

## ***Pre-Paint>Fuselage>Interior>Console>Fit control stick***

### **Objectives of this task:**

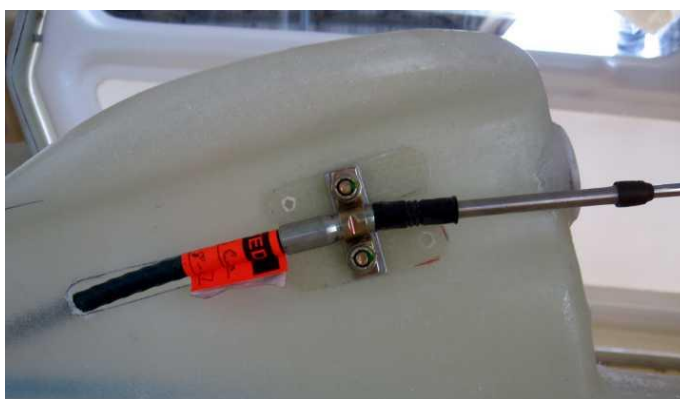
In this task you will fit the elevator cable to the console and then align and fit the two control column bushes into the console, set up the endplay of the control column and fit the control stick to the console.

### **Materials required:**

Card # 17T or 17J 'Elevator System and Control Stick'  
Epoxy Resin and Flock

### **Fit the elevator cable clamp**

The elevator cable runs through the console and through to the rear of the fuselage inside the longitudinal rib. Drill the existing 3/16" holes through and place both bolts through the mounting holes from the inside of the console, through the cable clamp backing plate and then through the saddle clamp.



Take care to align the locating groove in the outer cable with the matching point on the saddle clamp,

then secure with Nyloc nuts and mark the nuts with *TorqueSeal*.

### **Press fit the rear bush**

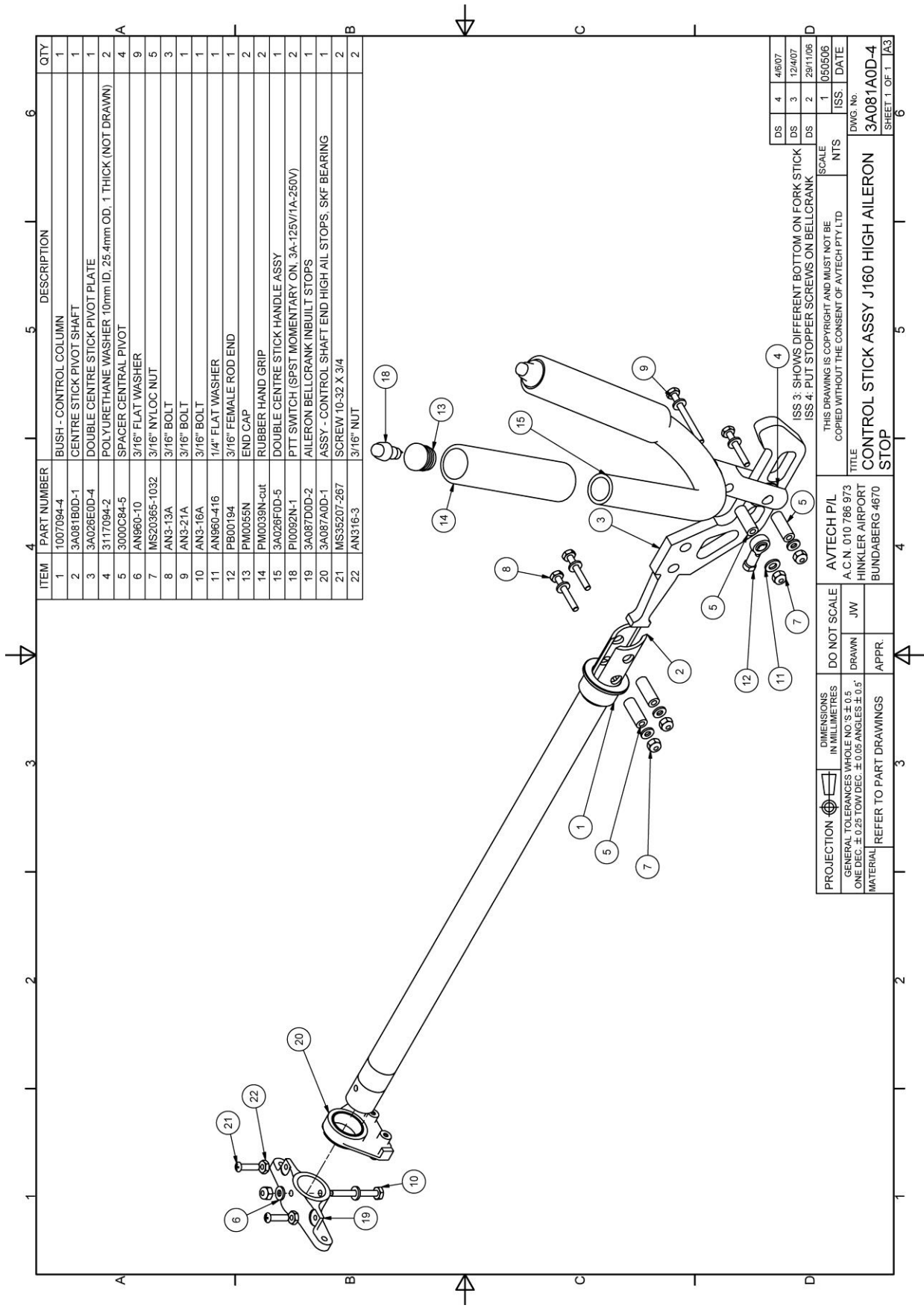
The metal rear bush must first be pressed into the mounting plate - a bench vise is the most convenient way to do this as shown in the picture at the right.

Note that the flange on the rear bush goes on the outside face of the mounting plate.

The two photos below show the rear bush fully



pressed into the mounting plate.



ITEM	PART NUMBER	DESCRIPTION	QTY
1	1007094-4	BUSH - CONTROL COLUMN	1
2	3A081B0D-1	CENTRE STICK PIVOT SHAFT	1
3	3A026E0D-4	DOUBLE CENTRE STICK PIVOT PLATE	1
4	3117094-2	POLYURETHANE WASHER 10mm ID, 25.4mm OD, 1 THICK (NOT DRAWN)	2
5	3000C84-5	SPACER CENTRAL PIVOT	2
6	AN960-10	3/16" FLAT WASHER	9
7	MS20365-1032	3/16" NYLOC NUT	5
8	AN3-13A	3/16" BOLT	3
9	AN3-21A	3/16" BOLT	1
10	AN3-16A	3/16" BOLT	1
11	AN960-416	1/4" FLAT WASHER	1
12	PB00194	3/16" FEMALE ROD END	1
13	PM0055N	END CAP	2
14	PM0039N-cut	RUBBER HAND GRIP	2
15	3A026F0D-5	DOUBLE CENTRE STICK HANDLE ASSY	1
18	PI0092N-1	PTT SWITCH (SPST MOMENTARY ON, 3A-125V/1A-250V)	2
19	3A087D0D-2	AILERON BELLCRANK INBUILT STOPS	1
20	3A087A0D-1	ASSY - CONTROL SHAFT END HIGH AIL STOPS, SKF BEARING	1
21	MS35207-267	SCREW 10-32 X 3/4	2
22	AN316-3	3/16" NUT	2

ISS 3: SHOWS DIFFERENT BOTTOM ON FORK STICK		SCALE	ISS	DATE
ISS 4: PUT STOPPER SCREWS ON BELLCRANK		NTS	1	050506
THIS DRAWING IS COPYRIGHT AND MUST NOT BE COPIED WITHOUT THE CONSENT OF AVTECH PVTY LTD		NTS	1	050506
AVTECH P/L		DWG. No.		
A.C.N. 010 786 973		3A081A0D-4		
HINKLER AIRPORT		SHEET 1 OF 1		
BUNDABERG 4670		A3		
DO NOT SCALE		TITLE		
DIMENSIONS IN MILLIMETRES		CONTROL STICK ASSY J160 HIGH AILERON STOP		
GENERAL TOLERANCES WHOLE NO'S ± 0.5		DRAWN		
ONE DEC. ± 0.25 TOW DEC. ± 0.05 ANGLES ± 0.5°		APPR.		
MATERIAL REFER TO PART DRAWINGS		DATE		
PROJECTION		DATE		
ONE DEC. ± 0.25 TOW DEC. ± 0.05 ANGLES ± 0.5°		DATE		
MATERIAL REFER TO PART DRAWINGS		DATE		

## Fit the bushes to the console

Fit the stick pivot plate carefully into the control shaft and secure with 2 x AN3-13A bolts, spacers, washers and Nyloc nuts.

The nuts should face the left-hand side of the aircraft when fitted.

Slip the front nylon bush over the control shaft.

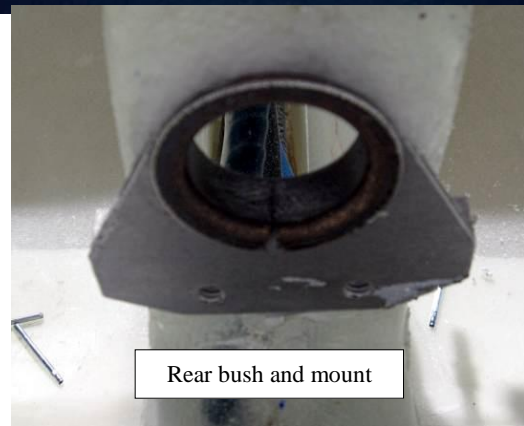
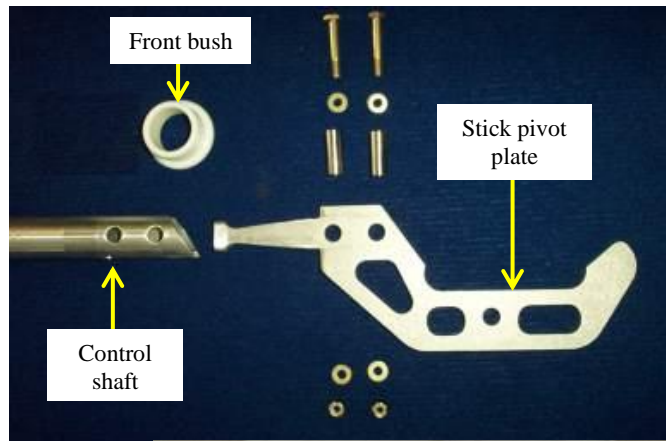
With the rear bush and mounting plate taped in place, fit the control shaft into the console from the front and through the rear bush, seating the front bush.

Mount the aileron bellcrank onto the rear of the control shaft, taking care to keep the bellcrank square to the shaft, and temporarily secure it by easing an AN3 bolt through the bellcrank and the shaft as shown below right.

Do **not** force the bolt through the holes: ensure that the holes are aligned exactly before fitting the bolt. Now the control shaft is held in the console by both the front and rear bushes. At this point make any adjustments necessary to allow the control shaft to rotate freely in the bushes – you may need to file small amounts out of the console to correct the alignment of the front or rear bushes.

Take your time with this step: you want the **absolute minimum** of turning resistance!

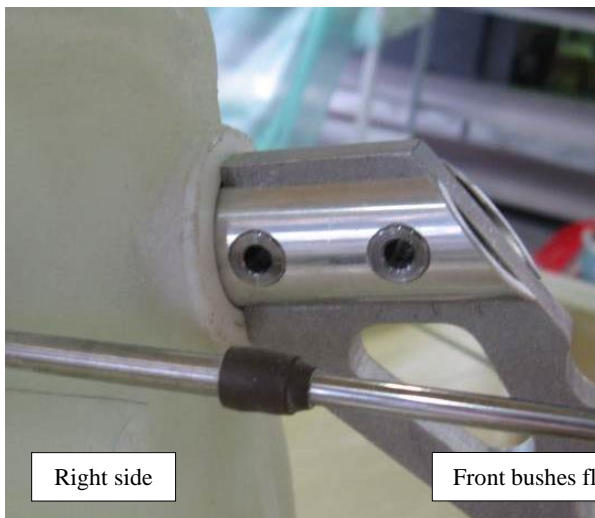
Make sure that the rear mounting plate is pushed fully into the console and then move the front nylon bush out as required to take up any endplay: you require only a **very** small amount of endplay, no more than the thickness of a single sheet of paper.



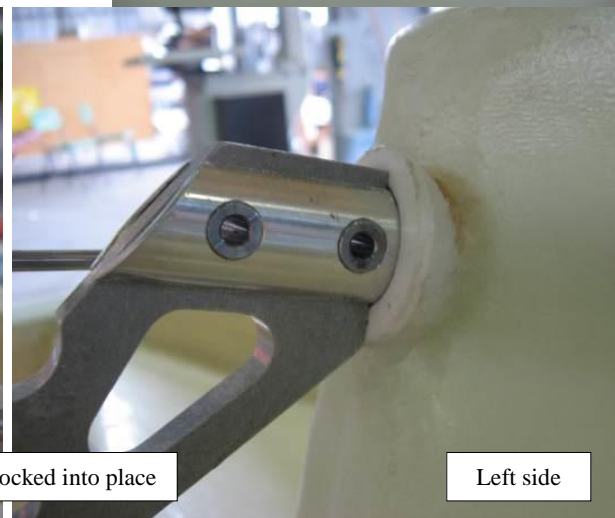
Rear bush and mount



Aileron bellcrank fitted



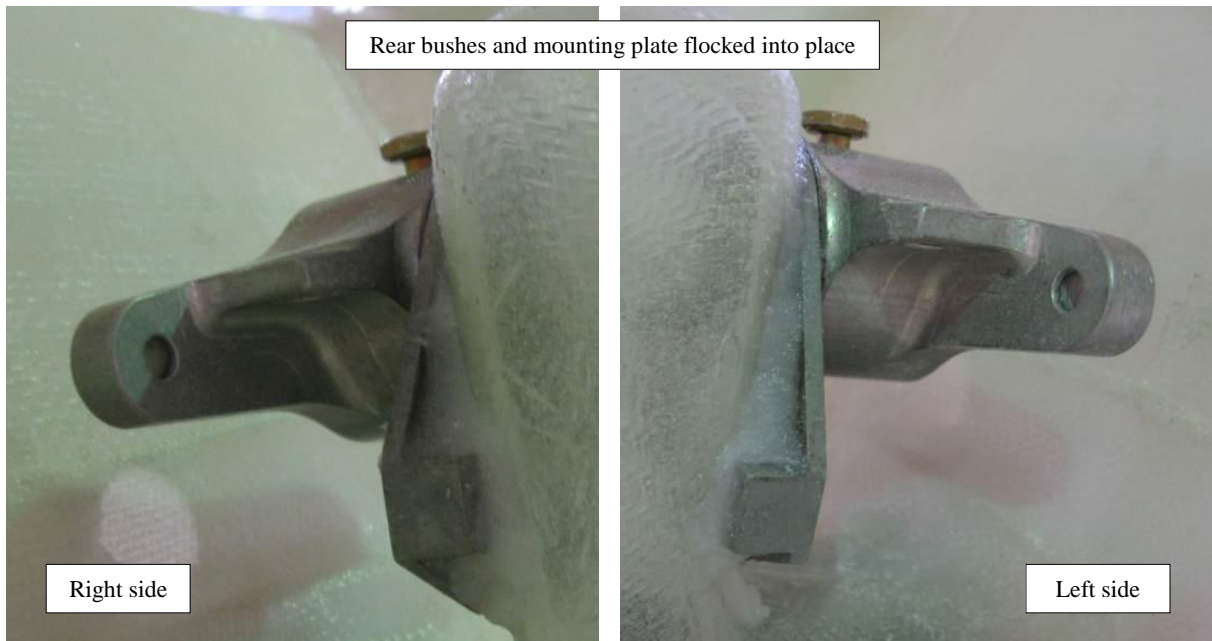
Right side



Left side

Front bushes flocked into place

It is very important that the rear bush and mounting plate are fitted to the console at precisely 90° to the control shaft, and that there is no friction between the bushes and the shaft. When you are satisfied with the alignment of both bushes and the endplay is correct, remove the aileron bellcrank and pull the bushes out enough to coat each bush with flock, then push both bushes back into place. Refit the aileron bellcrank and reset the endplay very carefully and leave to cure, taking care not to get any flock onto the control shaft. Smooth off any surplus resin with a small amount of resin on a clean mixing stick.



When the flock has cured, remove the temporary bolt from the aileron bellcrank and withdraw the control shaft. Clean any flock from the control shaft and from around the bushes then reinsert the control shaft, check that the control shaft can rotate freely and that the endplay is minimal and then remove the control shaft and the aileron bellcrank and set aside until the fuselage has been painted.

This completes the *Pre-Paint>Fuselage>Interior>Console>Fit control stick* task.