corrosion. Aluminum stored unprimed in a moderate-humidity garage for seven years will show surface oxidation at minimum. The 2024-T3 in the wing assemblies has likely picked up surface dullness; this is cosmetic and not structurally significant *if* the parts were stored indoors and dry. If any parts saw moisture (basement leak, garage flooding, drip from the ceiling), the corrosion can be structurally significant in concealed areas. Tech Counselor inspection is the verification.

Failure mode 2: Quality-control regression on the older work. You probably set some rivets in 2018-2019 that you would not accept today. The counselor visit identifies which ones, and you drill them out. The cost is some hours of rework, not a wing.

Failure mode 3: Service Bulletin applicability. Van's has issued service bulletins between 2019 and 2026 that may apply to your older sub-assemblies. The Van's SB index is at vansaircraft.com; run it against every part number in the kit before any new work goes on top. This is a Tech Counselor visit item; the counselor will know which SBs to check.

Failure mode 4: Mis-remembered details. You will think a hole was already drilled when it was not, that a part was deburred when it was not, that a sealant was cured when it was still tacky. Re-read the relevant section of the Van's manual before every new operation. Do not work from memory.

Failure mode 5: The W-707G issue itself. You parked this in 2019 with a plan to address. The plan stands (order replacement W-707A-R with the QuickBuild fuselage). Do not improvise around the issue mid-build.

Failure mode 6: "I'll fix that later" accumulation. The long pause may have left a residue of small "I'll come back to that" items that have aged into structural issues. The Tech Counselor visit is the inventory. Make the list, address it before resuming.

Failure mode 7: Tool calibration drift. Click torque wrenches lose calibration over time. Anything you used between 2011 and 2019 should be re-certified before any structural fastener is torqued in 2026.

The priority-zero list, before any new work is layered on: 1. Tech Counselor visit, written list of items to address. 2. Van's SB index reviewed against installed part numbers. 3. Click torque wrenches recertified. 4. Surface inspection of every stored sub-assembly for corrosion. 5. Personal-skill recalibration per `skills-and-practice.md` § protocol. 6. The W-707A-R order placed (concurrent with QB fuselage order).

After this list is closed, new work can resume.

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ON THE HOUSE-BOUND CONSTRAINT AND THE STRUCTURE OF LEARNING

A lab principle that applies to you specifically: maximize home preparation, reserve in-person time for what only happens in person. The corollary for this build:

- **Saturate the home preparation.** AMT Handbooks, Mike Busch books, Savvy webinars, APS online course, Hints for Homebuilders videos, VAF reading — all at home, all unlimited time, all at zero out-of-house cost. - **Reserve in-person time for:** Tech Counselor visits (they come to you — but also chapter meetings if scheduling permits, because counselors get recruited from chapter rosters); the EAA SportAir Sheet Metal Basics workshop *if* it is offered within driving range and you can manage the two days (the hands-on calibration of feel under instruction is genuinely something video does not replicate); Flight Advisor session before first flight; the DAR inspection. - **Skip the casual in-person events** that duplicate what you can do at home. AirVenture Oshkosh is the canonical example: it is excellent if you can go but the educational content is largely available via the Hints for Homebuilders archive and Mike Busch's webinars. Don't burn out-of-house capital on it; if you can manage it as a family trip without cost to the build, fine.

The exception worth flagging: **the AOPA Fly-In comes to KMQJ (Indianapolis Regional) annually**, and 2026's is on May 31. KMQJ is an hour from Muncie. That is the highest value-per-out-of-house-trip event you have available — a day trip to a major aviation event with no overnight.

Laurel is part of this. The shop hours that the airplane takes are hours that come from somewhere. The deliberate-practice protocol — 2-3 hour sessions with breaks, ending before quality degrades — is also a good marriage protocol. Don't run the build past the point where it becomes a wedge. The airplane will still be there tomorrow.

This is not a sentimental observation; it is the reason long-paused builds rarely resume successfully. The builders who finish are the ones who structured the work around the family rather than against it. The PI who paused in 2019 made the right call when the family situation required pause. The PI who restarts in 2026 should structure the restart so that pause is not required again.

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WHAT SUCCESS LOOKS LIKE

In one year: left wing closed up, right wing through major skin assembly, ailerons and flaps done, QB fuselage ordered and on its way, Tech Counselor relationship established, two visits logged, AMT Handbook Powerplant read in full, Mike Busch curriculum complete, APS course complete.

In three years: airplane in Phase I or just past it, Repairman Certificate in hand, SavvyAnalysis subscription active, engine running on the on-condition philosophy, 50 hours of solo flying logged, IFR currency re-established, Flight Advisor consulted.

In five years: airplane painted, fully outfitted, ~300 hours TT, you're a calibrated owner-maintainer who happens to also have the equivalent of the A&P curriculum in your head from self-study. The LSRM-M course in Kingsville becomes thinkable if the house-bound constraint relaxes. The A&P question reopens or doesn't, on the actual evidence then.

The principle that runs through all of this: **the airplane is a learning project that happens to produce an airplane.** The competence you build along the way — the recognition skills, the engine knowledge, the troubleshooting habits — is what you carry for the rest of your life. The airplane is the artifact; the calibrated owner-maintainer is the outcome.

You already know this. The lab exists because you know it. This is the application to your own life.

Go build the airplane.

— SUBJ-007