Engineering revision handoff

Engineering file ID 21.2 | E1 builds on R6 Astra

The long PTT paddle now drives one central Omron B3F3150. Revised carrier, pusher and guides replace the previous two-switch PTT arrangement.

Partial internal rebuild. Review the represented geometry and listed changes. Remaining CAD and physical qualification are explicit below.

Grip: 90.4 x 152.4 x 28.8 mm. Controls extend beyond the grip width shown. Maximum finished depth: 30 mm.

Use these files first

00_Handoff.pdf explains scope and assembly. 01_Current_CAD contains the E1 STEP and imported-solid Fusion assemblies. BOM_Represented_Parts.csv identifies the represented part files; Rapid_Open_Items.csv lists unresolved work.

The primary package supersedes earlier files only for the E1 represented geometry. Earlier documents and appearance films remain historical references.

Changes and evidence

CAD checks apply to the revised interfaces and their represented neighbours

What changed

• Removed two PTT switches and their pads, replacing them with one central actual B3F3150.

• Rebuilt the FR4 carrier around the actual pin pattern and added a rigid central pusher with 0.14 mm nominal gap.

• Added two sliding guide pins and bushings, relieved the local chassis and adjusted the stops.

• Integrated the checked charging-port adhesive trim into the actual STEP assembly.

What was checked

• Assembly inventory contains three side switches and one front switch, with one front adhesive patch and no duplicate top-level names.

• Central PTT switch, carrier and pusher clear the represented PCB; the switch clears the revised chassis.

• Sampled straight travel is clear through 0.66 mm; 0.70 mm contacts the chassis. Outward samples meet capture geometry.

Static or sampled rigid-body checks do not prove force, allowable switch overtravel, rocking, spring return, tolerance extremes, fatigue, electrical function or production readiness.

Assembly and service

Sequence for the changed interface; complete device assembly remains open

1. Use the revised full assembly with one central PTT switch; do not reinstall both earlier PTT switches.

2. Fit the central switch and actual pin pattern to the revised FR4 carrier, with the actuator facing outward.

3. Engage both guide pins and the central pusher while fitting the revised carrier and chassis.

4. Use the trimmed front adhesive patch around USB; the replaced patch is not an additional layer.

5. Measure centre and end-press actuation, rocking and return before committing to the long-paddle mechanism.

Material and fastener assumptions

Confirm polymer and elastomer grades, manufacturing process, finished tolerances and surface treatment with the supplier. Modeled screw envelopes do not specify a purchased drive or thread profile. A 1.7 mm pilot, where used for M2, is a prototype assumption requiring process and torque qualification.

No adhesive or flexible gasket envelope is permission to print that layer as a rigid solid. Review the material role of every part. Nominal switch case bearing faces require actual dimensional and clamping checks.

Remaining work before release

These items are not marked passed by the new CAD or website publication

1. Long-paddle rocking, end-press equalization or a stabilizer, switch force and return are not validated.

2. Complete populated/mated electronics, plugs, harness and cable routes remain open.

3. Remaining component retention, tolerance, material and full assembly checks are still required.

4. Physical button, optical, acoustic, RF, thermal and durability qualification remains open.

Manufacturing decision

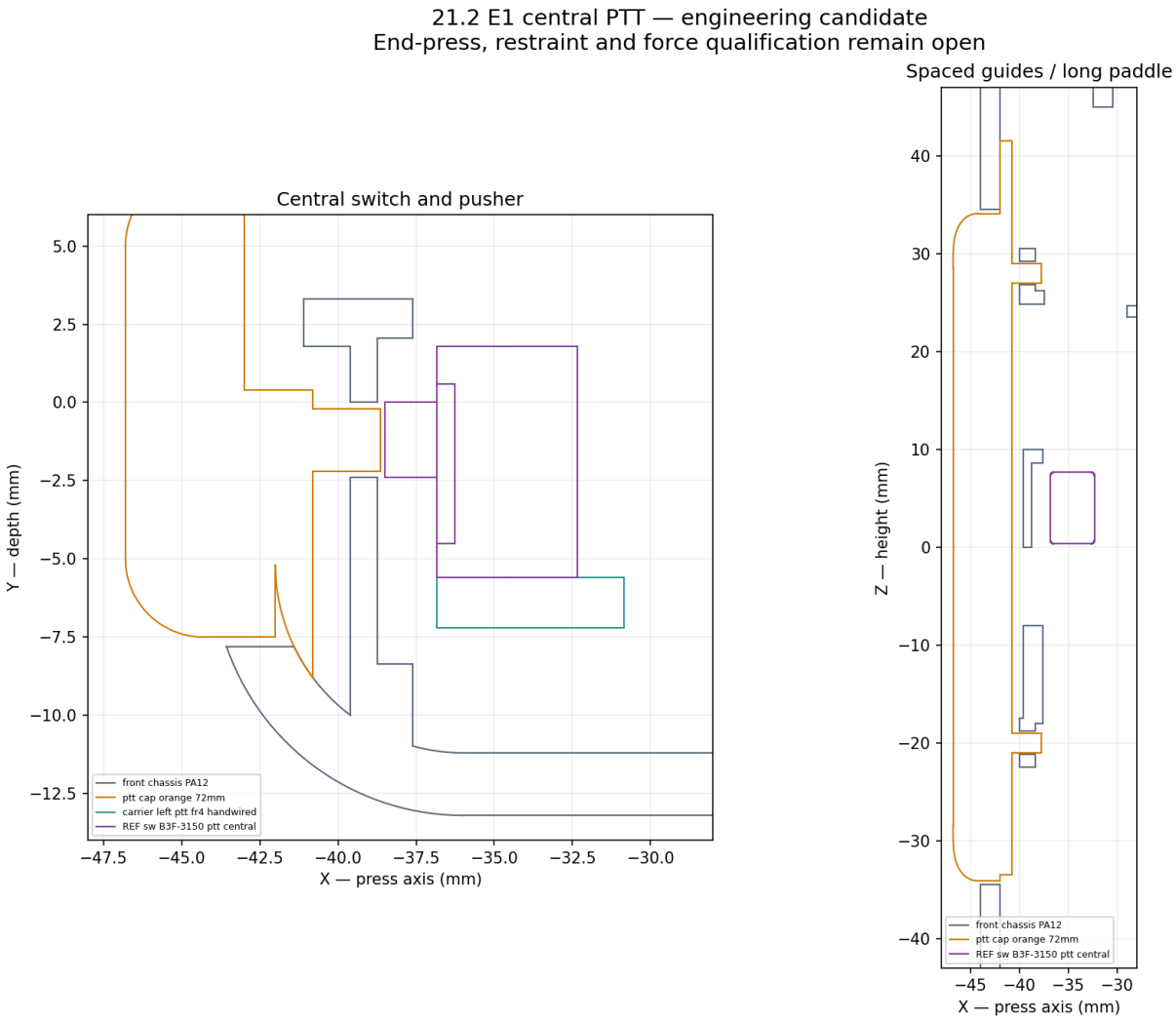
Review and quote the current engineering work with these limitations. Select and verify the affected process and hardware before making functional parts. Complete the missing mechanical work, full assembly checks and physical fit prototype before approving a working device or production batch.

Version control

Use E1 together with this handoff and its file inventory. Do not mix E1 replacement components with earlier carriers, switches or untrimmed layers. The website preserves historical download URLs; those files are not the current engineering instruction.

Engineering sections

Appendix A | Sections generated from the actual revised CAD



Dimensions in the section image are millimetres in the design coordinate system. The displayed section is a geometric inspection aid, not a fully toleranced manufacturing drawing.

For 25.2 and 23.2, the nominal front-button gap is 0.14 mm and the local stop is 0.65 mm. For 21.2 and 26, use their recorded measured interfaces and motion reports; do not transfer dimensions between concepts.

File authority and check limits

Current geometry

The E1 reference STEP is the assembly authority for represented geometry. Fusion review archives contain editable imported solids, not rebuilt native feature history.

Individual parts

The parts directory follows the represented assembly. Component groups may contain multiple solids. Treat this as a represented-parts inventory, not a complete procurement BOM.

Fit meshes

Only the two checked front-module STL files for 25.2 and 23.2 are included as local fit candidates. A full device STL or 3MF fabrication kit is not released.

Source and evidence

03_Verification contains the authoritative checks listed below. 05_Editable_Source contains delta builders and links to their original baseline dependencies.

Reports: motion_recheck.json, hardware_recheck.json, assembly_manifest_check.json

Assembly SHA256: 55b2c70c30f8c354b0bc876a85141f626853eec955eb4c669f6ab5a807f62127

Missing harness and process details affect their final interfaces and qualification. They do not prevent independent CAD corrections; unfinished mechanical work remains listed on page 4.