

Post-Paint>Fuselage>Interior>Fit instrument panel housing

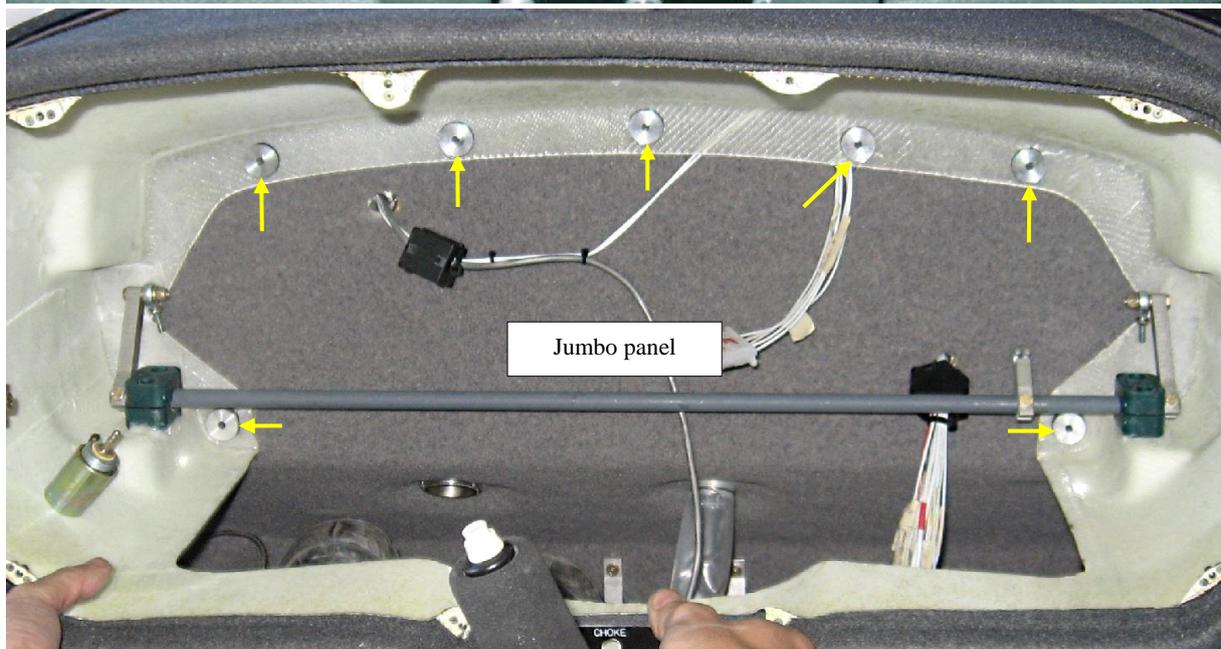
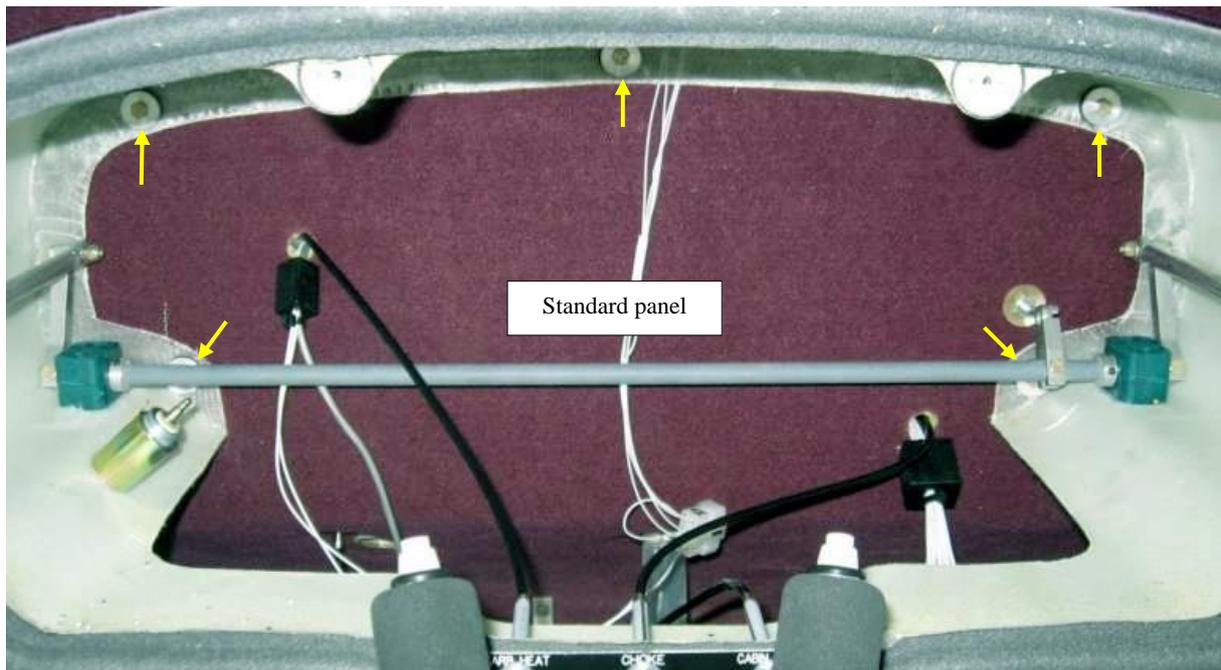
Objectives of this task:

To fit the instrument panel housing to the aircraft. This task will require 2 people.

Materials required:

Card #4JT : "Panel mount throttle"

Prepare the panel housing

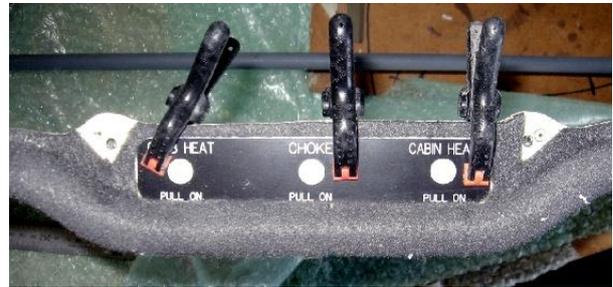


Instrument panel housings come in 2 sizes: *Standard* and *Jumbo*. The *Standard* housing is mounted with 5 mounting bolts while the *Jumbo* housing uses 7 mounting bolts.

Refer to the photos above for mount positioning (arrowed in yellow).

Fit the rubber grommets and the machined aluminium washers to the rear lip of the panel – use a machined washer to mark the centre of each hole then drill each hole to 22mm and fit a grommet into each hole. Drill each machined washer out to 7/32" and fit into each grommet.

Cut away the fabric under the *Carb Heat*, *Choke* and *Cabin Heat* nameplate and flock the nameplate into place with 5-Minute Araldite and flock – hold it in place with spring clamps as shown at right while the flock cures. Make sure that the nameplate is positioned well down towards, and level with, the bottom of the panel as shown at right.



Drill out the 3 cable holes to suit the cable outer fittings.

This is a good time to fit the wet compass to the top of the panel: much easier now than when the panel has been fitted. Measure the exact centre of the panel and position the compass so that it is square to the front face of the panel and mount with screws and Nyloc nuts.

Tidy under the panel

Once the panel housing is fitted access under the panel will be restricted so take some time now to tidy up under the panel – lock-wire the fuel line sheath to the firewall fitting, check that all the rudder pedal bolts are tightened correctly and generally clean the area out.

Fit the panel

This will take 2 people, one to hold the panel and one to position the panel. Fit a 3/16" drill bit into your drill and have it handy inside the aircraft. The panel is held in place with AN3-12A bolts and steel lock nuts, with the lock nuts located inside the engine compartment.

Hold the panel in place, which is centred in the fuselage and as high up the firewall as it can go. Move any wiring away from the area of the mounting holes and have the second person measure the distance in from the door jambs to the side of the panel and then move the panel until it is exactly in the centre of the aircraft.

When it is correctly located, drill the top centre hole through from the inside (shown at right) and fit a washer and steel lock nut.

Check the aircraft for level and then check the panel for level and drill the top left bolt, then the top right and then each of the remaining bolts.

Have the second person watch as each hole is drilled and make sure that the drill bit does not come into contact anything in the engine compartment – wiring, battery, etc.



The drill bit will be visible as a point on the firewall before it breaks through and the person watching must be vigilant to prevent any possible damage. It may only be necessary to move a wire or something before drilling further.

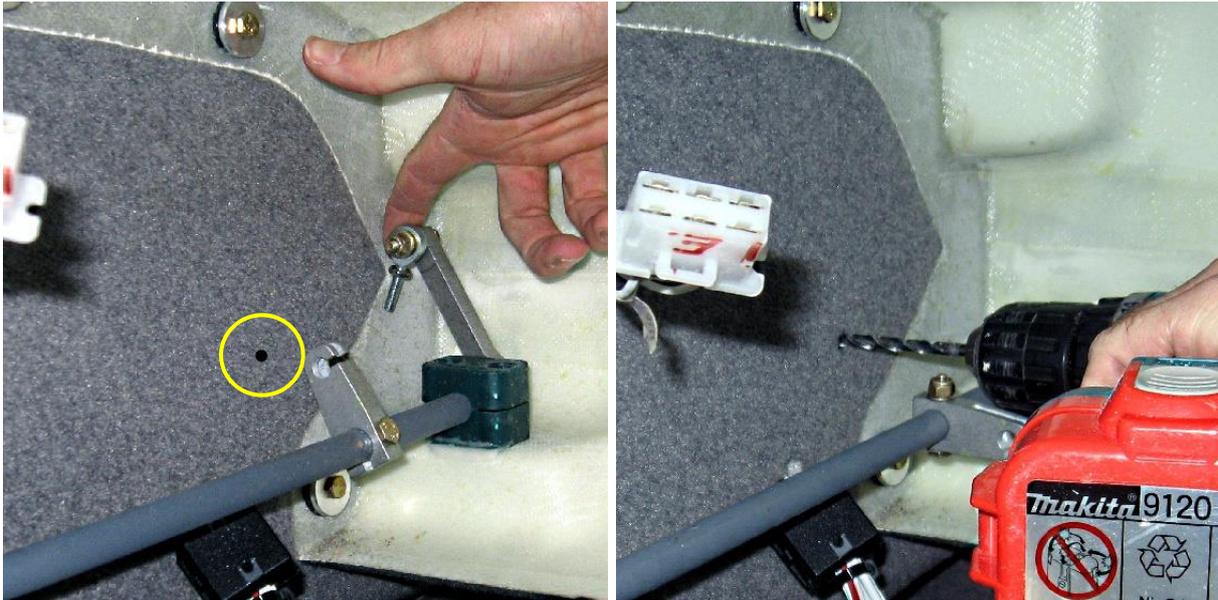
Tighten all of the steel lock nuts to safety.

Locate and fit the throttle cable

The last step is to drill through the firewall for the throttle cable.

The positioning of the hole is important to minimise the chance of the throttle cable binding in the full forward/full throttle position: start by positioning the throttle linkage almost fully forward until the input lever is about 10mm away from the front of the panel housing – the thickness of the tip of your index finger is about 10mm.

With the linkage in that position, make a mark (circled above) **directly** ahead of the output



lever (which must face as shown) and then drill a pilot hole at that mark – rotate the throttle linkage backwards to allow access for the drill and hold the drill firmly against the firewall to make sure that it does not move about while drilling.

As before, have the other person check that the drill will not cause any damage as it comes through the firewall and move any wiring out of the way if needed.

Rotate the throttle linkage forwards and check that the pilot hole is precisely in front of the output lever and correct if necessary.

You can now work from the front of the firewall and expand the pilot hole until the throttle cable (complete with the adjustment nuts) can just pass through the hole.

Drill out 2 flat penny washers to fit over the outer cable and then cut a slot in each so that they can be fitted over the throttle cable. One will fit to the cable on each side of the firewall.

You will need to carefully grind both ends of the throttle cable to size – the manufacturing process often leaves some excess solder on both fittings and sometimes the ball end may have the inner cable standing slightly proud, which will need to be ground back a little.

Fit the throttle cable into place through the firewall. Connection and adjustment of all cabling will be addressed in the task [Post-Paint>Firewall forward>Engine control cabling](#).

Fit the throttle input shafts through the pivot blocks and fully onto the rod ends on the input levers and Loctite each input shaft into place with a drop of Loctite 620. The pilot's side input shaft will require a machined collar to be fitted on the shaft on each side of the pivot block.

This completes the [Post-Paint>Fuselage>Interior>Fit instrument panel housing](#) task.