CAM example
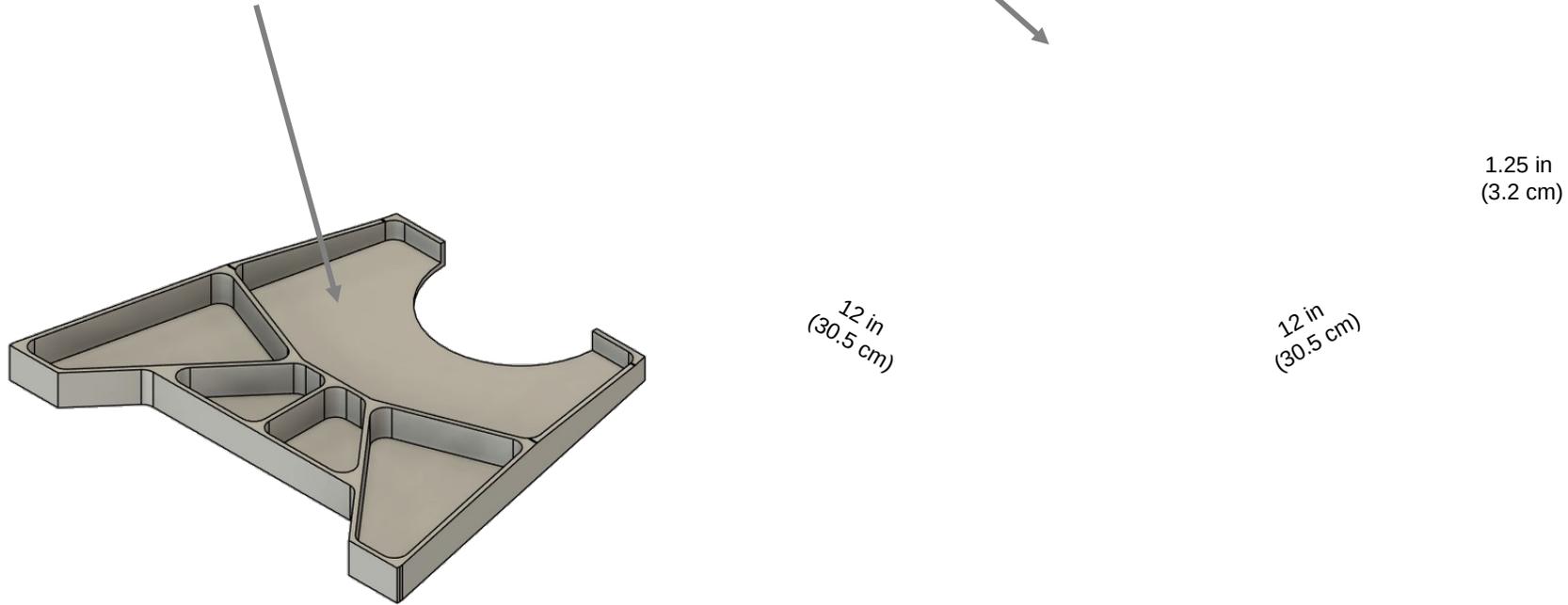
Tony Schmitz and Ross Zameroski

Aerospace panel geometry
- complex geometry with thin-walled sections
- large volume of material to be removed in pocketed areas.

1.25 in
(3.2 cm)

12 in
(30.5 cm)

12 in
(30.5 cm)

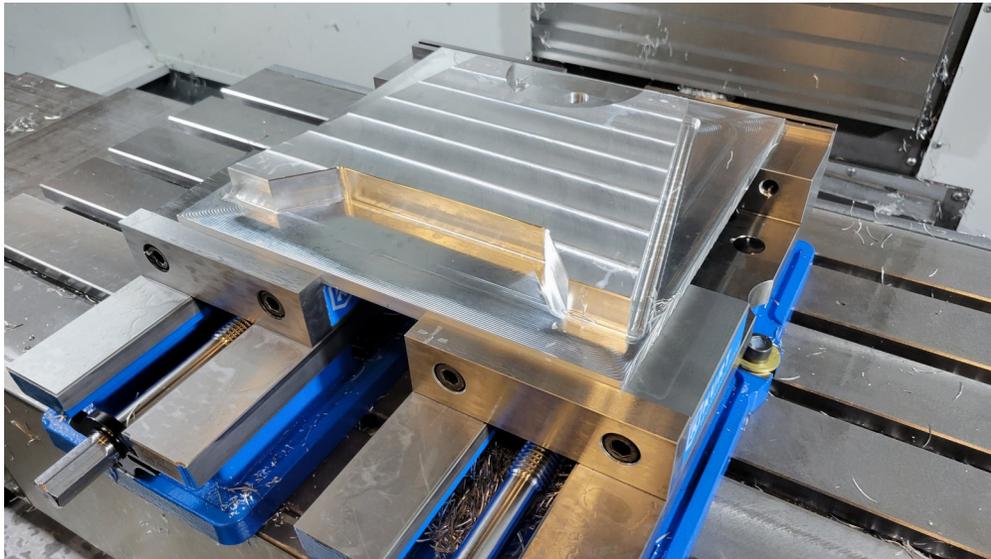| Stock volume	Part volume	Volume of material removed
180.0 in³	12.4 in³	167.6 in³ (93%)
2949.7 cm³	202.5 cm³	2747.2 cm³ (93%)

The setup sheets summarize the machining process
- OP10 – machining the bottom of the panel
- OP20 – machining the top of the panel
- CAM software is Fusion.

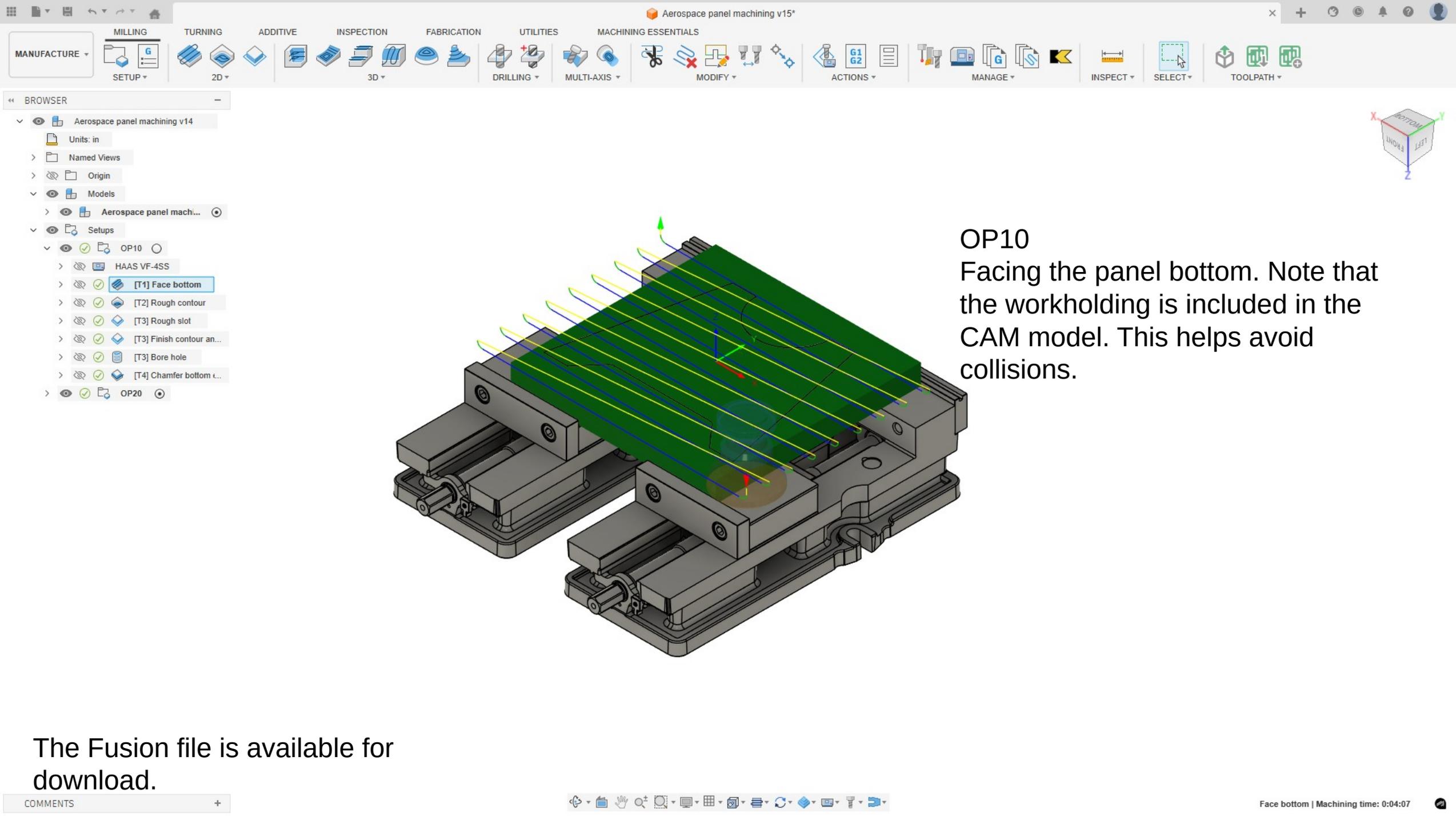Review the two setup sheets to see the work coordinate systems, tools, and operations.
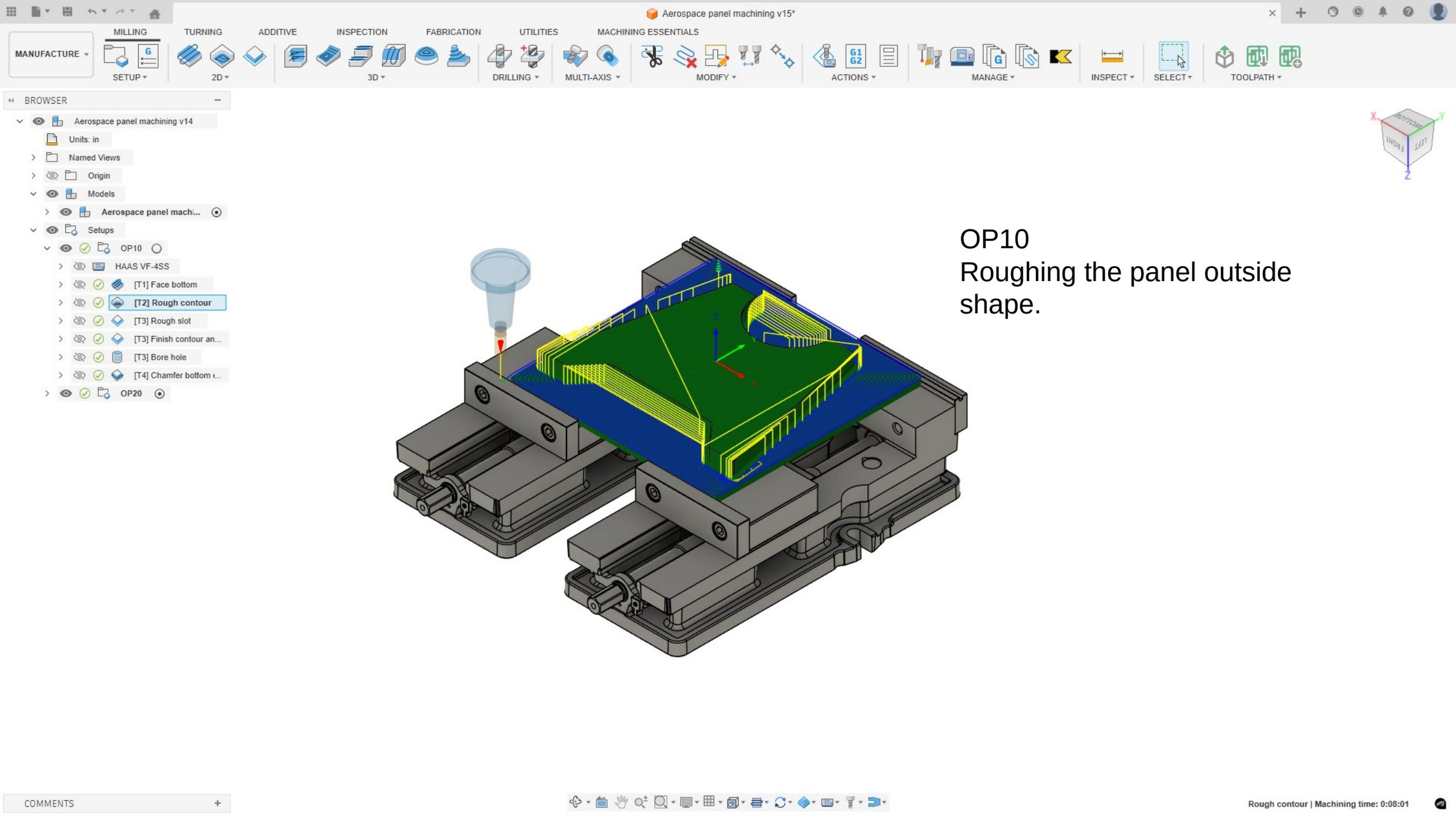
After OP10

After OP20

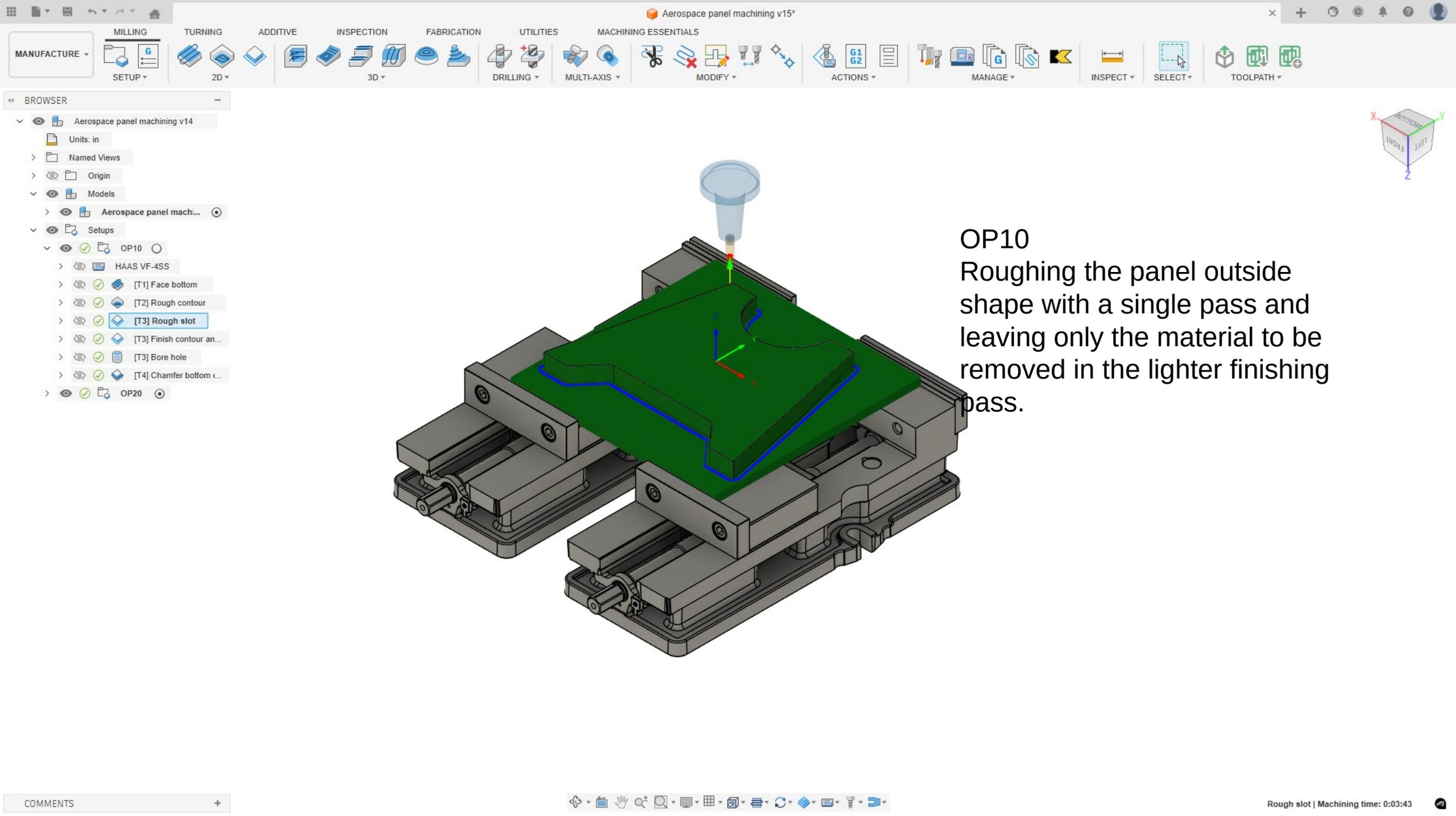Workholding is completed using two vises for the wide stock and part.

OP10
Facing the panel bottom. Note that the workholding is included in the CAM model. This helps avoid collisions.
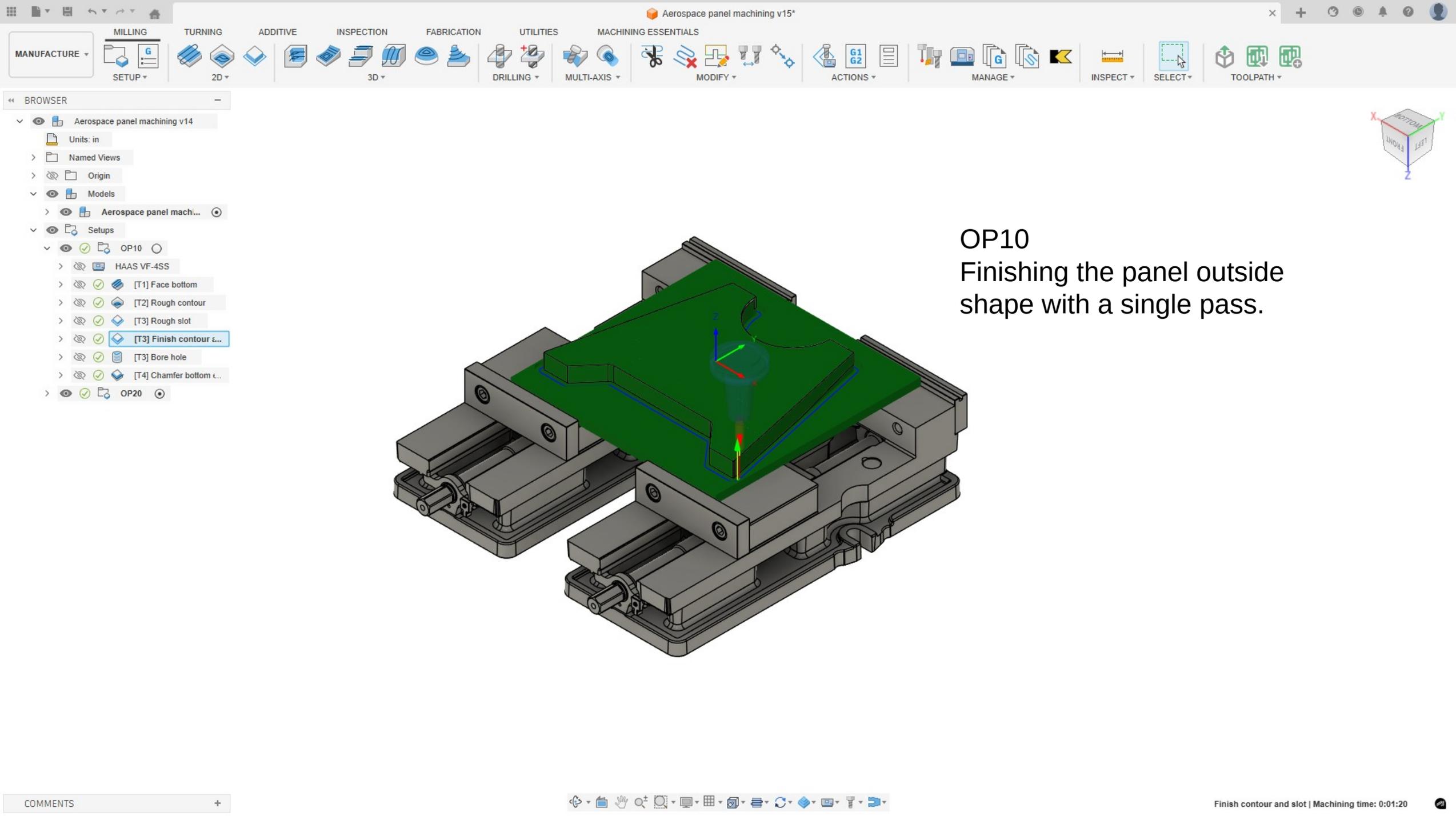
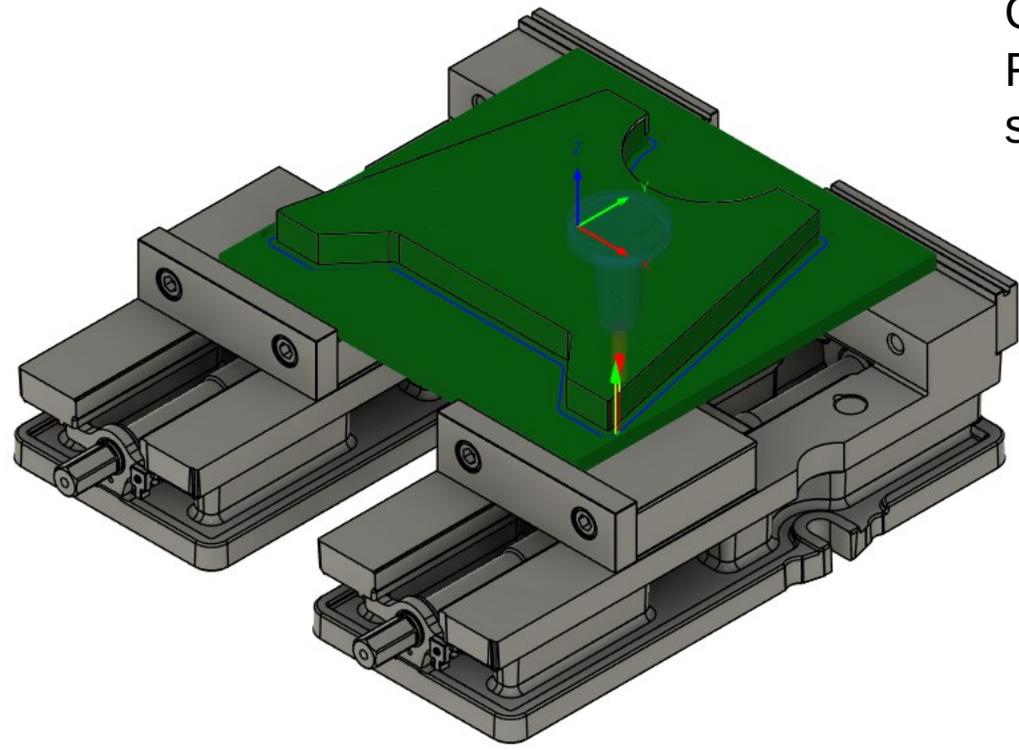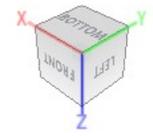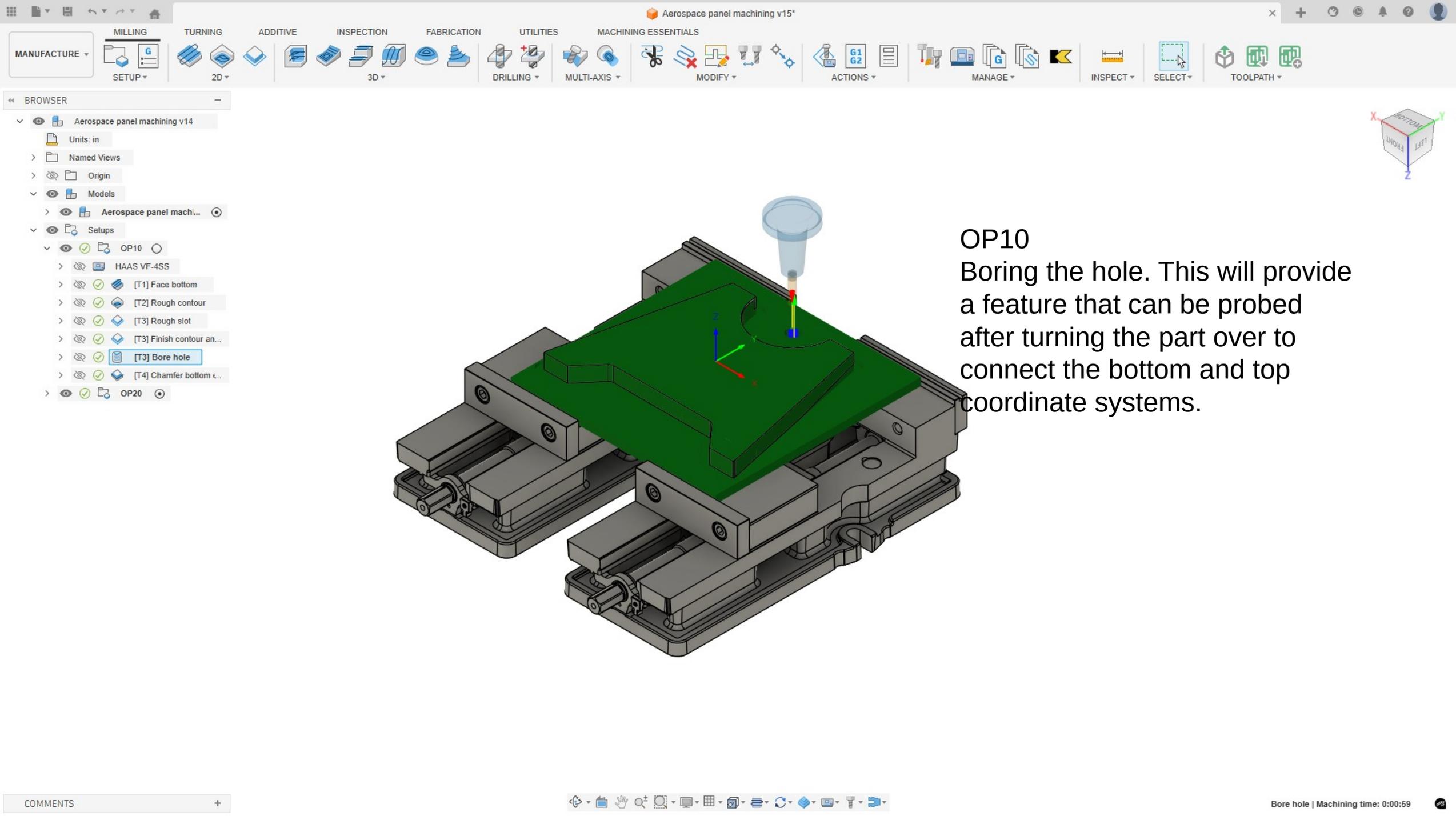The Fusion file is available for download.

OP10
Roughing the panel outside shape.

OP10
Roughing the panel outside shape with a single pass and leaving only the material to be removed in the lighter finishing pass.
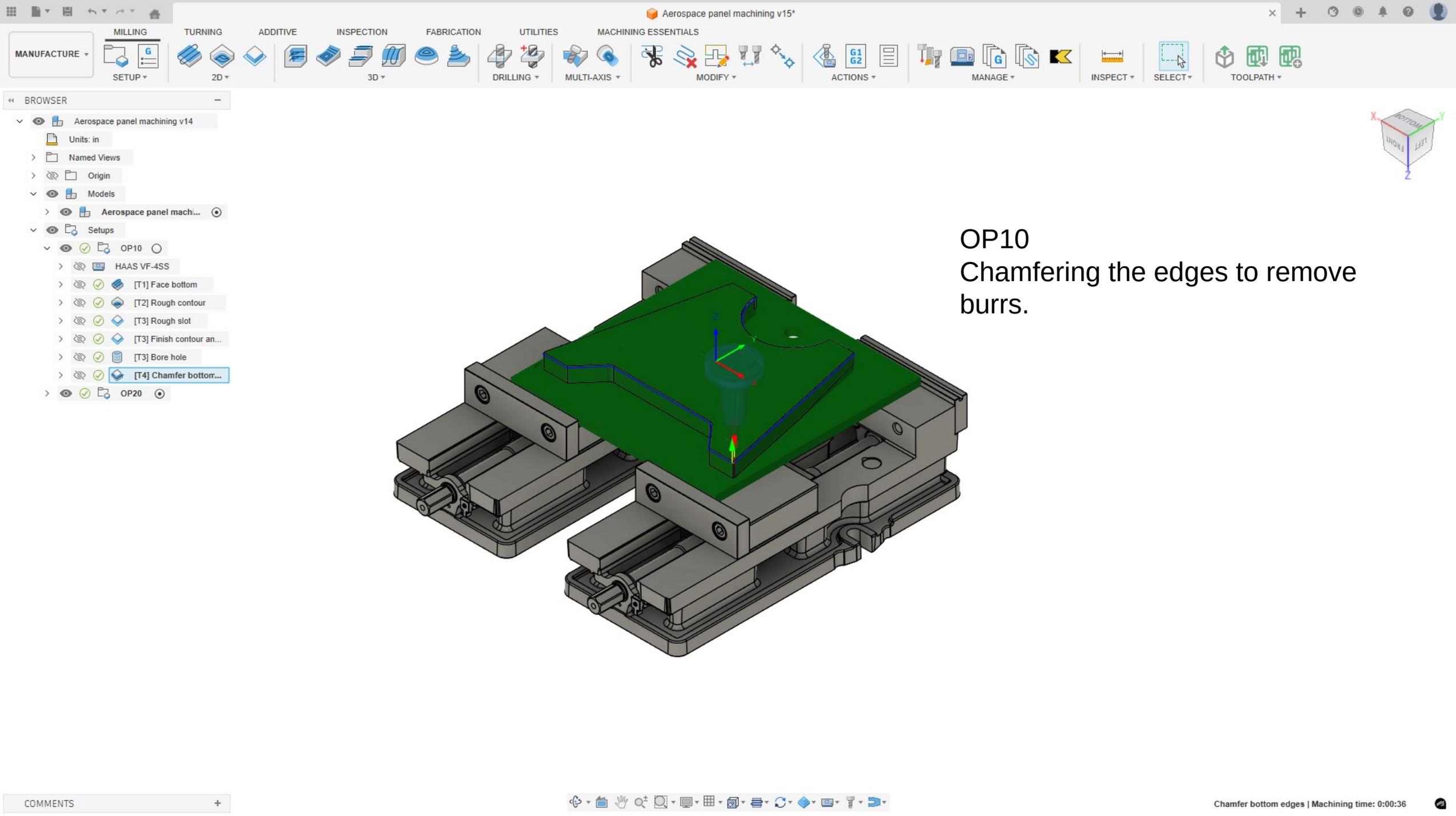
OP10
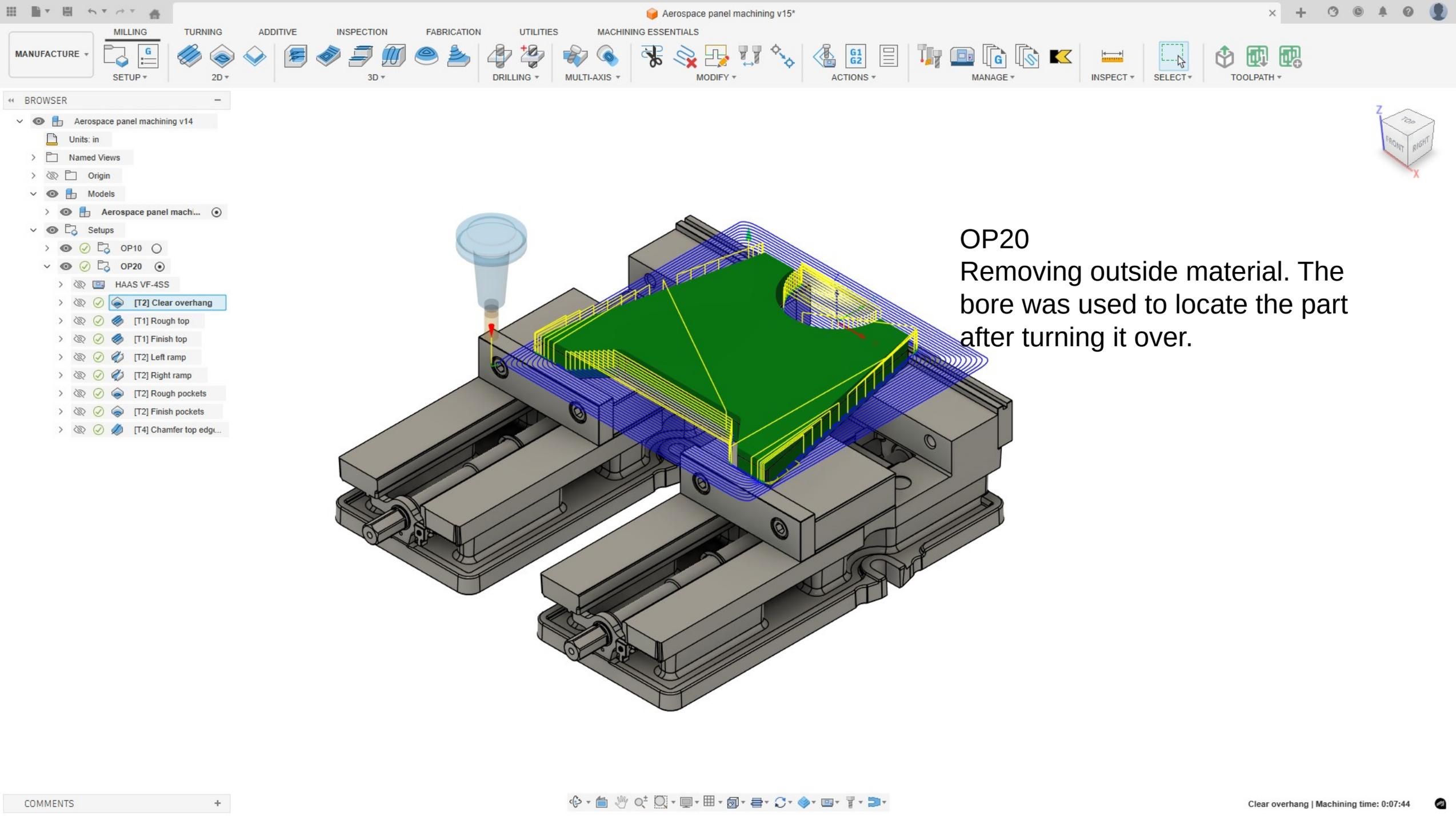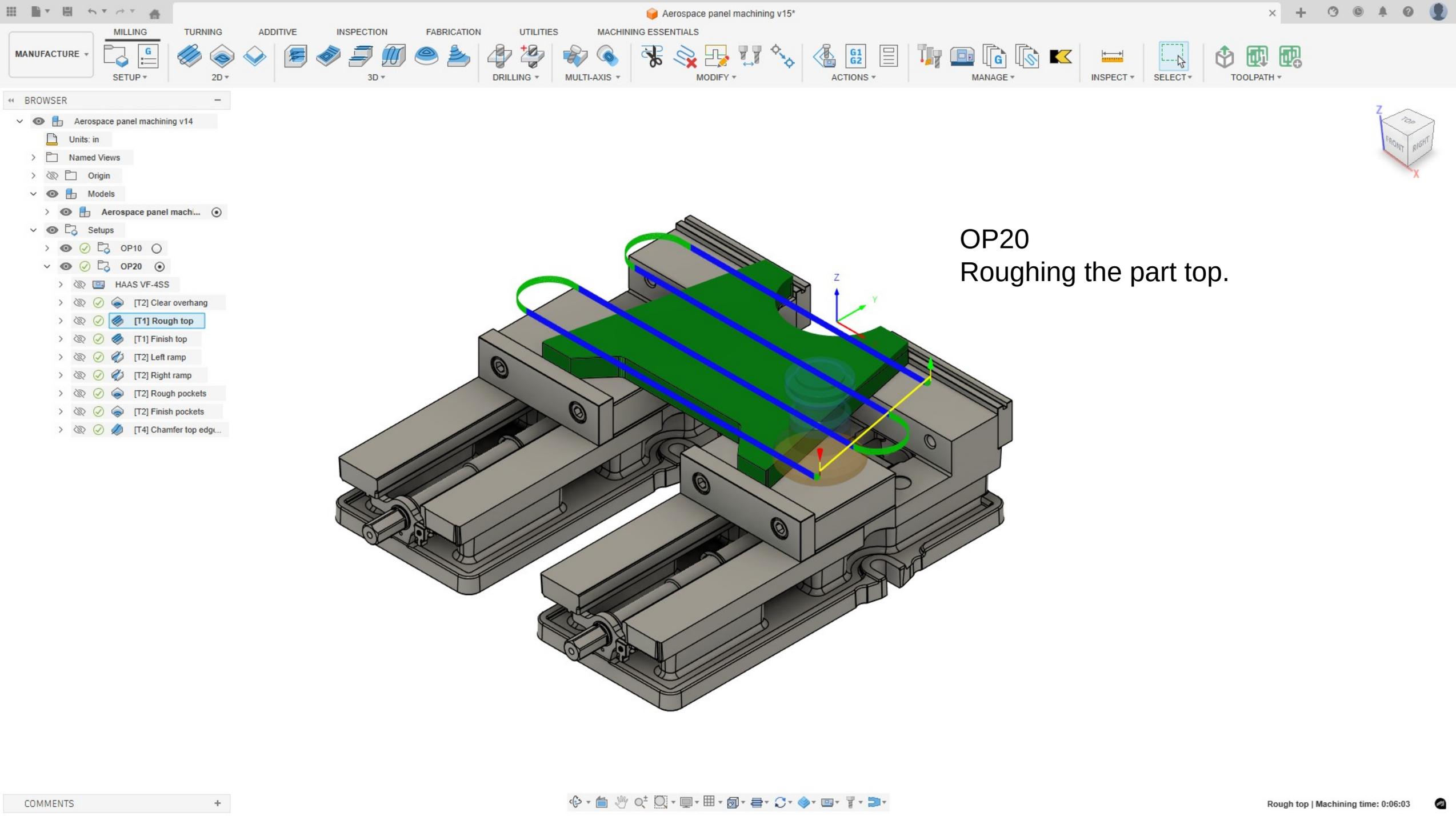Finishing the panel outside shape with a single pass.

OP10
Boring the hole. This will provide a feature that can be probed after turning the part over to connect the bottom and top coordinate systems.
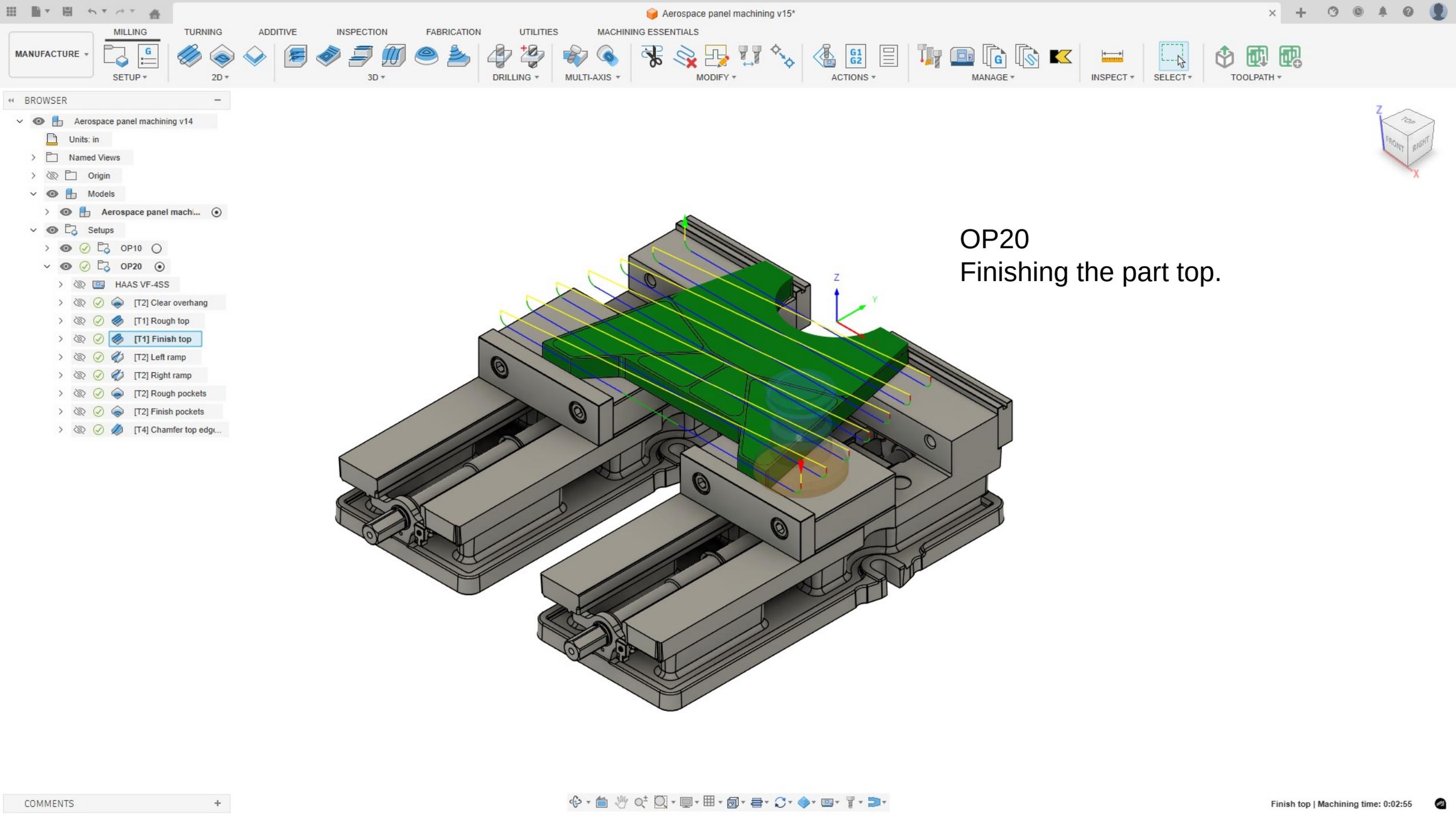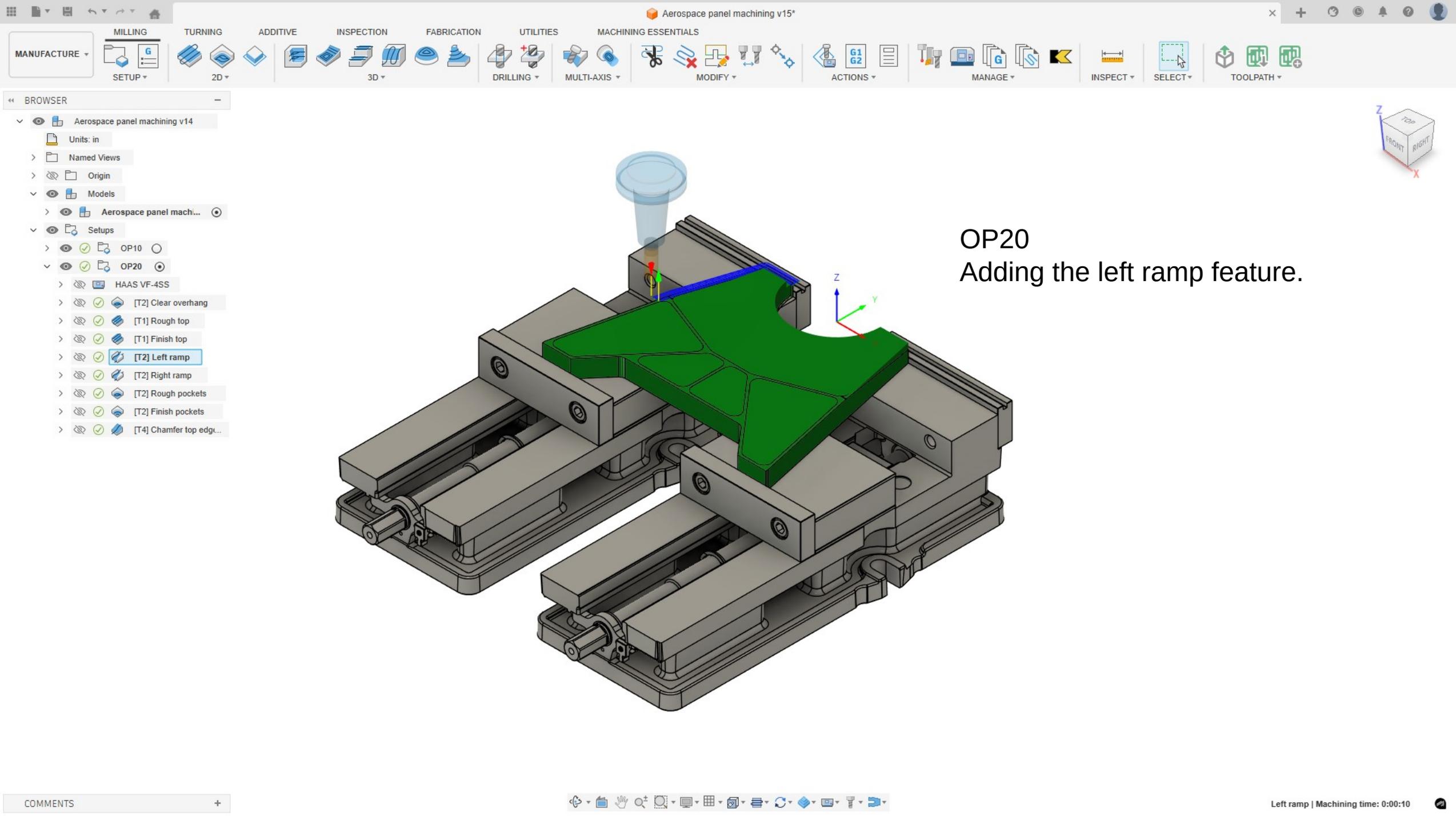
OP10
Chamfering the edges to remove burrs.

OP20
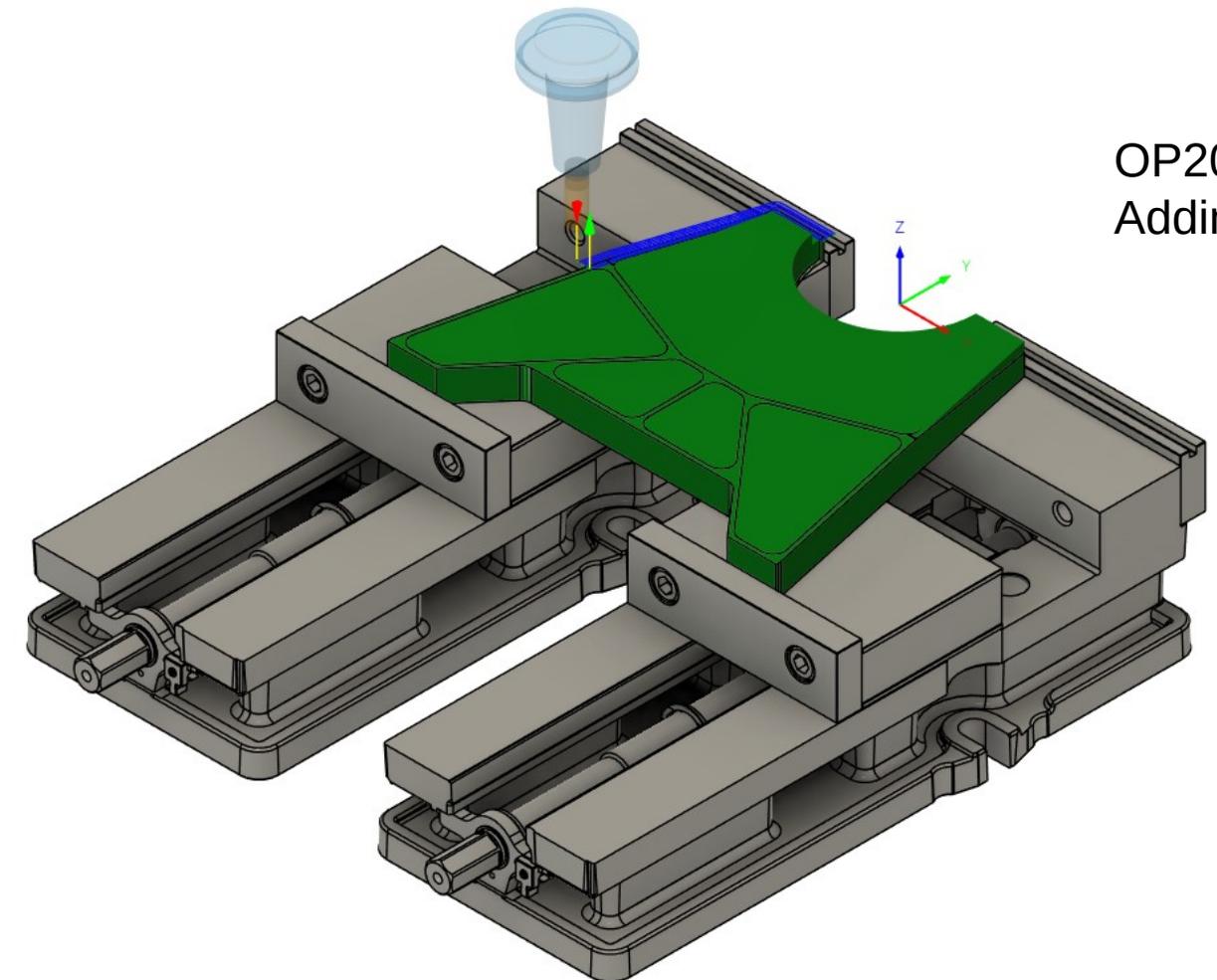Removing outside material. The bore was used to locate the part after turning it over.
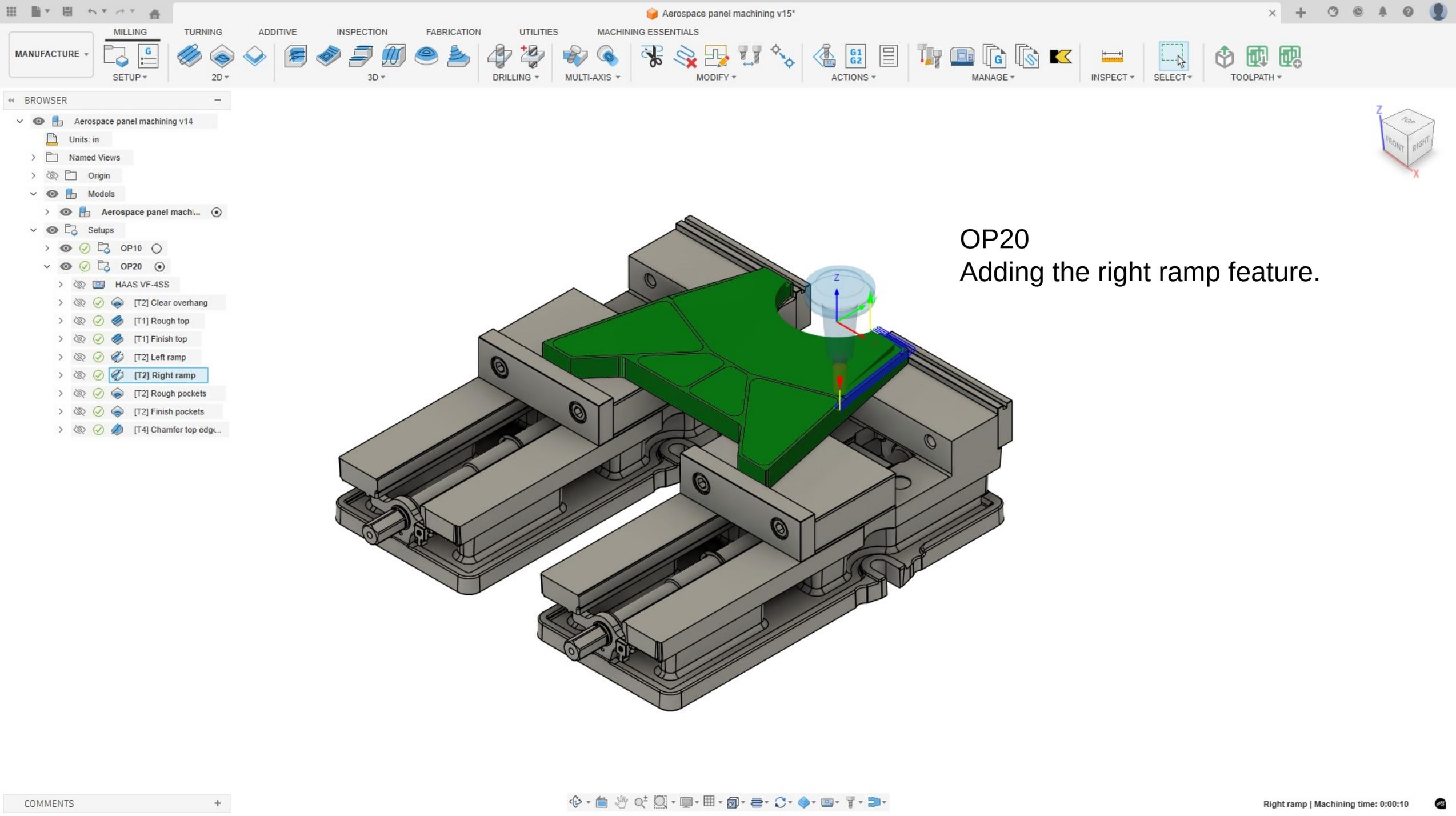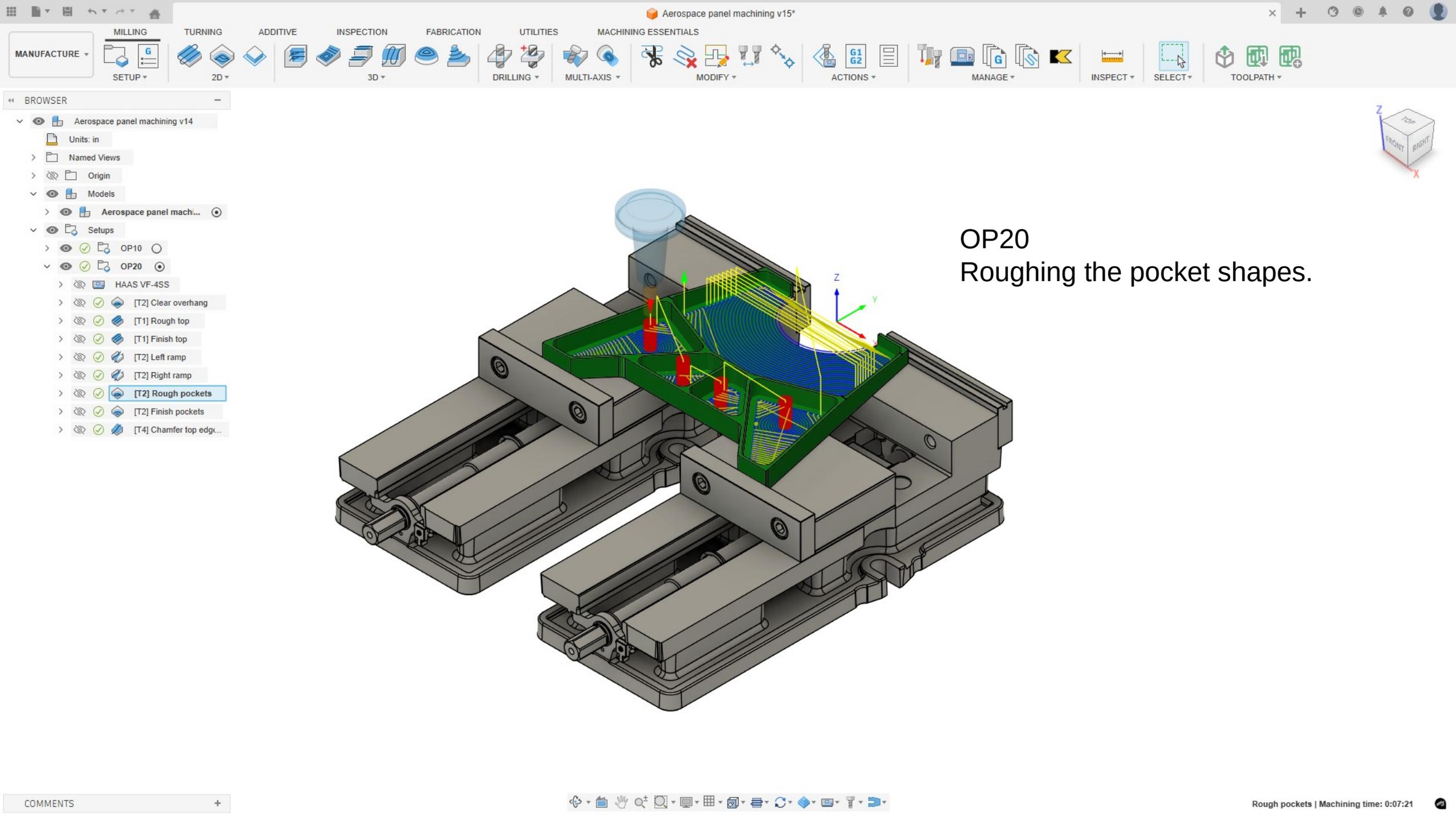
OP20
Roughing the part top.

OP20
Finishing the part top.

Finish top | Machining time: 0:02:55

OP20
Adding the left ramp feature.

OP20
Adding the right ramp feature.

OP20
Roughing the pocket shapes.
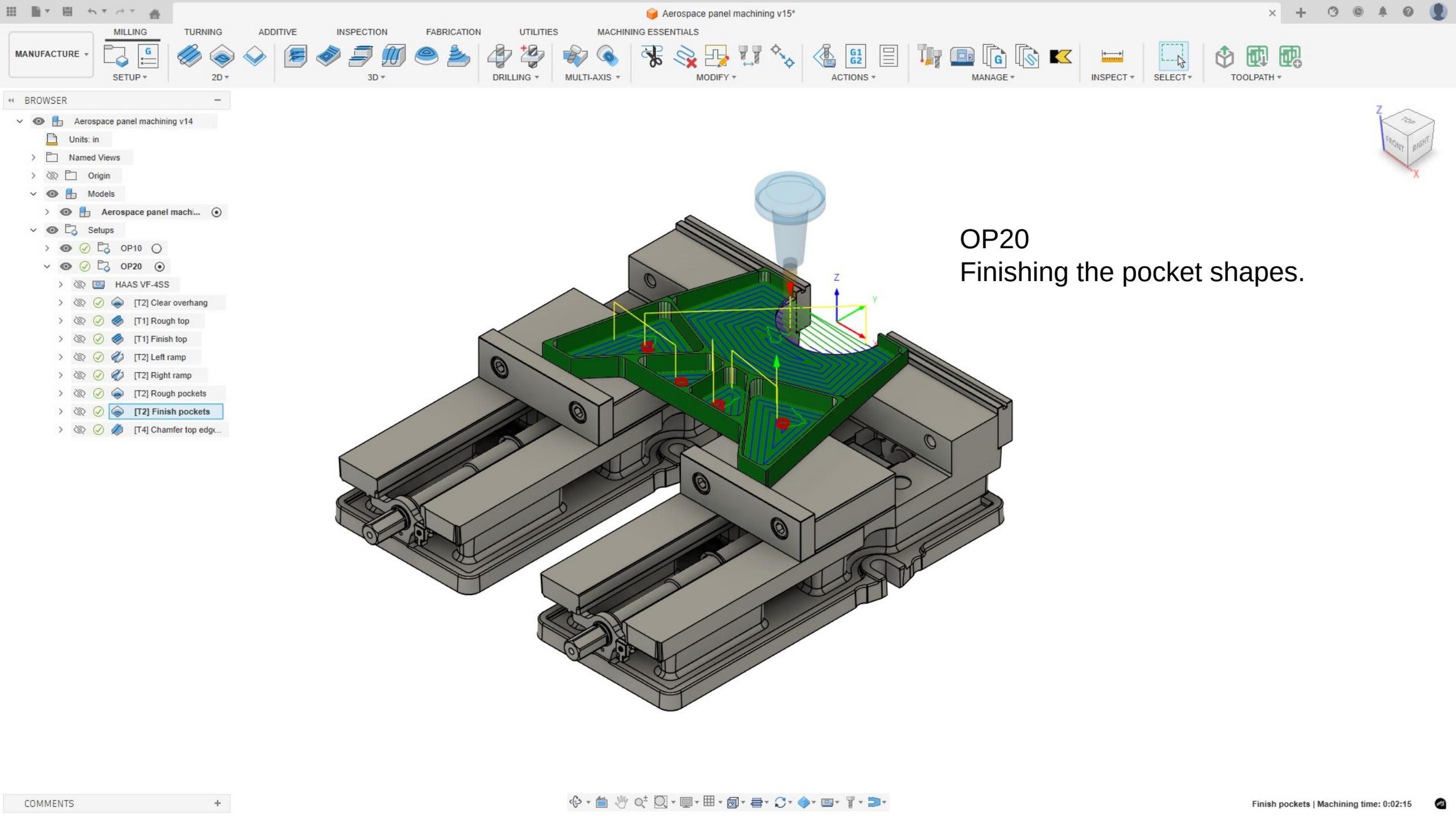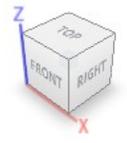
OP20
Finishing the pocket shapes.
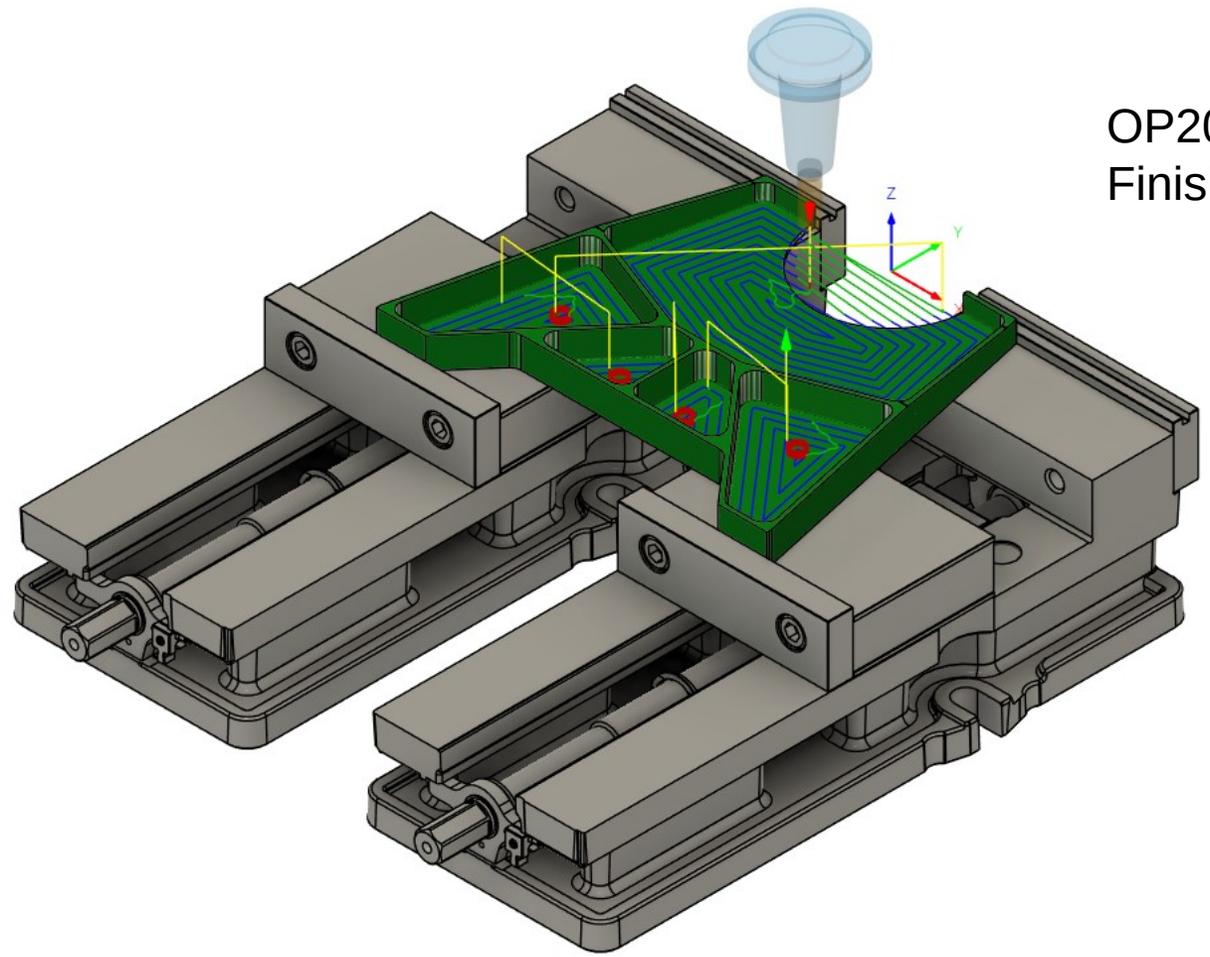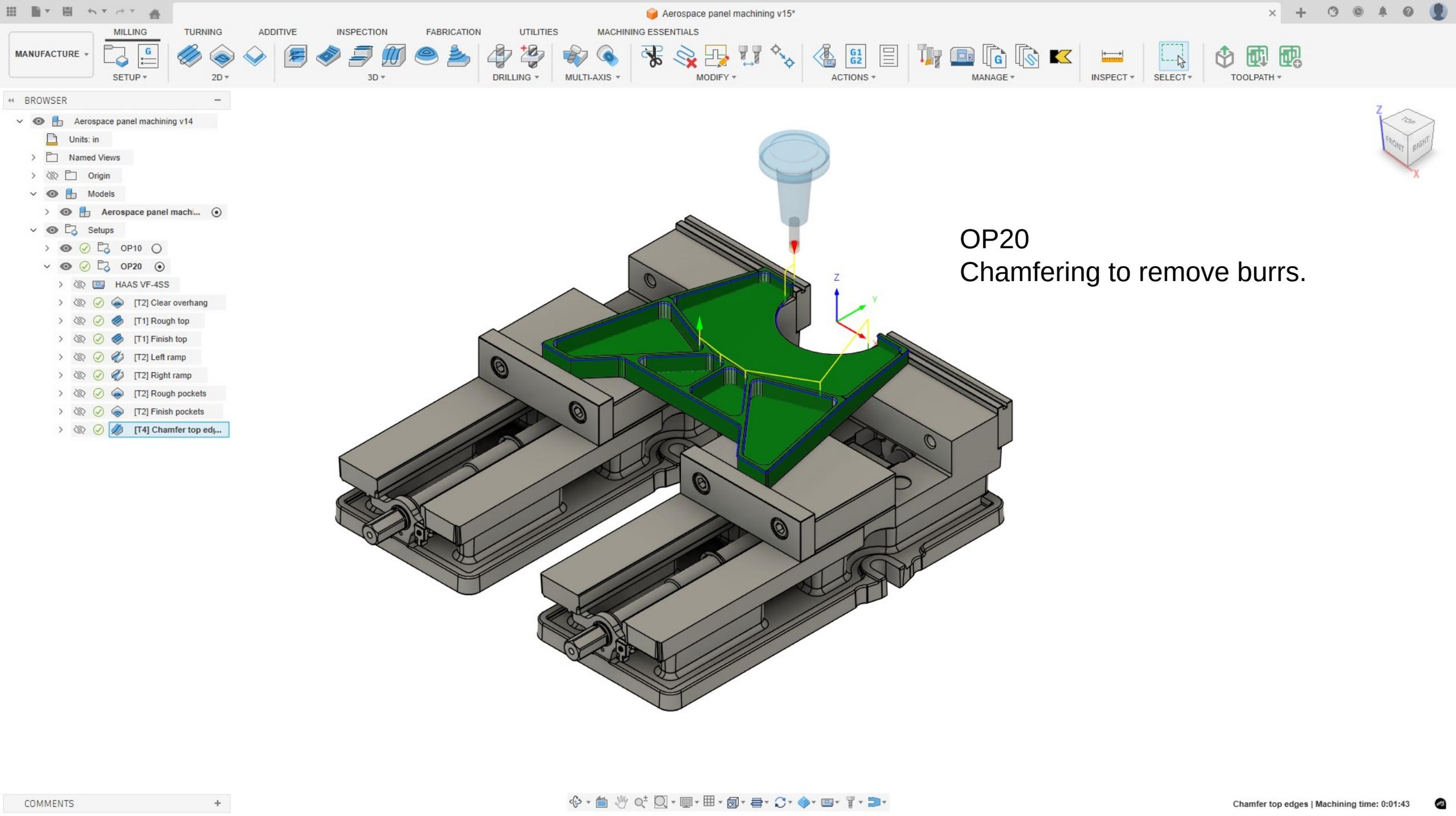
OP20
Chamfering to remove burrs.

Watch the CAM simulation videos to see all operations
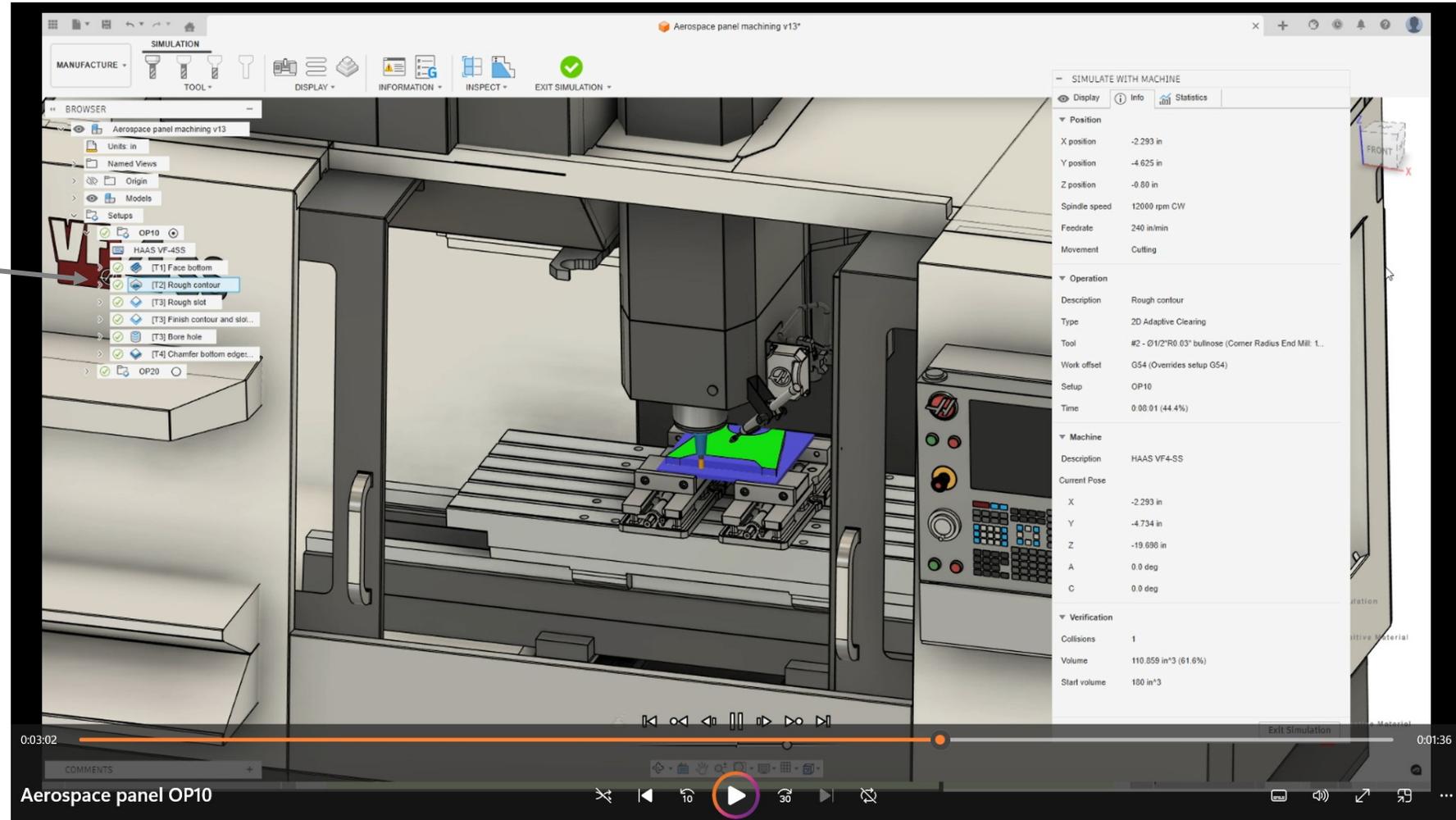- OP10 – machining the bottom of the panel
- OP20 – machining the top of the panel
- CAM software is Fusion.

The operations are identified in the left-hand panel of the simulation videos. They are highlighted as they occur.

Watch the machining video to see the part being machining using the CAM toolpaths.