# Post-Paint>Fuselage>Fit panel mounted throttle

## Issue Revision Table

| Issue | Date: | Change(s): | Issued by: |
|-------|-------|------------|------------|
| 1 | | | |
| 2 | 09/11/2021 | Adopt "Section Only" Manual System, Add Issue Revision Table and model applicability.<br>Add installation instructions for instrument panel housing model. | SW |

## Model Applicability

| Aircraft Model | J-160 | J-170 | J-230 | J-430 |
|----------------|-------|-------|-------|-------|
| Document Applicability | Yes | Yes | Yes | Yes |

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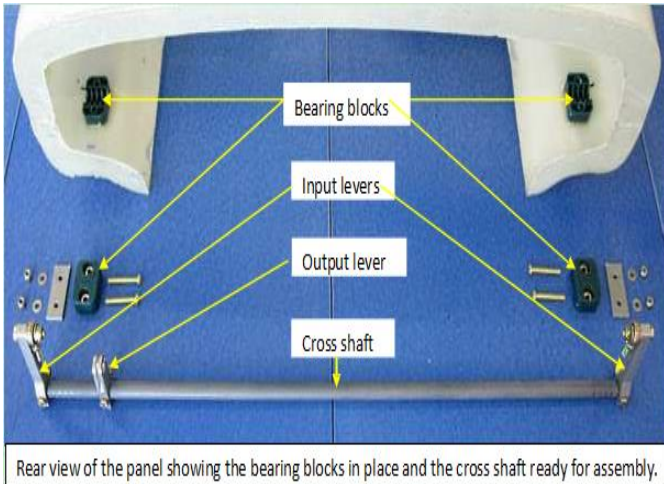| Issue: | 0 | 1 | 2 | | | | | | Issued by: SW | Page: 1 of 4  2 November 2021 |

## Post-Paint>Fuselage>Fit panel mounted throttle

### Objectives of this task:

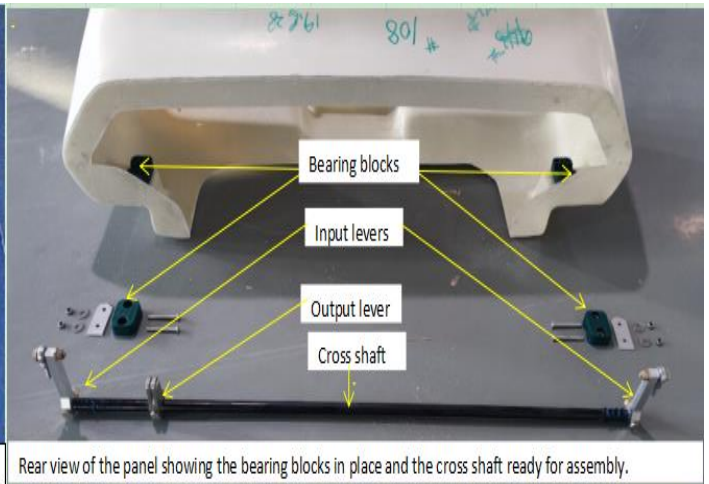To fit the panel mounted throttle linkage to the instrument panel housing.

### Materials required:

Resin and flock
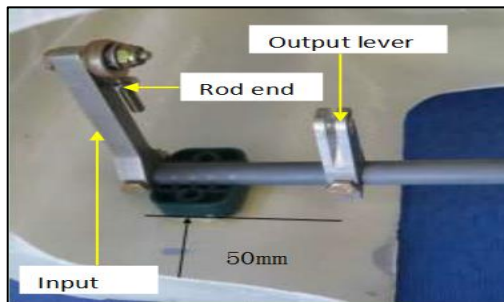Card # 4J or #4T "*Panel Mount Throttle*"
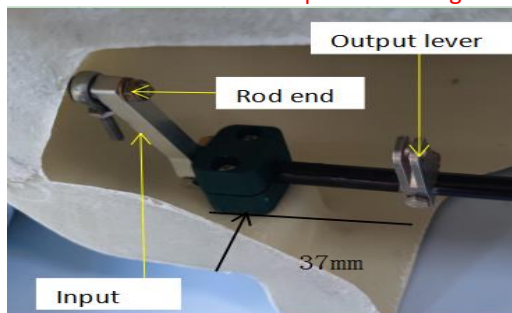


5A043C0D instrument panel  housing



5A113B0D instrument panel housing

### Fit the cross shaft bearing blocks

The throttle cross shaft is used to determine the side-to-side position for the bottom half of each bearing block, so the first task is to assemble the cross shaft as shown above.



5A043C0D instrument panel  housing

Now, working from the rear of the panel, make a

mark 50mm（Applicable to 5A043C0D instrument panel housing）or 37mm (Applicable to 5A113B0D instrument panel housing） in from the bottom of the rear lip on each side (as shown at left) and position the bottom half of each bearing block behind each mark. Sit the assembled cross shaft in each bearing block and move the bottom half of each bearing block out until the cross shaft has no side-to-side movement.

Make sure that the cross shaft is evenly spaced in from each side of the panel, then mark the position of each bearing block and flock each block in place, using the cross shaft to keep the blocks in alignment. Leave overnight to cure.



5A113B0D instrument panel  housing

Next day run a 3/16" drill through each hole in the bearing block and drill through the panel housing, then grease the throttle cross shaft, put each bearing block cap in place and fix it to the panel housing with 3/16" screws, bearing plates (shown at right), washers and Nyloc nuts and tighten the nuts to safety. Too much tension will make the throttle stiff to move, so test the amount of friction as you tighten the nuts.

Fit the rod ends to the inside of the input levers with AN3-8A bolts fitted through the input levers, then an AN960-416 (3/16") flat washer, then the rod end followed by an AN960-515 (1/4") flat washer and a Nyloc nut as shown in the photo on the previous page.

## Fit the input shaft pivot blocks

In this step we will fit the input shaft pivot blocks to the sides of the panel housing.

With the cross shaft secured in place, put the panel housing on it's back so that the panel opening faces upwards. Screw the throttle input shafts onto the rod ends on the input levers with a drop of Loctite 242 on the threads and tighten firmly.

Temporarily fit the instrument panel to the panel housing with cloth tape, making sure that the throttle input shafts go through the correct holes in the instrument panel. Centre each throttle input shaft in its hole in the panel by using a small length of rubber hose as shown arrowed at right.





| Outside right-hand side of panel housing | Inside right-hand side of panel housing |
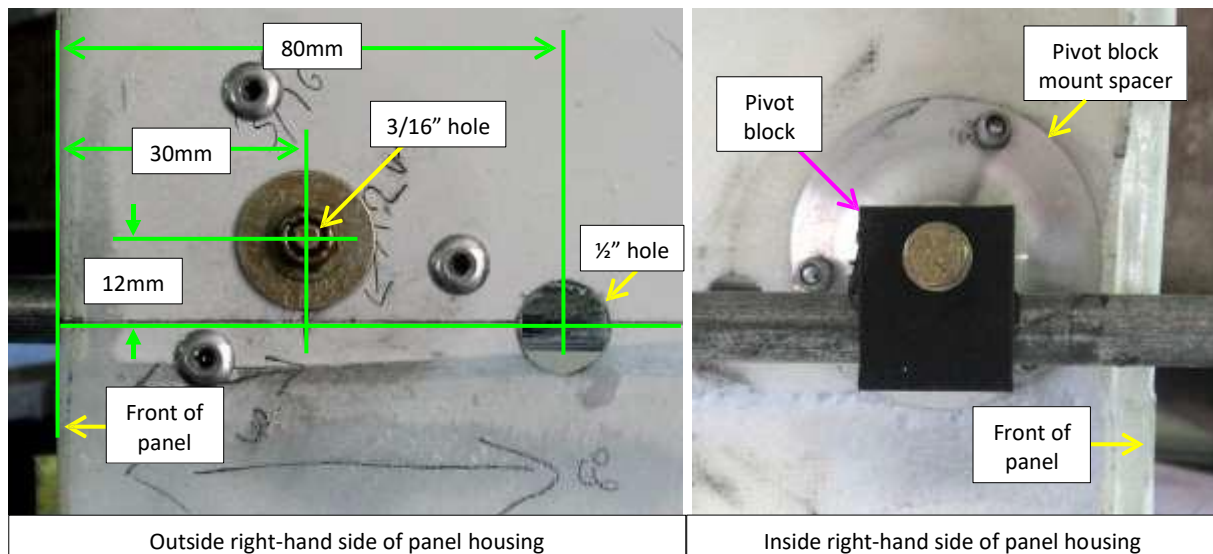
Mark a line on each side of the panel housing along the centreline of each throttle shaft. Remove the instrument panel and set aside. Mark and drill the 3/16" and 1/2" holes as shown in the photo at above left.

Mix a small batch of flock and apply to the base of the pivot block mount spacer and then bolt the pivot block mount spacers to each side of the housing with an AN3 bolt through the 3/16" hole as shown in the photos above.

Drill 3 x 3/16" holes evenly spaced around the flange of the pivot block mount spacer and fit in place with TLR pop rivets as shown in the photos above. Leave overnight to cure.

Cut a length of Bundy tube to fit through the bolt hole in the pivot blocks.

Next day slip a throttle stop ring and a pivot block over each throttle input shaft and bolt through the pivot block and Bundy tube and the pivot block mount spacer with an AN3-17A bolt with a penny washer under the Nyloc nut tighten the nuts to safety.

The 1/2" hole will be used later for throttle idle stop adjustment.

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## Fit the instrument panel retaining nuts

At this point tape the instrument panel back in place and drill through the instrument panel mounting holes in the panel with a 5/32" drill.

Remove the panel and fit captive nuts behind each hole – use the captive nut as a jig (a complete captive nut assembly is shown below right) as a jig (shown at right) to drill the rivet holes– thread the screw part-way through the captive nut from the back and fit the exposed end of the thread into the hole, then drill the 2 x 3/32" rivet holes for the countersunk rivets. Countersink the rivet holes just enough to make a countersunk 3/32" rivet sit flush and rivet the captive nuts in place and then enlarge the 5/32" holes in the panel to 3/16" to provide clearance for the screw threads.







5A043C0D instrument panel  housing



5A113B0D instrument panel housing

Now the excess lip in the panel housing can be trimmed away around the captive nuts – mark a line and trim generally as shown in the photo above.

Leave enough of a lip for the panel to sit against, about 10mm, and mark around the captive nuts. Leave the solid section across the bottom of the panel – this will support the *Carb Heat*, *Choke* and *Cabin Heat* knobs later.

There may need to be some fine adjustment of the trimmed edge once the instrument panel has been assembled in the next task, after which the panel housing can be covered with your selected upholstery fabric.

This completes the *Post-Paint>Fuselage>Fit panel mounted throttle* task.