

Javron Super Cub — Manual Gap Analysis

Generated 2026-09-28 for Randy Hentz. Compares the builder manual found on Randy's Mac against the clean builder source set in ../clean/ (2630 items). Item IDs (JV-xxxx) refer to ../clean/clean_items.jsonl and the per-system markdown files.

This report says what each source says, with attribution. It doesn't decide who is right, and it makes no airworthiness, legal, or safety determinations. Page numbers are the manual's printed page labels, with PDF page numbers in parentheses. Manual quotes are from native PDF text (no OCR). Items marked MACHINE-READ come from OCR.

Which manual this is (read first)

- **Found:** PA-18 manual Sept 2009v5.pdf (Desktop, 9,647,893 bytes, modified 2025-09-29) and BackCountry PA-18 manual Sept 2009v5.pdf (ProtonDrive/Super Cub, 9,649,442 bytes, 2025-06-28). Both have 168 pages. **Their extracted text is identical.** The Desktop copy was re-saved on 2025-09-29 (PDF ModDate), and neither has annotations. I used the Desktop copy (newest). Copies are in ../manual/.
- **It's not a Javron-authored manual.** The cover/header reads "Backcountry Super Cubs PA-18 Builder's Manual Index Rev # 1.1", with sections dated Nov 2007-June 2009. Builders say Javron doesn't publish a build manual, and many Javron builders use this BCS manual alongside Piper drawings (see §14). So every "manual" comparison below is BCS-manual vs Javron-builder experience.
- **The manual is incomplete compared with its own index.** The index lists Ch.4 Fabric Covering ("Map"), Ch.6 Engine install/Cowling ("Video"), Ch.7 flaps/ailerons and fuel/pitot connections, Ch.8 Finishing Trim, Ch.9 Before Flight (log books, W&B, FAA inspection, break-in) and Ch.10 First Flight (rigging, Phase 1). **None of these have body pages in this PDF.** The body ends with lift/jury struts (pp.157-165) and the hardware list (pp.166-171). The index page numbers are also off from the body (e.g., index "Baffling 149-151" vs body pp.153-156), and two elevator pages are labeled "1215" and "1226".
- **Supplementary PDFs found (shared in GroupMe, also in ProtonDrive/Super Cub).** These were copied to ../manual/supplemental/ but are *not* Javron manuals: Wing Pre-Cover_Covering Checklist.pdf (a 3-page builder checklist; the author isn't named in the text), Aileron Cable Fabric Hole Reference dc.pdf (a drawing with "DC" part numbers, probably Dakota Cub), 12304 Fabric Installation - Fuselage.pdf (a scanned Piper-style drawing; MACHINE-READ OCR only, low quality), and Covering rib stitching 2.pdf (a Keynote export of Piper rib-stitch/tape charts; MACHINE-READ OCR). OCR text is in text/*.MACHINE-READ-OCR.txt.

Summary — biggest gaps

1. **No covering, paint, engine-install, cowling, finishing, paperwork or first-flight content.** These are index-only chapters. Builder discussion here is heavy: covering & paint and engine/FWF are two of the largest sections of the clean set (see counts below). Builders rely on the covering-system manuals (Stewart, Poly-Fiber, Superflite), Piper drawings, and each other.
2. **Javron kit differs from the BCS manual in documented places.** Upper side stringers are welded in. There are 6 floor boards, not 5. The forward trim system follows Piper, not the BCS trim plate. A seat base with a flap-handle tab exists in two versions. The manual shows a lower elevator-cable bracket that isn't in the kit. The fuselage brake plate is pre-drilled for Grove heel brakes, which have an integral reservoir. All cited in §§01/04/09/10.
3. **Fuel system.** A builder says not to drill the hole size the manual specifies for the fuel-valve BOTH modification. Builders also report routing that differs from the manual's four-suction-line layout. Line material (3003 vs 5052) and sight/electronic gauges are builder-only topics.
4. **Electrical/avionics is almost entirely builder-sourced.** The manual covers only battery cables/ground (battery under rear seat), wing landing lights/harness, and a pitot line with no static line. Builders cover glass panels, autopilot servos, magnetometer placement, ELT antennas and ground planes, static ports, and firewall-mounted EarthX batteries.
5. **Wing structure & rigging.** The manual has no spar/rib/drag-wire build or washout/dihedral procedure beyond fork-nut settings and jury-strut plumb lines. Builders trade washout/dihedral figures from Jay's instructions and other sources that don't match the manual's reference points (not reconciled here).

System-by-system

01 • Fuselage and welding (179 clean items)

(a) What the manual covers

- Stringers (top, bottom, side) — printed pp. 34-38 (pdf 31-35)
- Vertical fin radius (saddle) fairing — printed pp. 39 (pdf 36)

(b) Covered only by forum/GroupMe

- Welding / TIG / 4130 repairs & added tabs: 45 items — e.g. JV-0060, JV-0073, JV-0148, JV-0163
- Powder coat, primer & tube corrosion protection: 38 items — e.g. JV-0079, JV-0148, JV-0045, JV-0121
- Boot cowl fitting & panel mounting (Jay's verbal method): 48 items — e.g. JV-0079, JV-0060, JV-0163, JV-0010
- Wide-body fuselage differences: 6 items — e.g. JV-0086, JV-0032, JV-0066, JV-0076

(c) Disagreements / manual reported wrong, unclear, or out of date

• Stringer count / welded-in upper side stringers

- Manual: p.36 (pdf 33): "Measure and cut both of the upper side stringers at a length of 98 3/4" long."
- Builders: stoldriver (Wayne), *Yes, another Javron cub #1*, 2023-06-08 (JV-0099): "I'm looking for 6 stringers, and only find 4. Turns out I'm not short, instead, Jay now welds the upper side stringers into the frame." Same author #28, 2023-07-20 (JV-0100): "The upper side stringers are welded in on newer kits so you don't have to do those."

• Side-stringer aft ends & fin radius rivet

- Manual: p.38 (pdf 35): "Take a scrap piece of extrusion and cut it to a length that would slightly pull the rear stringers toward the center of the airframe." (fin radius fairing riveted to upper stringer shown in manual, p.39)
- Builders: stoldriver #28, 2023-07-20 (JV-0100): "I did not tie the aft ends of the side stringers together as shown in the manual ... The radius fin fairing is shown in the manual getting a rivet to the upper stringer. The Piper drawing does not show that rivet and I chose to do it per the drawing."

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- Vertical fin radius (saddle) fairing (pp. 39): 2 matching items — JV-0100, JV-1782

Builder-item counts per manual section (keyword match):

- Stringers (top, bottom, side): 106 — JV-0661, JV-1824, JV-0079, JV-0666, JV-1779
- Vertical fin radius (saddle) fairing: 2 — JV-0100, JV-1782

02 • Wings (214 clean items)

(a) What the manual covers

- Wing prep for covering - flaps/ailerons removal, fuel tanks — printed pp. 80-84 (pdf 77-81)
- Wing install - lift struts, forks & tie-down rings — printed pp. 157-161 (pdf 154-158)
- Wing install - jury struts (incl. pitot line to jury strut) — printed pp. 162-165 (pdf 159-162)

(b) Covered only by forum/GroupMe

- Spar & rib build/repair (incl. spar replacement at Javron): 151 items — e.g. JV-0297, JV-0357, JV-0264, JV-0267
- Drag/anti-drag wire squaring & tension: 13 items — e.g. JV-0297, JV-0305, JV-0294, JV-0300
- Washout / dihedral / incidence settings: 20 items — e.g. JV-0276, JV-0317, JV-0316, JV-0237
- VGs, slats, wing tips, flap gap seals: 36 items — e.g. JV-0235, JV-0289, JV-0300, JV-0317

(c) Disagreements / manual reported wrong, unclear, or out of date

• Strut/dihedral set-up references differ

- Manual: p.157 (pdf 154): "adjust the fork's nut 2.360" from the center of the fork's bolt hole, then adjust the other two fork's nuts at 2.298"".
- Builders: cite other references (Jay's instructions, Piper): Jon Lee quoting Jay's instructions, GroupMe 2021-01-03 (JV-0317): "Screw fork into block such that space between bolt and block is .375" - .400""; Sam D reply (JV-0317): "The rigging instruction suggest this should be closer to 3". Craig 2023-12-04 (JV-0245): "adjust washout to get 1.8 degree measured at rib 15 then use 3 1/8th measured at spar attach point for dihedral. Anyone agree"; Mike B (JV-0347): "The 3.125" should be measured from the top of the spar". These measure different things; not reconciled here.

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- None. Every manual section for this system has at least 5 matching builder items (keyword match).

Builder-item counts per manual section (keyword match):

- Wing prep for covering - flaps/ailerons removal, fuel tanks: 31 — JV-2267, JV-0283, JV-0300, JV-0204, JV-0203
- Wing install - lift struts, forks & tie-down rings: 52 — JV-0235, JV-1832, JV-2109, JV-0327, JV-0317
- Wing install - jury struts (incl. pitot line to jury strut): 13 — JV-0357, JV-1340, JV-0328, JV-2032, JV-0223

03 · Tail / empennage (42 clean items)

(a) What the manual covers

- Rudder & vertical fin bushings, fin set-up — printed pp. 31-32 (pdf 28-29)
- Stabilizers & pivot tubes — printed pp. 103-112 (pdf 100-109)
- Tail brace wires (incl. tension check) — printed pp. 113-119 (pdf 110-116)
- Elevators installation — printed pp. 120-126 (printed labels 1215/1226 on two pages) (pdf 117-123)
- Rudder installation & rudder cables — printed pp. 127-131 (pdf 124-128)

(b) Covered only by forum/GroupMe

- Rudder-to-fin gap after covering: 1 items — e.g. JV-0404
- Float fins / extra tail area: 0 items
- Tail-feather weights / covering: 7 items — e.g. JV-0406, JV-0431, JV-0428, JV-0434

(c) Disagreements / manual reported wrong, unclear, or out of date

• Rudder/fin gap after covering

- Manual: pp.127-131 (rudder installation) and pp.31-32 (fin set-up).
- Builders: Brian Amendala, GroupMe 2025-06-27 (JV-0404): "I originally set it up using the backcountry manual but after covering the rudder it's getting more pronounced because of the fabric wrapping around the nose of the rudder."

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- Rudder & vertical fin bushings, fin set-up (pp. 31-32): 3 matching items — JV-0154, JV-1015, JV-0415

Builder-item counts per manual section (keyword match):

- Rudder & vertical fin bushings, fin set-up: 3 — JV-0154, JV-1015, JV-0415
- Stabilizers & pivot tubes: 52 — JV-0661, JV-1363, JV-0666, JV-1947, JV-2275
- Tail brace wires (incl. tension check): 14 — JV-1363, JV-0046, JV-1525, JV-0431, JV-1399
- Elevators installation: 55 — JV-1363, JV-0867, JV-1620, JV-1779, JV-1522
- Rudder installation & rudder cables: 81 — JV-1363, JV-1620, JV-2262, JV-0406, JV-0163

04 · Landing gear, brakes, wheels (156 clean items)

(a) What the manual covers

- Brake system – reinforcement plate, pedals, master cylinders, remote reservoir — printed pp. 53-57 (pdf 50-54)
- Gear-leg brake line fabrication — printed pp. 58-61 (pdf 55-58)
- Landing gear assembly incl. side step — printed pp. 98-100 (pdf 95-97)
- Tail wheel installation — printed pp. 101-102 (pdf 98-99)
- Main wheels & brakes (tubes/tires, bearings, calipers) — printed pp. 141-150 (pdf 138-147)
- Brake line installation & bleeding — printed pp. 151-152 (pdf 148-149)

(b) Covered only by forum/GroupMe

- Shock choices (Acme, Cub Crafters, bungee vs oleo): 45 items — e.g. JV-0489, JV-0504, JV-0529, JV-0502
- Tire/wheel choices (Bushwheel, Tundra, 26-35 in.): 19 items — e.g. JV-0580, JV-0445, JV-0447, JV-0506
- Tailwheel choices & steering (ABI, Scott, springs): 21 items — e.g. JV-0584, JV-0553, JV-0560, JV-0543
- Heel brake masters with integral reservoir (Grove) / Beringer / Matco: 25 items — e.g. JV-0445, JV-0447, JV-0459, JV-0479

(c) Disagreements / manual reported wrong, unclear, or out of date

• Remote brake reservoir vs integral-reservoir heel brakes

- Manual: p.56 (pdf 53): "In this manual we will install the reservoir under the seat ... You will now have to cut a small metal plate to hold the reservoir on to."
- Builders: stoldriver #38, 2023-09-28 (JV-0489): "For the brake installation, the manual is probably different than what you will do. I, like a lot of people, bought Grove heel brake master cylinders. They have an integral reservoir so there is no need for a remote as shown in the manual. In addition, the brake mount plate on the fuselage is predrilled to match and position the Groves perfectly."

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- Brake line installation & bleeding (pp. 151-152): 4 matching items — JV-1620, JV-0494, JV-0556, JV-2448

Builder-item counts per manual section (keyword match):

- Brake system – reinforcement plate, pedals, master cylinders, remote reservoir: 61 — JV-1620, JV-0467, JV-1571, JV-0445, JV-1832
- Gear-leg brake line fabrication: 19 — JV-1620, JV-0467, JV-1948, JV-0447, JV-0529
- Landing gear assembly incl. side step: 67 — JV-0867, JV-0866, JV-0935, JV-0489, JV-0467
- Tail wheel installation: 46 — JV-1822, JV-1042, JV-2264, JV-1777, JV-0584

- Main wheels & brakes (tubes/tires, bearings, calipers): 121 — JV-0043, JV-0489, JV-0467, JV-0580, JV-0938
- Brake line installation & bleeding: 4 — JV-1620, JV-0494, JV-0556, JV-2448

05 · Engine & firewall-forward (413 clean items)

(a) What the manual covers

- Engine baffling (engine install & cowling listed as 'Video' only) — printed pp. 153-156 (pdf 150-153)
- *Index only, no body pages*: Ch. 6 Engine install / Cowling ('Video'), 'Other items firewall forward'

(b) Covered only by forum/GroupMe

- Engine selection (O-320/O-340/O-360/IO-375/Titan): 82 items — e.g. JV-0661, JV-0867, JV-0866, JV-0921
- Cooling, CHT, plenums, cowl pressure: 60 items — e.g. JV-0770, JV-0700, JV-0947, JV-0701
- Electronic ignition (P-mag/E-mag) & blast tubes: 36 items — e.g. JV-0867, JV-0866, JV-0921, JV-0592
- Oil cooler, exhaust, carb heat/air box: 211 items — e.g. JV-0661, JV-0770, JV-0935, JV-0666
- Cowling/nose bowl fabrication & fit: 198 items — e.g. JV-0661, JV-0770, JV-0935, JV-0666
- Builder discussion of index-only topic "Ch. 6 Engine install / Cowling ('Video'), 'Other items firewall forward'": 520 items — e.g. JV-0661, JV-1346, JV-0867, JV-0770

(c) Disagreements / manual reported wrong, unclear, or out of date

- None found where a builder says the manual is wrong for this system.

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- None. Every manual section for this system has at least 5 matching builder items (keyword match).

Builder-item counts per manual section (keyword match):

- Engine baffling (engine install & cowling listed as 'Video' only): 171 — JV-0661, JV-0770, JV-0666, JV-0727, JV-0700

06 · Propeller (63 clean items)

(a) What the manual covers

- Nothing in the manual body.

(b) Covered only by forum/GroupMe

- Prop choice & pull/static tests (Catto, Sensenich, others): 63 items — e.g. JV-1042, JV-1064, JV-1028, JV-1025

(c) Disagreements / manual reported wrong, unclear, or out of date

- None found where a builder says the manual is wrong for this system.

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- None. Every manual section for this system has at least 5 matching builder items (keyword match).

07 · Fuel system (68 clean items)

(a) What the manual covers

- Fuel valve modification (adding a BOTH position) — printed pp. 62-63 (pdf 59-60)
- Fuel line routing (four suction lines) — printed pp. 64-67 (pdf 61-64)
- Fuel lines for auxiliary (Facet) pump — printed pp. 93-94 (pdf 90-91)

(b) Covered only by forum/GroupMe

- Fuel line material 3003 vs 5052, routing slope: 2 items — e.g. JV-1106, JV-1107
- Sight gauges, capacitive/electronic senders, fuel flow: 8 items — e.g. JV-1119, JV-1124, JV-1132, JV-1133
- Tank venting & grounding: 20 items — e.g. JV-1119, JV-1124, JV-1132, JV-1123

(c) Disagreements / manual reported wrong, unclear, or out of date

• Fuel valve 'BOTH' modification - hole size

- Manual: p.63 (pdf 60): "place a 19/64" drill bit in to hole #1 and drill from the inside out ... Take a 3/8" drill bit and re-drill the hole."
- Builders: Wayne H, GroupMe 2024-12-28 (JV-2534): "The Backcountry build manual has a pretty good description of how to drill it for a both position except don't try to drill the size hole they specify. You won't have much left if you do." (Earlier, Bill Rusk, *Building a Javron Cub* #354, 2012-07-10 (JV-1792): "I drilled out an additional port so I can have a "both" position. This is well detailed in the Backcountry Builders Manual.")

• Fuel line routing

- Manual: p.64 (pdf 61): "The fuel system will have four suction lines to it. One from the front and one from the back of each wing tank."

- Builders: stoldriver #38, 2023-09-28 (JV-0489): "Fuel system routing will likely be different than its shown in the manual and the Piper drawings aren't much help either." hotrod180 #39, 2023-09-29 (same thread, post id 851918): "I would suggest being very careful with fuel line routing if you're not gonna go by the manual."

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- Fuel lines for auxiliary (Facet) pump (pp. 93-94): 1 matching items — JV-1079

Builder-item counts per manual section (keyword match):

- Fuel valve modification (adding a BOTH position): 24 — JV-1620, JV-1629, JV-1119, JV-0700, JV-1792
- Fuel line routing (four suction lines): 86 — JV-1620, JV-0770, JV-1824, JV-0935, JV-1522
- Fuel lines for auxiliary (Facet) pump: 1 — JV-1079

08 • Electrical & avionics (298 clean items)

(a) What the manual covers

- Battery cables & ground wires (battery under rear seat) — printed pp. 68-71 (pdf 65-68)
- Landing lights (wing) — printed pp. 85-89 (pdf 82-86)
- Wing wiring harness — printed pp. 90-92 (pdf 87-89)
- Pitot line (no static line shown) — printed pp. 95 (pdf 92)

(b) Covered only by forum/GroupMe

- Glass panel choice & installers (Garmin G3X, Dynon, Stein): 110 items — e.g. JV-1163, JV-1357, JV-1324, JV-1228
- Autopilot servos & brackets, magnetometer placement: 49 items — e.g. JV-1323, JV-1228, JV-1249, JV-1214
- ELT antenna placement & ground plane: 32 items — e.g. JV-1145, JV-1387, JV-1139, JV-1261
- Static ports for EFIS: 4 items — e.g. JV-1246, JV-1271, JV-1240, JV-1242
- Battery type/location (EarthX, firewall): 48 items — e.g. JV-1323, JV-1324, JV-1334, JV-1387

(c) Disagreements / manual reported wrong, unclear, or out of date

- **Static line not shown in manual vs builders adding static ports**
 - Manual: p.95 (pdf 92): "We are not showing a Static line installation because this type of aircraft is not an air tight unit."
 - Builders: discussing static ports for EFIS installs: NickMaddog, GroupMe 2023-11-15 (JV-1271): "Anyone mounted static ports to run a Garmin setup and have a good location?" (answers in item). Not a claim the manual is wrong — a configuration the manual does not cover.
- **Battery location**
 - Manual: p.68 (pdf 65): "The preferred position to mount your battery is under the rear seat."
 - Builders: Builder choices differ: Bill Rusk, GroupMe 2025-02-15 (JV-1426): "Personally, I like to put the battery on the engine side of the firewall." Brian F, GroupMe 2019-12-14 (JV-1378): "My plan is earthx cabin side of firewall". Randy, 2020-10-27 (JV-0846): "I am putting an Earthx battery under the seat."

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- Wing wiring harness (pp. 90-92): 1 matching items — JV-1288

Builder-item counts per manual section (keyword match):

- Battery cables & ground wires (battery under rear seat): 80 — JV-1363, JV-1319, JV-0921, JV-1323, JV-0981
- Landing lights (wing): 15 — JV-1163, JV-1324, JV-0327, JV-1885, JV-1394
- Wing wiring harness: 1 — JV-1288
- Pitot line (no static line shown): 15 — JV-1246, JV-0328, JV-1271, JV-1296, JV-1240

09 • Controls & rigging (220 clean items)

(a) What the manual covers

- Trim system – jack screw, fairleads, trim indicator plate, handle, indicator cable — printed pp. 18-29 (pdf 15-26)
- Elevator balance cable / bracket — printed pp. 30, 33 (pdf 27, 30)
- Rudder pedals install — printed pp. 43-44 (pdf 40-41)
- Pulleys & cables (elevator/rudder/flap cable routing) — printed pp. 46-48 (pdf 43-45)
- Torque tube assembly — printed pp. 49-50 (pdf 46-47)
- Rudder cables & fairleads — printed pp. 51-52 (pdf 48-49)
- *Index only, no body pages:* Ch. 7 Flaps & ailerons install / connecting; connecting fuel & pitot lines

(b) Covered only by forum/GroupMe

- Overhead vs standard flap handle, flap cables: 33 items — e.g. JV-1571, JV-1470, JV-1444, JV-1443
- Electric trim / overhead trim options: 9 items — e.g. JV-1522, JV-1625, JV-1635, JV-1646
- Rudder deflection / travel stops / cable tension: 26 items — e.g. JV-1522, JV-1503, JV-1439, JV-1511
- Autopilot capstan bridle cables: 2 items — e.g. JV-1619, JV-1569

- Builder discussion of index-only topic “Ch. 7 Flaps & ailerons install / connecting; connecting fuel & pitot lines”: 230 items — e.g. JV-0867, JV-1620, JV-0866, JV-1947

(c) Disagreements / manual reported wrong, unclear, or out of date

- **Forward trim system (trim plate/indicator)**
 - Manual: p.22 (pdf 19): “The next step is to install the trim indicator plate ... Note: The trim indicator plate is not part of the Aircraft kit.” (pp.22–28 build the plate/indicator)
 - Builders: stoldriver #28, 2023-07-20 (JV-0100): “The forward end of the trim system does not use the trim panel or indicator as described in the BC manual. It is essentially per the Piper drawings.” #21, 2023-07-05 (JV-1600): “Going forward, it's different from the Backcountry manual but has similarities to the Piper drawings.”
- **Jack screw details (grease fitting, key)**
 - Manual: pp.18–21 (pdf 15–18): jack screw sub-assembly and key fit.
 - Builders: stoldriver #19, 2023-06-23 (JV-1641): “The grease zerk is not a -6 so don't pre-order one. It won't fit.” ... “I did not measure where the manual says to nor did I file it to length.”
- **Elevator cable end bracket shown in manual not in kit**
 - Manual: pp.46–48 / 120–126: cable routing and elevator cable attachment photos.
 - Builders: stoldriver #38, 2023-09-28 (JV-0489): “the lower bracket is shown as a triangular looking plate with three holes. There is nothing in the kit that looks like that. I finally realized that the part shown in the manual was used for a lower bungee.” (Also: “Cable routing and pulley installation are pretty well covered in the manual.”)
- **Rudder pedals - manual accurate but thin**
 - Manual: p.43 (pdf 40): “Use Lubriplate No. 630-AA ... Apply the lithium grease to the rotation point surfaces on each pedal.”
 - Builders: Agreement: Jon Lee, GroupMe 2020-02-09 (JV-1538): “I used lubriplate, white lithium grease on rudder pedals, saddles and springs. That's what the backcountry super cubs Manual recommended.” stoldriver #29, 2023-08-06 (JV-1470): “Rudder pedals installation is accurate if not detailed in the manual. I used the Piper drawings to augment any lacks in the manual.”

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- Elevator balance cable / bracket (pp. 30, 33): 3 matching items — JV-1522, JV-1608, JV-0423

Builder-item counts per manual section (keyword match):

- Trim system – jack screw, fairleads, trim indicator plate, handle, indicator cable: 32 — JV-1629, JV-1522, JV-2262, JV-0645, JV-1662
- Elevator balance cable / bracket: 3 — JV-1522, JV-1608, JV-0423
- Rudder pedals install: 49 — JV-1363, JV-1620, JV-1522, JV-1571, JV-0073
- Pulleys & cables (elevator/rudder/flap cable routing): 68 — JV-1620, JV-0921, JV-0297, JV-0922, JV-0645
- Torque tube assembly: 97 — JV-1346, JV-0235, JV-1363, JV-1620, JV-1322
- Rudder cables & fairleads: 23 — JV-1363, JV-1620, JV-1553, JV-1797, JV-1598

10 · Interior, seats, doors, windows (329 clean items)

(a) What the manual covers

- Floor boards (board map, baggage, seat fitting) — printed pp. 40–45 (pdf 37–42)
- Interior panels — printed pp. 72–79 (pdf 69–76)
- Skylight & side glass / window trim — printed pp. 132–140 (pdf 129–137)
- *Index only, no body pages:* Ch. 8 Finishing trim – interior panel trim, wing root fairings, inspection cover plates

(b) Covered only by forum/GroupMe

- Seats, seat base versions, belts/harnesses: 92 items — e.g. JV-1824, JV-1947, JV-1779, JV-1654
- Baggage doors & extended baggage: 43 items — e.g. JV-1824, JV-1779, JV-1654, JV-1777
- Windshield retainer/fairing (fiberglass lay-ups): 13 items — e.g. JV-1899, JV-1959, JV-1669, JV-1748
- Anti-chafe felt / EPDM on tubes: 4 items — e.g. JV-1749, JV-1831, JV-1826, JV-1830
- Builder discussion of index-only topic “Ch. 8 Finishing trim”: 49 items — e.g. JV-2109, JV-1340, JV-0071, JV-0204

(c) Disagreements / manual reported wrong, unclear, or out of date

- **Floor board count and notches**
 - Manual: p.40 (pdf 37): “Figure #78 shows a top view of the airframe floor board map ... There are five pieces that come with your kit.”
 - Builders: stoldriver #28, 2023-07-20 (JV-0100): “Floorboards, you get 6 instead of the 5 shown in the manual. Javron added the seat back for the back seat.” Sam D, *Building for Dummies* #31, 2019-09-13 (JV-1823): “There is a good diagram of these in the Backcountry Super Cub build manual (figure #78). The diagram shows a notch ... you'll need to make this ... Also, there is a 6th board not shown on the diagram.”
- **Seat base versions (not in manual)**
 - Manual: Manual: seat fitting covered with floor boards (index: “Front seat fitting 38”); no mention of variants.

- Builders: stoldriver #29, 2023-08-06 (JV-1470): "Seat base goes in just like the manual ... there are two versions of the seat base ... If you have the overhead flaps, you should have the one without the tab ... I did [get the wrong one]."

• **Brake reinforcement plate vs floorboard holes**

- Manual: p.53 (pdf 50): brake reinforcement plate drilling.
- Builders: stoldriver #29 (JV-1470): "The brake reinforcement plate does not match the oval holes on the floorboard ... it appears that the floorboard is not exactly per the print but the plate seems to be."

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- None. Every manual section for this system has at least 5 matching builder items (keyword match).

Builder-item counts per manual section (keyword match):

- Floor boards (board map, baggage, seat fitting): 87 — JV-1363, JV-1620, JV-1822, JV-1947, JV-1779
- Interior panels: 126 — JV-1620, JV-1824, JV-1822, JV-1629, JV-2262
- Skylight & side glass / window trim: 169 — JV-1654, JV-2045, JV-1675, JV-1899, JV-1792

11 · Covering & paint (372 clean items)

(a) What the manual covers

- Drill for rivets (fabric pop-rivet option vs rib stitching) — printed pp. 96-97 (pdf 93-94)
- *Index only, no body pages:* Ch. 4 Fabric Covering – 'Map'

(b) Covered only by forum/GroupMe

- Covering system choice (Stewart, Poly-Fiber, Superflite, Oratex, Air-Tech): 126 items — e.g. JV-2267, JV-1995, JV-2264, JV-2013
- Shrink temperatures, rib stitching, tapes, inspection rings: 74 items — e.g. JV-1995, JV-2045, JV-2109, JV-2161
- Paint booth, dust, out-gassing, primer weight: 135 items — e.g. JV-2267, JV-1995, JV-2275, JV-2262
- Builder discussion of index-only topic "Ch. 4 Fabric Covering": 600 items — e.g. JV-1620, JV-2267, JV-0921, JV-1629

(c) Disagreements / manual reported wrong, unclear, or out of date

• **Covering-system manuals (not the BCS manual) - shrink temps**

- Manual: BCS manual Ch.4 'Fabric Covering – Map' has no body pages; p.96 covers only the pop-rivet drilling option.
- Builders: Disagreements are with covering-system manuals, not BCS: mike mcs repair, *Building a Javron Cub* #1055, 2014-05-01 (JV-0289): "Ceconite manual says shrink to 240 deg... i disagree with them..."; Robbie S 2, GroupMe 2025-11-26 (JV-2172): "We use to have in our manual to go to 375 , but we changed it to 350"; Zach Jackson 2023-04-19 (JV-2115): "Several years ago the instructions said to just spray on the silver. They had de-lamination issues ..."

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- None. Every manual section for this system has at least 5 matching builder items (keyword match).

Builder-item counts per manual section (keyword match):

- Drill for rivets (fabric pop-rivet option vs rib stitching): 27 — JV-0264, JV-2109, JV-1794, JV-2098, JV-0292

12 · Paperwork, inspections, registration (50 clean items)

(a) What the manual covers

- FAA Construction Standards (AC 43.13-1B reference) — printed pp. 17 (pdf 14)
- *Index only, no body pages:* Ch. 8/9 'N' number & placards; log books; weight & balance; ground run & taxi test; FAA inspection; engine break-in

(b) Covered only by forum/GroupMe

- DAR/FAA inspection, 51% & registration experiences: 39 items — e.g. JV-2364, JV-2389, JV-2388, JV-2363
- Weight & balance / empty weights reported: 12 items — e.g. JV-2363, JV-2397, JV-2394, JV-2401
- Builder logs & photo documentation: 6 items — e.g. JV-2364, JV-2399, JV-2402, JV-2368
- Builder discussion of index-only topic "Ch. 8/9 'N' number & placards; log books; weight & balance; ground run & taxi test; FAA inspection; engine break-in": 33 items — e.g. JV-2364, JV-1560, JV-1261, JV-1882

(c) Disagreements / manual reported wrong, unclear, or out of date

- None found where a builder says the manual is wrong for this system.

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- FAA Construction Standards (AC 43.13-1B reference) (pp. 17): 1 matching items — JV-2402

Builder-item counts per manual section (keyword match):

- FAA Construction Standards (AC 43.13-1B reference): 1 — JV-2402

13 · Tools & shop (69 clean items)

(a) What the manual covers

- Required Tools & Work Area — printed pp. 12–14 (pdf 9–11)
- Unpacking & Inventory (parts check-off, packing list) — printed pp. 15 (parts list pp. 5–6) (pdf 7–8, 12)
- Quick Reference Guide – torque values — printed pp. 16 (pdf 13)

(b) Covered only by forum/GroupMe

- Rivet squeezers, clecos, tube benders, shears/brakes: 11 items — e.g. JV-2457, JV-2436, JV-2426, JV-2425
- Jigs, rotisseries, wing stands, shop space: 25 items — e.g. JV-2423, JV-2405, JV-2425, JV-2442

(c) Disagreements / manual reported wrong, unclear, or out of date

- None found where a builder says the manual is wrong for this system.

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- Required Tools & Work Area (pp. 12–14): 2 matching items — JV-2402, JV-1645
- Quick Reference Guide – torque values (pp. 16): 1 matching items — JV-0783

Builder-item counts per manual section (keyword match):

- Required Tools & Work Area: 2 — JV-2402, JV-1645
- Unpacking & Inventory (parts check-off, packing list): 7 — JV-1822, JV-1250, JV-2442, JV-2219, JV-0839
- Quick Reference Guide – torque values: 1 — JV-0783

14 · Kit supplier (Javron) (72 clean items)

(a) What the manual covers

- Hardware list by group (Aircraft Spruce P/Ns) — printed pp. 166–171 (pdf 163–168)

(b) Covered only by forum/GroupMe

- Lead times, missing/short parts, parts supplied vs manual: 4 items — e.g. JV-2530, JV-2529, JV-2479, JV-2486
- Jay's verbal instructions / builder assist / phone support: 7 items — e.g. JV-2492, JV-2480, JV-2485, JV-2493
- No Javron build manual; builders use BCS manual + Piper drawings: 49 items — e.g. JV-2539, JV-2508, JV-2522, JV-2500

(c) Disagreements / manual reported wrong, unclear, or out of date

- **Is there a Javron manual at all?**
 - Manual: The PDF found is titled “Backcountry Super Cubs PA-18 Builder’s Manual Index Rev # 1.1”, not a Javron document; it references Backcountry/“Turbine Cubs” and “Smith cubs kits” (p.139).
 - Builders: Steve Pierce, *Building for Dummies* #49, 2019-10-09 (JV-2507): “Kudos to all Javron builders to building something like this without a builders manual.” Wayne H, GroupMe 2024-09-03 (JV-2530): “I started off trying to follow the BC manual. There are several things that were not similar to Piper. Our kits are much closer to original Piper original and I have, for the most part, switched over to using Piper drawings as my main reference.” Justin, 2024-09-03 (JV-2530): “I just got off the phone with them and they don’t have a build manual. Just a parts manual.” Robbie S 2, 2026-01-28 (JV-2542): “it’s a pa 18 with no build manual. Best quality kit out there yet no instructions.”

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- Hardware list by group (Aircraft Spruce P/Ns) (pp. 166–171): 1 matching items — JV-0415

Builder-item counts per manual section (keyword match):

- Hardware list by group (Aircraft Spruce P/Ns): 1 — JV-0415

15 · Misc (85 clean items)

(a) What the manual covers

- Nothing in the manual body.
- *Index only, no body pages:* Ch. 10 First flight – what to expect, fine-tune rigging, Phase 1 flight testing

(b) Covered only by forum/GroupMe

- Performance reports, weights, design choices: 15 items — e.g. JV-2625, JV-2621, JV-2556, JV-2618
- Builder discussion of index-only topic “Ch. 10 First flight”: 35 items — e.g. JV-2364, JV-0317, JV-1503, JV-2064

(c) Disagreements / manual reported wrong, unclear, or out of date

- None found where a builder says the manual is wrong for this system.

(d) Manual sections with little or no builder discussion (≤4 keyword-matched items)

- None. Every manual section for this system has at least 5 matching builder items (keyword match).

Method & caveats

- The manual text came from native PDF text (`pdftotext -layout`). Only 2 of 168 pages have little text: p.71 (a figure) and a blank last page. No OCR was needed for the manual. The two image-only supplementary PDFs were OCR'd with tesseract and are labeled MACHINE-READ.
- Section coverage (a) comes from the manual's body page headers. (b) and (d) use keyword counts over the clean set (`../clean/clean_items.jsonl`), so counts are approximate and a few items match loosely. (c) was curated by hand from every builder message or post that mentions a manual or instructions (see `_manual_mentions_narrow.txt`, a working file). Quotes are verbatim.
- Some builder “manual” mentions are about other manuals (P-mag, ACK/Airtex ELT, Garmin GMU-11, Dynon, Superior/Lycoming, Stewart/Ceconite, Piper parts manual, L-21 erection manual). Those aren't counted as disagreements with the BCS manual except where noted in §11.
- Item IDs are stable for this build of the clean set. If the clean set is rebuilt, rerun `build_gap.py` to refresh them.