One Mans System for Rigging the Long EZ Aileron linkage.

by Chris Wade

A While back, I was setting up my aileron push rods and attempting to follow the plans using Ch. 16 as a guide. In placing all the components (cs 126, 127, 128, 129, 132 r& l) in place, I realized it would be a good idea to position all of these parts first and check how it was looking before drilling a bunch of holes and finding that the right turn travel did not match the left. In reading the plans, it states that maintaining the 90 degree angle between the inboard arm of cs 128 and the push rod cs 129 , while simulatneously maintaining the 90 degree angle between the cs 132 weldment and push rod cs 129 would minimize any differences from right to left controlling.

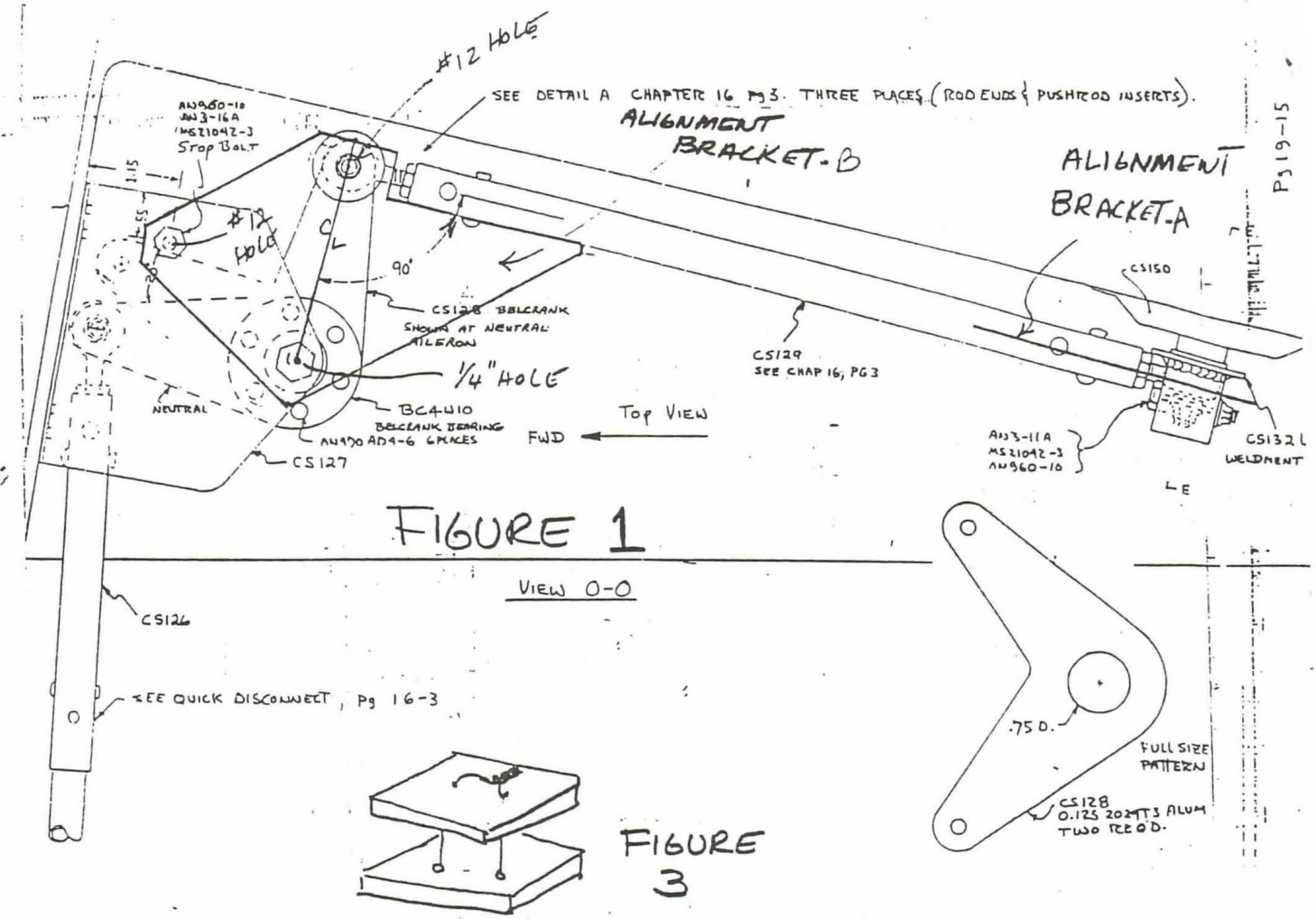
I used the full size layout on pages 19-15 and 19-16 to develope two alignment brackets to position these parts while also insuring that the torque tube parts and related components would be simulateouly and properly positioned while the ailerons were in the nuetral position. I used two 2"x 2" squares of 1/4 " ply wood with two small holes threaded with safety wire to hold the ailerons in the nuetral position. See figure 3.

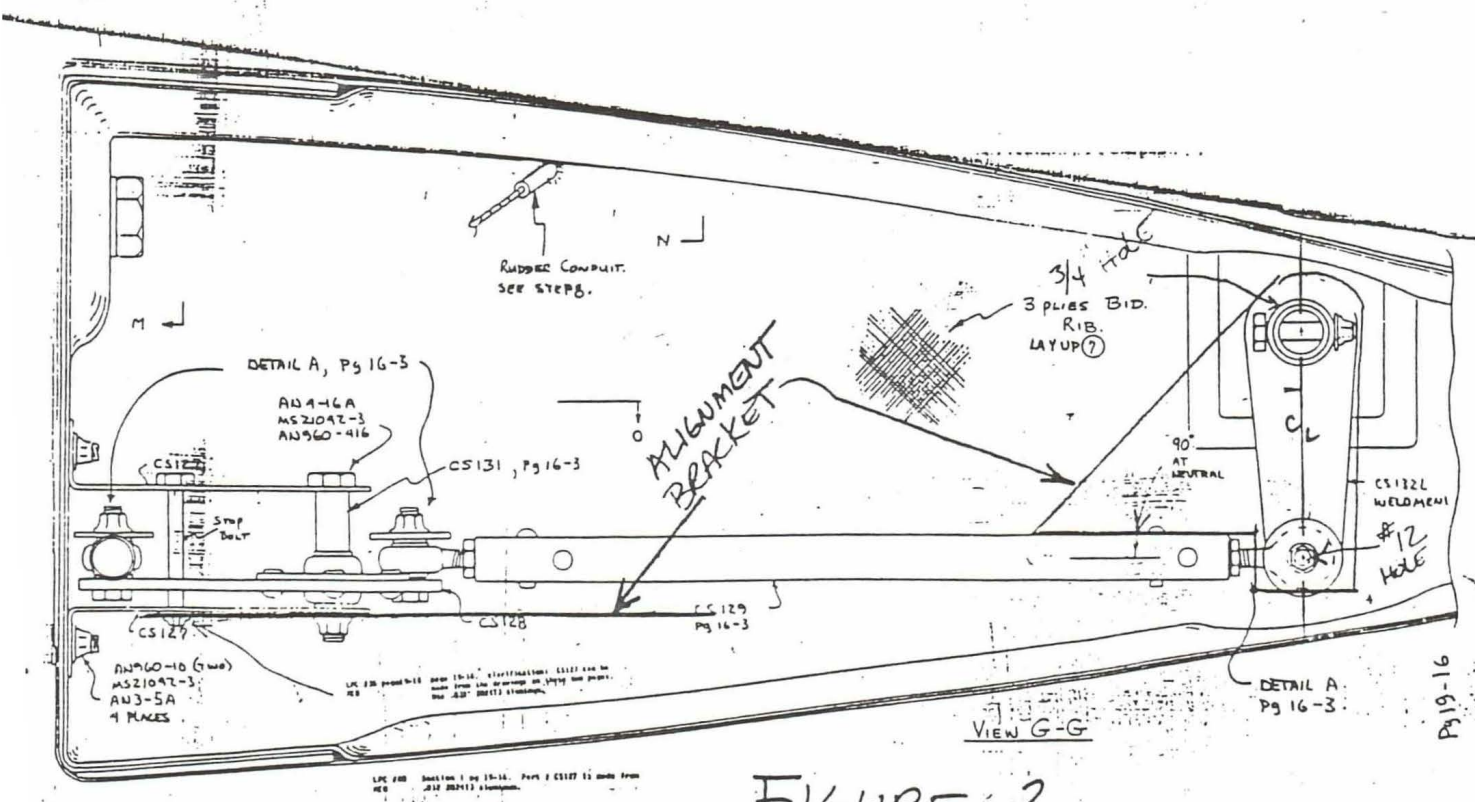
Figures 1 and 2 show these brackets and their positioning. when these are in place, you have a reference as to where you are at in regards to this 90 degree set up. I held the cs 128 assembly in place with small blocks and c-clamps while adjusting the parts around insuring that the angles were correct.

No holes were drilled in the linkages until all positions were checked and satisfactory. As holes were drilled, AN bolts were installed but standard fine thread nuts were used instead of lock nuts. This allowed for the assembly and reassembly as needed.

I also used paper layouts of 20 degree angles which I taped in back of cs 132 and cs 124. These layouts allowed for the checking of travel so the stick grip could be postioned so that my knuckles did not hit the fuselage side in a right turn.

The alignment brackets I used were made from .063 aluminum. I sawed them out using a band saw. The 3/4 holes were drilled with a small hole saw and the drill press.


#12 HOLE
SEE DETAIL A CHAPTER 16 Pg 3. THREE PLACES (ROD ENDS & PUSHROD INSERTS).
ALIGNMENT BRACKET-B
ALIGNMENT BRACKET-A
AN960-10
AN3-16A
MS21042-3
Stop Bolt
1.15
1.65
#12 HOLE
90°
CS128 BELCRANK SHOWN AT NEUTRAL AILERON
1/4" HOLE
NEUTRAL
BC4-410 BELCRANK BEARING
AN970 AD4-6 SPACES
CS127
CS129 SEE CHAP 16, PG 3
CS150
Top View
FWD
AN3-11A
MS21042-3
AN960-10
CS132L WELDMENT
LE
Pg 19-15
FIGURE 1
VIEW O-O
CS126
SEE QUICK DISCONNECT, Pg 16-3
.75 D.
FULL SIZE PATTERN
CS128 0.125 2024T3 ALUM TWO REQ'D.
FIGURE 3


RUDDER CONDUIT. SEE STEP 8.
N
M
3/4 HOLE
3 PLIES BID. RIB. LAYUP (?)
DETAIL A, Pg 16-3
AN4-16A
MS21042-3
AN960-416
CS131, Pg 16-3
ALIGNMENT BRACKET
O
90° AT NEUTRAL
CS132L WELDMENT
#12 HOLE
Stop Bolt
CS129
CS128
CS129 Pg 16-3
AN960-10 (Two)
MS21042-3
AN3-5A
4 PLACES
DETAIL A Pg 16-3
VIEW G-G
Pg 19-16
FIGURE 2