IMSAI ECO 25-0003

Engineering Change Order for: CP-A Rev-4

Summary

The height of the LED spacers has been reduced from 0.140-in (3.6 mm) to 0.125-in (3.2 mm). Supersedes ECO 24-0010.

Details

The LED spacers which shipped in Parastream-produced CP-A kits prior to 2025-July-1 were 0.140-in (3.6mm) in height. Due to occasional problems with kit builds with these spacers, the height was reduced by 0.015-in (0.4 mm).

This change was implemented with a BOM change from

[20-00010007] T-1¾ LED Standoff Black ABS 0.140-in (3.6mm)

to

[20-00010006] T-1¾ LED Standoff Black ABS 0.125-in (3.2mm)

Notes

The original CP-A kits prior to 2024 did not ship with LED spacers. The assembly instructions included the suggestion of making a $^{1}/_{8}$-in (3.2 mm) jig with a slot cut into it to space each LED as it was inserted into the board. While this method could produce very good results, the LEDs were prone to being bent out of alignment with handling of the board.

When the CP-A kits began shipping again in 2024, LED spacers were added. The black color and relatively low cost of the spacers made a compelling argument for their inclusion into the kits. The height of 0.140-in seemed to be a good size as it allowed for the worst-case LED height of 0.295-in.

By early 2025, we began to field issues from customer service. Builders were having problems with the LEDs colliding with the red acrylic panel. Upon a worst-case dimensional analysis, it was determined that the correct size for the spacers was 0.125-in.

The original calculations assumed that you would never see the $^{7}/_{16}$-in spacer tolerance (±0.01-in), the spacer tolerance (±0.005-in), and the LED maximum height in the same build, but because there are so many LEDs in the front panel, this assumption proved to be incorrect.

For the record, Joe Killian was proven correct once again.

Document Revision History

Revision	Date	Initial	Description
0	2025-07-01	REW	Original.