

Instructions for installing an access panel in the Mustang II wing.

v. 1.1 February 8, 2021

See photos to assist with overview:

- [Fuel tank access doublers](#), layout and access panels
- [Fuel tank access doubler](#) inside view of NAS1474 A08 encapsulated nutplates after Pro-Seal 890 applied
- [Fuel tank access panels](#) Ready to install with Pro-Seal PR-1428
- [Fuel tank access panels - installed](#) with Pro-Seal PR-1428
- [Fuel tank access panel sealant](#) Don't roll over onto the lid!
- [Fuel tank access panels - installed](#)
- [Fuel tank access panels - painted](#)

Position the doubler template under the wing temporarily with masking tape and make certain there is adequate clearance of any interior ribs, spar, etc. Mark a few spots where the access panel will be located. Remove doubler template.

Mark inside of access panel "FWD" and AFT". Place actual access panel on location of hole and accurately mark outer edge with a fine Sharpie marker.

Cut hole in wing being careful to not make hole oversize. Attempt to make hole in the wing between 1/32" and 3/64" larger than the access panel. Final fit can be accomplished when the doubler is clecoed in place.

Mark inside of doubler "FWD" and AFT". Position doubler inside tank and temporarily secure with wide masking tape. Slight bending of the doubler will be required to fit it through the hole into the tank. When inside the tank "unbend" doubler and form to fit curvature of the airfoil.

When doubler is positioned inside tank, tape the template to the outside again and mark, then center punch locations of the doubler rivet holes. Remove template. -3 (3/32") rivets are suggested for this installation. Cleco doubler as rivet holes are drilled making sure the doubler stays snug against the inside of the tank skin. Remove and deburr as necessary for a snug fit.

Remove doubler, deburr and dimple the doubler for the flush -3 rivets. Countersinking is NOT recommended, only dimpling.

Deburr, then dimple the rivet holes in both the doubler and tank / skin.

Re-insert doubler, cleo in place and final fit access panel hole opening.

Remove doubler again for final cleaning and preparation to Pro-Seal and rivet.

Clean all areas that the doubler will touch as well as the doubler with Scotch-Brite and MEK or acetone. It is strongly recommended to apply Pro-Seal 890 to the encapsulated nut plates of the doubler and allow it to cure before riveting it inside the tank. This allows for careful inspection of the cured Pro-Seal all around the nut plates for any gaps or holes in the sealant. Use plenty of Pro-Seal!

When ready to install the doubler, use plenty of Pro-Seal 890 and coat the inner surface of the tank to an area just outside where the doubler will go, onto the doubler itself and cleco it into position. Pro-Seal should be oozing out evenly all the way around both the outer edge of the doubler (inside the tank) and around the access panel hole opening. Use plenty of Pro-Seal!

Rivet the doubler in place. With proper shims, a pneumatic squeezer should be able to set all the rivets.

Apply more Pro-Seal to the inside of the tank at the edge of the doubler and carefully on and around all rivets. A mirror will be required to inspect that all surfaces are sealed. All rivets MUST be completely sealed inside. Use plenty of Pro-Seal!

With MEK, clean up the Pro-Seal on the outside of the tank and on the surface where the access plate will go before it starts to set up.

After the sealant has cured, carefully reinspect that all edges, rivets and nut plates are completely sealed before securing access panel. If necessary, apply more sealant.

To attach access panel

First make certain that the access panel fits as desired and do a “dry run” of securing all screws. This is to check for possible gaps or screws that may be too long for the encapsulated nutplates. Remove access panel.

Mask off the tank area around where the panel will go, since Pro-Seal will ooze out onto that area. If you have painted the access panel, consider masking it, but sealant will still ooze out from the screws.

Carefully clean the doubler and access panel sealing surfaces with acetone or MEK. Avoid having MEK go into the gap where the doubler is sealed to the skin.

Apply Pro-Seal Access Door Sealant PR-1428 Class B2 (purple/pink) to the access panel and doubler attach surfaces. Screw into position. The purple/pink Pro-Seal should ooze out. (See image link). Clean up before the sealant sets.

The Technical Data sheet says final curing is 24 hours. I recommend waiting a week or so before putting fuel in the tank.

Pro-Seal products:

Pro-Seal Tank Sealant P/S 890 Class B2 (Aircraft Spruce sells it in several quantities) is dark grey/black and is for sealing the encapsulated nut plates inside the doubler and to seal the doubler to the inside of the tank.

<https://www.aircraftspruce.com/catalog/appages/proseal09-04493-4.php>

Pro-Seal Access Door Sealant PR-1428 Class B2 (Spruce p/n 09-04706) is purple/pink and used to seal the access plate to the doubler as it is screwed on.

<https://www.aircraftspruce.com/catalog/appages/ppgsemkit09-04704.php>