

From “Unobtainium” to Reality

Part 3 – A Full Panel Redesign Journey

By Kevin Crozier

Designing a new panel is one of the most exciting—and daunting—projects an ABS member can tackle. With today’s technology, the possibilities feel endless: large-screen flight displays, integrated engine monitors, ADS-B solutions, and powerful digital autopilots. But every Beech owner eventually collides with the two unavoidable realities: budget and mission.

I recently worked with a Bonanza owner who was finally ready to update the legacy panel in his V35A. This article documents his journey through eight different panel revisions. The process revealed not only how the design evolves as costs and needs are balanced, but also how working with a patient installer can turn dreams into a practical, well-flying cockpit.



Figure 1: The starting point with the original 6-pack.



Figure 2: The nearly all original radio stack as installed in 1968

This journey began with the realization that the owner needed to bring his Bonanza into the 21st century, and the spark came at the ABS Convention this past September. While walking through the vendor displays, he stopped at the Bevan Aviation booth, an avionics shop based in Wichita (KICT). Bevan already had a strong reputation within the ABS community, having completed the ABS Air Safety Foundation Bonanza panel and earning praise from many satisfied owners. What really drew him in, though, was the team’s first question: “What are you looking for, and how can we help you realize your dream?” That simple, open-ended approach set the tone. Combined with Bevan’s location, an available late-fall slot, and a track record of quality work, the decision became clear—game on.

For this aircraft, we were starting with a legacy panel that had undergone minimal upgrades in the last 50 years (Figures 1 and 2).

Revision 1 - The “Wish I Had Everything” Panel

Like many upgrade stories, this one began with the dream panel. The initial revision packed in dual displays, a large-screen navigator, multiple backup instruments – essentially every imaginable option. It looked incredible on paper and would have delivered an airline-style cockpit experience (Figure 3).

Revision 2 - Refining the Layout

The second revision included more details and began focusing on ergonomics. The flap and gear indicators were included, a GSB-15 USB port was added, and a cubby hole was added above the glove box (Figure 4). At this point, the budget hadn’t entered the discussion, but the owner was already recognizing that small touches—like where



Figure 3: Panel Rev 1 – the “everything” design



Figure 4: Panel Rev 2 – ergonomic improvements, GSB-15, and cubby added

you plug in an iPad or where the flap gauge sits in your scan—matter just as much as the major avionics boxes.

Revision 3 - Two IFR Navigators, One Stalled Budget

Revision 3 was a brainstorming idea to remove the 7" G3X display and add redundancy with two IFR GPS navigators (Figure 5). Technically, it was a strong configuration, but once pricing was revealed, it became clear that the total cost was outside the owner's comfort zone.

This step demonstrated an important lesson: redundancy is valuable, but it must be weighed against actual mission requirements and cost.



Figure 5: Panel Rev 3 – remove the 7" G3X display, move the GTN and second IFR GPS

Revision 4 - Creative Compromises

Revision 4 replaced the GTN 750Xi with a smaller GTN 650Xi, freeing up space and budget for a co-pilot display (Figure 6). Other clever changes included:

- Replacing the GMA 345 audio panel with a remote GMA 245R to save panel space
- Swapping the GTX 345 transponder for a GNX 375, combining GPS and ADS-B functions
- Adding a GTR 20 remote comm tied into the G3X system for a second radio

The only thing missing was a second NAV/LOC source. For many owners, this is an acceptable tradeoff—especially since nearly all



Figure 6: Panel Rev 4 – creative compromises, more capability in less space

flights today are GPS-driven. After discussions with instructors and other ABS members, the owner realized he didn't need dual IFR GPS navigators after all.

Revision 5 - Back to Earth

By Revision 5, the budget was firmly back in focus. The layout was returned to the traditional Bonanza angled radio stack, the second IFR GPS was replaced with a communication radio, and the co-pilot display was removed. The GTN 750Xi returned (chosen over the 650Xi for usability and ergonomics), and the legacy electric attitude indicator from the original panel was retained and included on the co-pilot side. This revision allowed the owner to meet another one of his design goals, which was to maintain some of the "old school look" (Figure 7).



Figure 7: Panel Rev 5 – back to the GTN 750, keeping the legacy electric AI

Not shown in the panel design, but behind the scenes, the new panel will be prewired so when the legacy attitude gyro fails, it can be replaced with a modern G5 or equivalent. This kind of forward planning saves money later. Other refinements included:

- Moving the flap indicator, glide switch, and GSB-15 to a central spot above the yoke
- Adding a second GSB USB port for the co-pilot
- A cubby hole at the bottom of the stack for storage

This was the "back to earth" version—practical, usable, and closer to budget.

Revision 8 - The Final Panel

The final revisions 6, 7, and 8 addressed a few final ergonomic tweaks to the tip tank transfer pump switches and the USB port locations. Additionally, the final revision incorporated one last piece of expert advice: swapping the GTX 345 for a GMA 350c audio panel, which offered enhanced functionality and better integration (Figure 8).

The result was a final panel that balanced capability, budget, and the overall "look" that the owner wanted. It included:

- **New IFR GPS/NAV - GTN 750Xi**



Figure 8: Panel Rev 8 – the final, balanced solution

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- **Multiple USB ports** - GSB 15
- **Two backup attitude references** - G5 and legacy electric gyro
- **A balanced layout** - avoided the “empty right side panel” look


Lessons for ABS Members

This panel evolution offers valuable takeaways for any Bonanza or Baron owner planning an upgrade:

- **Start with the dream** - Capture every capability you want—but don't fall in love with it. Budgets will force tradeoffs.
- **Think ergonomics** - Small details, such as the locations of flap indicators, USB ports, switches, and the addition of cubby holes, affect daily use more than you might expect.
- **Redundancy versus reality** - Two IFR navigators look good on paper but may not be necessary for your mission.
- **Plan for the future** - Prewire for inevitable upgrades, such as replacing aging gyros, to minimize future downtime and costs.
- **Work with the right shop** - A patient, communicative installer makes all the difference. Jacob Kinsey and the Bevan Aviation team never dictated solutions; instead, they asked questions, explained options, and educated the owner along the way.

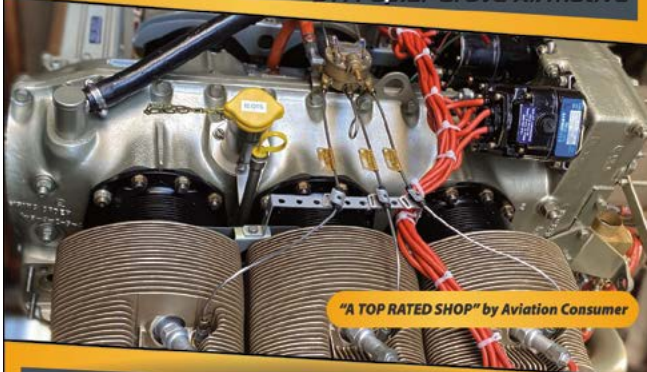
Conclusion

The journey from Revision 1's “unobtainium” dream panel to Revision 8's balanced, final design shows what most ABS members eventually discover: the perfect panel isn't the one with the most screens, but the one that matches your budget, mission, and flying habits. In the end, this owner walked away with a cockpit that delivers IFR capability, redundancy, and growth potential—all while respecting financial reality. And thanks to a thoughtful shop partnership, this airplane's panel is ready for whatever the next 50 years bring.

Of course, the design is only half the story. The next step—turning this design into a flying, functional panel—brings its own challenges and lessons. In a future article, I'll document the installation process, the surprises encountered along the way, and the excitement (and reality checks) of aircraft pickup day. 

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