

Post-Paint>Wings>Install aileron cables

Objectives of this task:

To install the aileron cables in the wings. The cable is tied to a pre-installed drawstring and carefully drawn through the wing ribs. This task requires two people: one person to pull the drawstring and a helper to feed the cable into the wing.

Place the cable

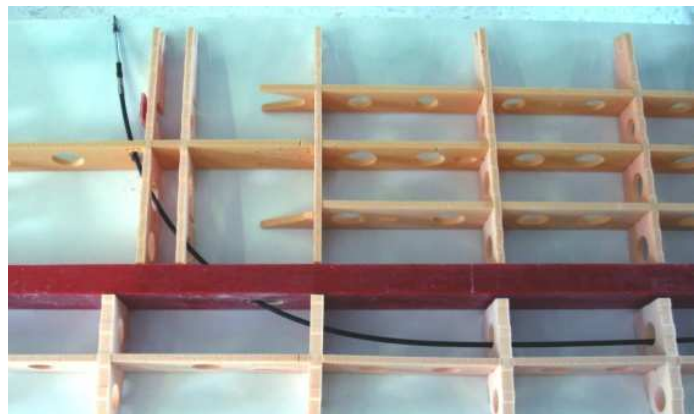
The labelled end of the cable is the end that goes inside the cabin, so the unlabelled end is the end that goes out through the wing to the aileron. The cable may be fed from either the wing root or the aileron cable inspection hole. This task will describe feeding from the wing root.

Fit a rod end to the unlabelled end of the cable – the rounded end will aid the passage of the cable through the high-density foam ribs – and push the inner cable all the way in towards the labelled end of the cable. This will make the pulled end of the cable shorter and thus it will be more flexible to follow the curved path inside the wing (refer to the second photo below).



There is a drawstring inside in the wing with extra string coiled around a stick at the aileron end that will be visible through the aileron cable inspection opening. Loosen the drawstring and check that it can be moved freely, then pull a short length out of the wing root (circled above) and tie it firmly through the rod end. Wrap cloth tape around the cable end from the rod end all the way back to the outer cable: this will ease the cable through the wing ribs.

The aileron cable runs in front of the spar and then curves around through the spar and emerges at the aileron drive arm position as shown at right (photo taken during wing manufacture).



Have your helper feed the cable into the wing while you pull gently on the drawstring through the aileron cable inspection opening. Work slowly and do not apply too much pressure but rather move the cable carefully and shake it if it seems to catch at any time.

It will help if your helper can slowly rotate the outer cable while you ease the cable around the curve at the outboard end of the wing. **Do not** pull strongly on the drawstring: if you do you will only succeed in cutting the string into the foam ribs and wedging the cable, which will make it extremely difficult to complete the task.

Feed the cable through the wing until it can be pulled through the aileron cable inspection opening, then discard the cloth tape and string and remove the rod end. Push the cable back into the aileron cable inspection opening and pull the end of it out of the aileron cable slot in the upper surface of the wing.

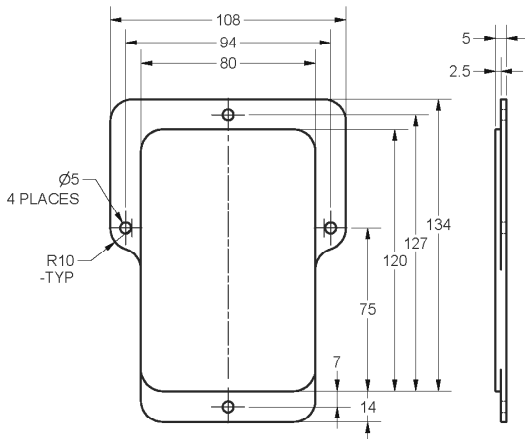
Connect the aileron cable

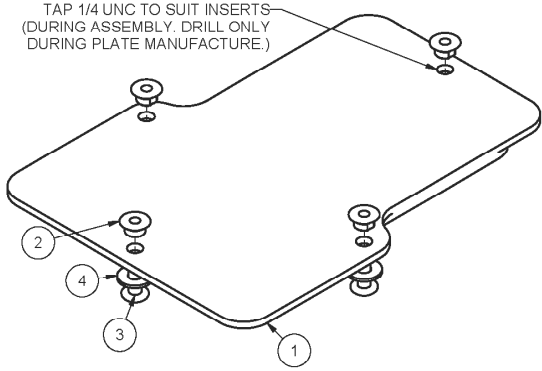
The cable is held to a strengthened rib inside the wing by a saddle clamp and 2 x AN3 bolts and Nyloc nuts. Access is from the aileron cable inspection opening and the 38mm hole beside it: the bolts are fed through from the back of the rib (through the 38mm hole) and then the clamp backing plate goes against the rib, then the cable and then the saddle bracket with the aligning indentation fitting into the slot on the outer cable and the assembly is held in place with Nyloc nuts. Check that the cable is correctly positioned and tighten both nuts firmly. Mark each nut with *TorqueSeal* or similar.

Fit the inspection cover

At this time you can fit the clear acrylic inspection cover to the inspection opening.

| Parts List | | | |
|------------|-------------|-------------------------------|-----|
| ITEM | PART NUMBER | DESCRIPTION | QTY |
| 1 | 2A054A1D-2 | INSPECTION PLATE SER III WING | 1 |
| 2 | 5A048A1D-3 | FAIRING SCREW SOCKET 4mm | 4 |
| 3 | | 8-32 BUTTON HEAD SCREW | 4 |
| 4 | 5-32_WASHER | PLAIN (CAL) WASHER | 4 |





| | | | | | | |
|---|---------------------------|--------------|---|--|------------------------|---------------------------|
| PROJECTION | DIMENSIONS IN MILLIMETRES | DO NOT SCALE | AVTECH P/L A.C.N. 010 786 973 HINKLER AIRPORT BUNDABERG 4670 | THIS DRAWING IS COPYRIGHT AND MUST NOT BE COPIED WITHOUT THE CONSENT OF AVTECH PTY LTD | SCALE VAR | DS 2 18/3/08 1 14/2/06 |
| GENERAL TOLERANCES WHOLE NOS ± 0.5 ONE DEC. ± 0.25 TOW DEC. ± 0.05 ANGLES ± 0.5° | | DRAWN DS | | TITLE WING INSPECTION PANEL ASSY - MACHINED | DWG. No. 2A054A0D-2 | |
| MATERIAL 5 THICK CLEAR ACRYLIC SHEET TO PSJED-07 | | APPR. | | | SHEET 1 OF 1 A4 | |

Fit the threaded fairing sockets to the inspection cover and then position the cover inside the wing and fix in place with 8-32 button head screws, all as shown in the drawing above.

This completes the *Pre-Paint > Wings > Install aileron cables* task.