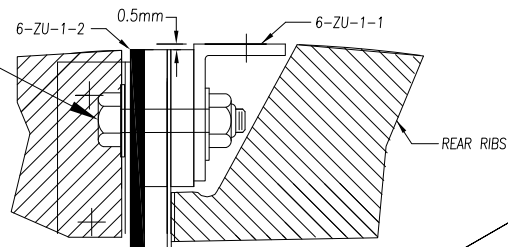
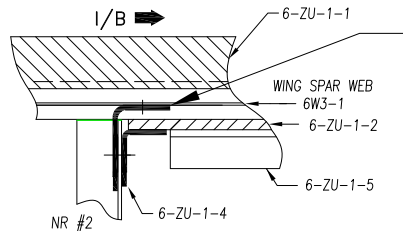
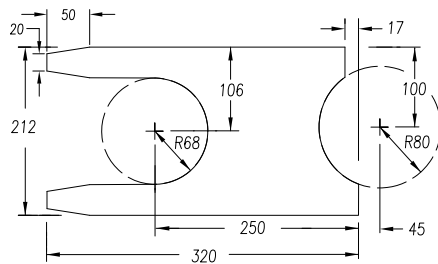


6-ZU-1-1
 DRILL OUT SOLID RIVETS.
 CUT SPAR ANGLE 6W3-6 AT 1680MM FROM INBOARD END.
 TRIM BACK TOP FLANGE ON REAR RIBS TO CLEAR 6-ZU-1-1.
 INSTALL EXTRUSION WITH SOLID RIVETS MS20470AD-6-14 AND
 MS20470AD-6-15 (QTY=4) MS20470AD-6-10
 USE BOLTS IN ROOT AREA 6-ZU-1-2 AND ONE BOLT IN LIEU OF
 RIVET AT OUTBOARD END OF EXTRUSION.

DRILL OR REAM ALL BOLT HOLES TO ENSURE CLOSE TOLERANCE
 FIT OF BOLTS IN HOLES. IT IS ACCEPTABLE TO REPLACE
 SOLID RIVETS BY AIRFRAME BOLTS OF EQUAL DIAMETER.



1 **EXTRUSION ANGLE**
 EXT. 6061-T6 1"x1-1/2"x1/8" (2 REQ'D)

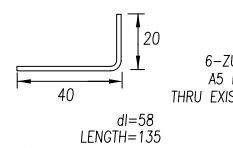


6-ZU-1-3
 REPLACE 6W3-9 WITH 6-ZU-1-3.
 TRIM 1/8" OFF END OF NOSE RIB#1 AND 2
 RIB SANDWICHED BETWEEN 6-ZU-1-3
 AND 6-ZU-1-4. RIVET TO SIDE OF RIB

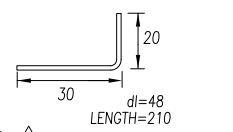
6-ZU-1-2 AIRFRAME BOLTS
 REMOVE NOSE RIB #1, #2 and #3. DRILL
 OUT BOTTOM SOLID RIVETS TO ADD
 6-ZU-1-2 ON FRONT SIDE OF SPAR.

- TOP (REFERENCE NUMBER)
- 1 AN4-12A
 - 2 AN3-11A
 - 3 AN3-12A ANGLE NR #1 (2 WASHERS)
 - 4 AN3-11A
 - 5 AN3-11A
 - 6 AN3-12A ANGLE NR#2 (2 WASHERS)
- BOTTOM
- 7 AN4-11A
 - 8 AN3-11A (2 WASHERS)
 - 9 AN3-11A ANGLE NR#1
 - 10 AN3-11A 6-ZU-1-5
 - 11 AN3-11A 6-ZU-1-5
 - 12 AN3-11A ANGLE NR#2
- AN3-6A END OF 6-ZU-1-1

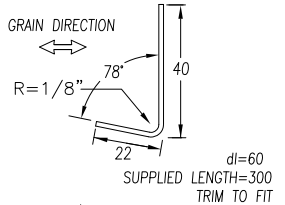
2 **WING ROOT DOUBLER**
 t=.125" 6061-T6 (2 REQ'D)



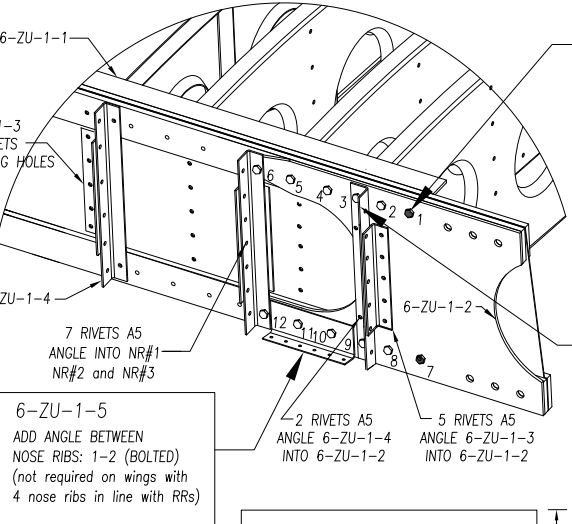
3 **NOSE RIB ANGLE**
 t=.040" 6061-T6 (6 REQ'D)



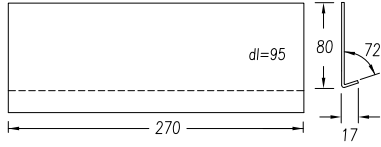
4 **RIB ANGLE**
 t=.040" 6061-T6 (6 REQ'D)



5 **BOTTOM CAP ANGLE**
 t=.063" 6061-T6 (1 REQ'D)



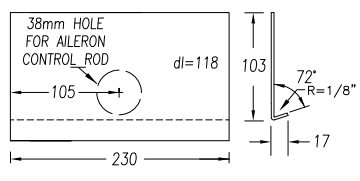
6-ZU-1-5
 ADD ANGLE BETWEEN
 NOSE RIBS: 1-2 (BOLTED)
 (not required on wings with
 4 nose ribs in line with RRs)



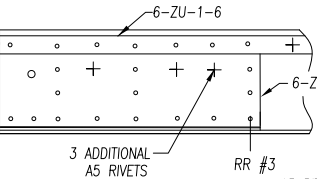
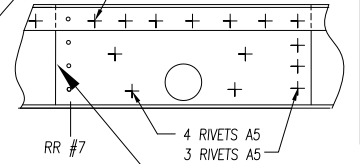
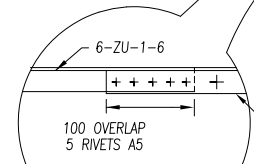
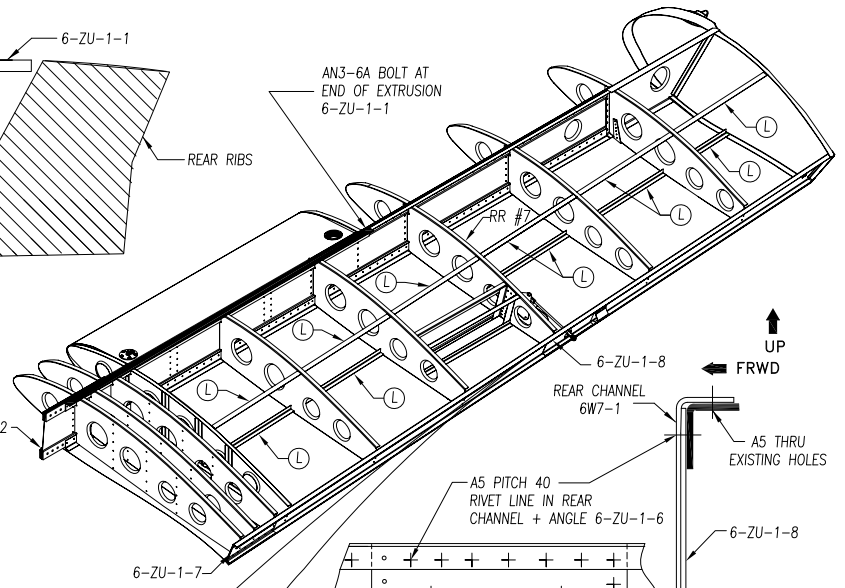
6 **CHANNEL ANGLE**
 t=.040" 6061-T6 (4REQ'D)

7 **REAR CHANNEL DOUBLER**
 t=.040" 6061-T6 (2 REQ'D)

6-ZU-1-4
 TRIM 1/8" OFF BACK OF NR#1
 ADD .040" ANGLE TO REPLACE 6W3-9



8 **AILERON ROD HOLE DOUBLER**
 t=.032" 6061-T6 (2 REQ'D)



6-ZU-1-8
 ADD DOUBLER PLATE CENTERED
 ON HOLE FOR AILERON ROD.

6-ZU-1-6
 TOP FLANGE OF REAR CHANNEL IS
 DOUBLED ALONG FULL LENGTH WITH
 SPAR ANGLE 6-ZU-1-6
 OVERLAP EACH PIECE 100MM

6-ZU-1-7
 REPLACE HINGE DOUBLER 6W7-3
 WITH REAR DOUBLER 6-ZU-1-7

6-X-0 TECHNICAL DATA CH 601 XL / 650 ASTM SLSA REQUIREMENTS:
 GROSS WEIGHT 1320 LBS (600kg), VNE =160MPH (260 Km/h), ULTIMATE LOAD +/-3G

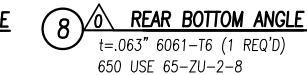
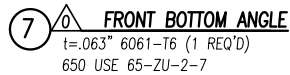
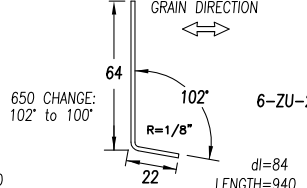
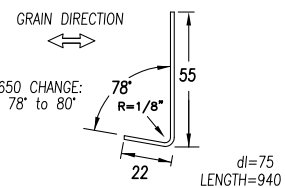
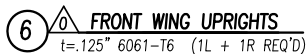
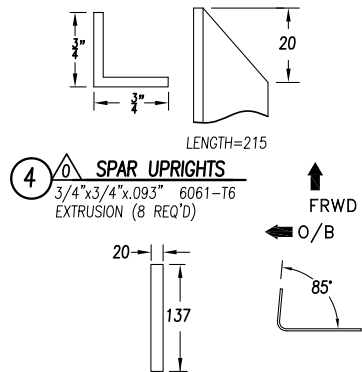
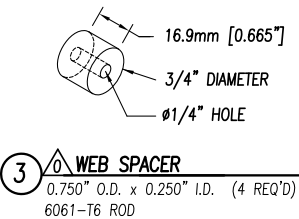
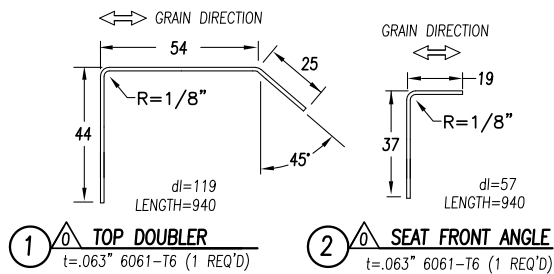
ZODIAC
 CH 601 XL / 650

UPGRADE DRAWINGS
 WING SPAR & REAR CHANNEL

6-ZU-1

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DATE: 12 FEB 2010



AIRFRAME BOLTS

WING ATTACHMENT BOLTS: TORQUE BOLTS 120 TO 145 IN. LB. NUTS AN365-524
 1 NAS6205-23 QTY=4
 2 NAS6205-22 QTY=4
 3 NAS6205-22 QTY=4

REAR WING ATTACHMENT
 AN5-6A qty=2, REF 6-S-3

CENTER SECTION BOLTS:
 4 AN4-20A QTY=4
 5 AN4-20A QTY=4
 6 AN4-16A QTY=2

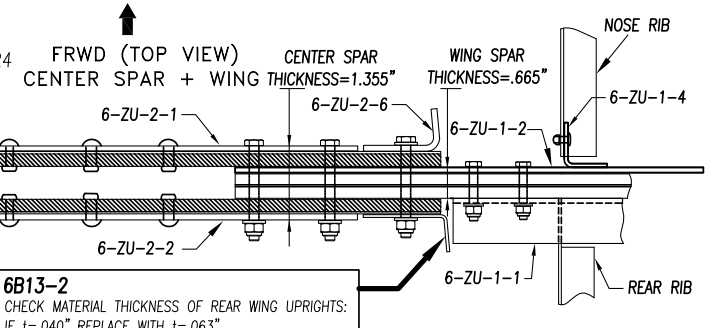
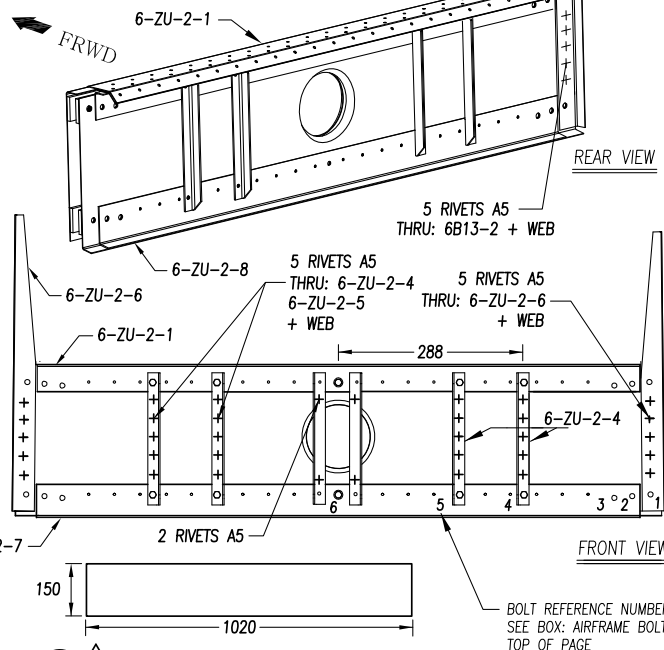
(REFERENCE NUMBERS - SEE BOTTOM DIAGRAM. SAME BOLTS TOP AND BOTTOM)

6-ZU-2-3

FIRST SOLID RIVET 6-ZU-2-7 AND 6-ZU-2-8 TO CAPS, ADD A FLAT PENNY WASHER AN970-4 ON EACH SIDE OF EXISTING SPACERS 6W4-5 ADD WEB SPACER 6-ZU-2-3. AND RE-ASSEMBLE WITH LONGER BOLTS.

6-ZU-2-6

REPLACE FRONT UPRIGHT. DRILL NEW HOLES IN FUSELAGE SIDE SKIN INTO UPRIGHT DOUBLER 6-ZU-3-5 (IGNORE EXISTING HOLES).



6B13-2
 CHECK MATERIAL THICKNESS OF REAR WING UPRIGHTS: IF t=.040\"/>

6-ZU-2-1
 DRILL OUT SOLID RIVETS ADD DOUBLER ON TOP OF SPAR. RE-ASSEMBLE WITH SOLID RIVETS. MS20470AD-5-10

6-ZU-2-4
 UPRIGHTS OVERLAP ON TOP OF DOUBLERS INSTALLED WITH BOLTS THRU SPACER 6-ZU-2-3 RE-INSTALL UPRIGHTS 6W4-4 WITH SOLID RIVETS MS20470AD-5-11

6-ZU-2-5
 ADD A SHIM BETWEEN WEB AND UPRIGHT. TRIM LENGTH TO FIT BETWEEN TOP DOUBLER AND BOTTOM ANGLE. RIVET UPRIGHT TO WEB.

6-ZU-2-7
 DRILL OUT SOLID RIVETS. OVERLAP ANGLE ON FRONT SIDE OF WEB AND FLANGE. SOLID RIVET SPAR ASSEMBLY.

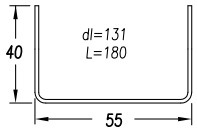
6-ZU-2-2
 DRILL OUT SOLID RIVETS ADD DOUBLER ON BACK SIDE IN TOP CORNER. ASSEMBLE WITH SOLID RIVETS.

6-ZU-2-8
 DRILL OUT SOLID RIVETS ADD ANGLE ON TOP OF WEB AND BOTTOM FLANGE. SOLID RIVET SPAR ASSEMBLY.

6-ZU-2-9
 OVERLAP ON OUTSIDE OF FUSELAGE. REAR RIVET LINE THRU EXISTING HOLES NEW RIVET LINE THRU 6-ZU-2-7. ADD FRONT RIVET LINE

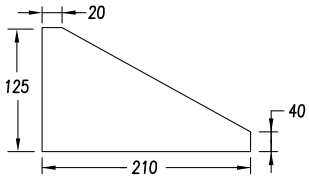
6-ZU-3-4

REPLACE L ANGLES ALONG SIDES OF ACCESS HOLE IN SEAT PANEL 6B15-4 WITH LONGER ANGLES 6-ZU-3-4 ALSO ADD AN ANGLE 6-ZU-3-4 IN CORNER OF SEAT PANEL AND ARM REST SIDE 6B18-1



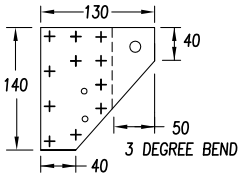
1 BELLCRANK SUPPORT CHANNEL

t=.040" 6061-T6 (2 REQ'D)



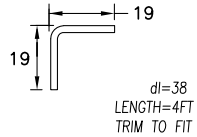
2 SIDE DOUBLER

t=.063" 6061-T6 (2 REQ'D)



3 ATTACH PLATE

t=.125" 6061-T6 (1L + 1R REQ'D)

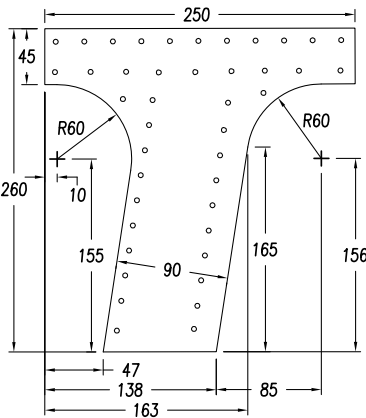


4 SEAT ANGLES

t=.040" 6061-T6 (3 REQ'D)

5 UPRIGHT DOUBLER

t=.032" 6061-T6 (2 REQ'D)
650 USE 65-ZU-3-5



6-ZU-3-3

XL ONLY - REPLACE REAR WING ATTACH PLATE 6B5-4 WITH THICKER MATERIAL 6-ZU-3-3

6-ZU-3-5

UPRIGHT DOUBLER OVERLAPS ON OUTSIDE OF FUSELAGE SIDE SKINS. AFT RIVET LINE THRU EXISTING UPRIGHT 6B13-2, FRONT RIVET LINE THRU 6-ZU-2-6

11 RIVETS A5 THRU LONGERON

6-ZU-3-5

A5 PITCH 20

3 + 1 RIVETS A5

6-ZU-3-4

6-ZU-3-2

Z ANGLE

ADD DIAGONAL STANDARD Z ANGLE TO FUSELAGE SIDE SKIN - FROM FRONT BOTTOM OF SPAR TO TOP CORNER OF VERTICAL L ANGLE AND LONGERON.

SPAR RIVET LINE

DOUBLE UP RIVET LINE THRU SPAR EXTRUSION [TOP] AND SPAR ANGLE [BOTTOM] UP TO RR # 5

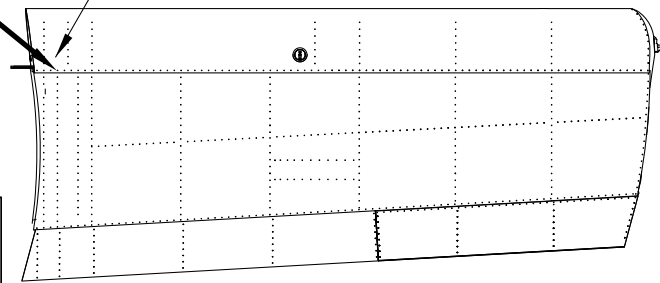
A5 PITCH 20

6-ZU-3-2

ADD FUSELAGE SIDE DOUBLER OVERLAPS OUTBOARD FLANGE OF GUSSET 6B10-4 RE-USE AN3-5A WITH 1 WASHER REF. DRAWING 6-B-14

A5 RIVETS THRU EXISTING HOLES PITCH 20 ALONG TOP AND BACK

A5 PITCH 20 IN BOTTOM ANGLE 6-ZU-1-5



A4 PITCH 40

L ANGLES

WING SKINS:

6W8-3

AND 6W8-2

2 RIVETS A5 END OF L ANGLES TO 6-ZU-3-1

L ANGLES, QTY=4

ADD L ANGLES BETWEEN REAR RIBS. ENDS RIVETED TO FLANGES OF BELLCRANK CHANNEL 6-ZU-3-1 RIVETED TO TOP AND BOTTOM SKINS. VIEW FRONT TOP OF RIGHT WING

6-ZU-3-1

REPLACE BELLCRANK SUPPORT CHANNEL 6W6-10 BY 6-ZU-3-1 REINSTALL BELLCRANK SUPPORT 6W6-11 PER DRAWINGS 6-W-6

A5 RIVETS THRU EXISTING HOLES

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UPGRADE DRAWINGS
BELLCRANK CHANNEL - DOUBLERS

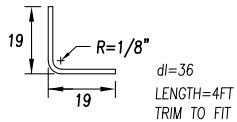
6-ZU-3

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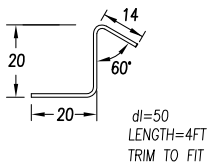
DATE: 25 JAN 2010

AILERON MASS BALANCE

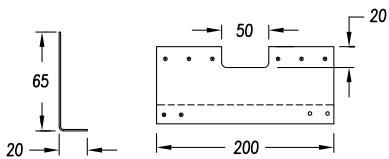
BALANCED AILERON see LAA/MOD/162B/004
 INSTALL BALANCE ARM TO AILERON RIBS
 WITH AN3-11A BOLTS AND AN365-1032 NUTS
 AILERON MASS BALANCE ALSO TO BE INSTALLED ON
 AILERONS WITH FLEX HINGE 6W2-3



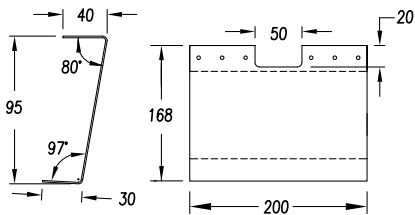
L STANDARD L ANGLE
 t=.025" 6061-T6 (16 REQ'D)



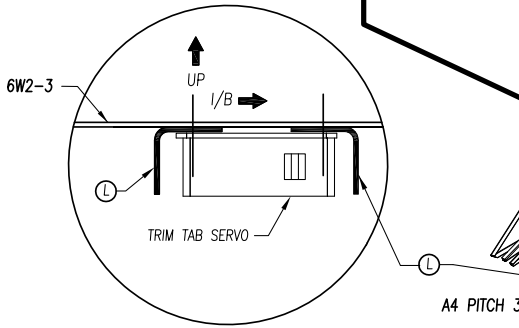
Z STANDARD Z ANGLE
 t=.025" 6061-T6 (1 REQ'D)



1 AILERON CONTROL STOP
 t=.040" 6061-T6 (1 REQ'D)



2 AILERON STOP SUPPORT
 t=.040" 6061-T6 (1 REQ'D)



L ANGLES - AILERON TRIM SERVO

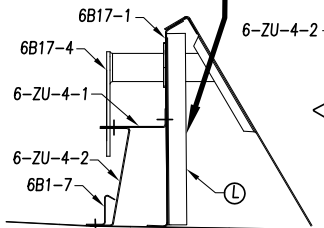
REF. AILERON TRIM TAB OPTION 6-ATO-1
 ADD L ANGLES BETWEEN SERVO AND
 AILERON SKIN 6W2-3 OR 6-PH-1-1
 LENGTH=265

6-ZU-4-1

AILERON CONTROL STOP.
 FILE CUTOUT TO INCREASE DEFLECTION
 AS NECESSARY.

L ANGLE 6B17-1

ADD AN L ANGLE TO SIDES OF
 REAR TORQUE TUBE BEARING
 SUPPORT 6B17-1



AILERON GUSSETS

GUSSETS BETWEEN SKIN AND RIB
 65W2-5 AILERON RIB #2 GUSSET
 65W2-6 AILERON RIB #1 GUSSET

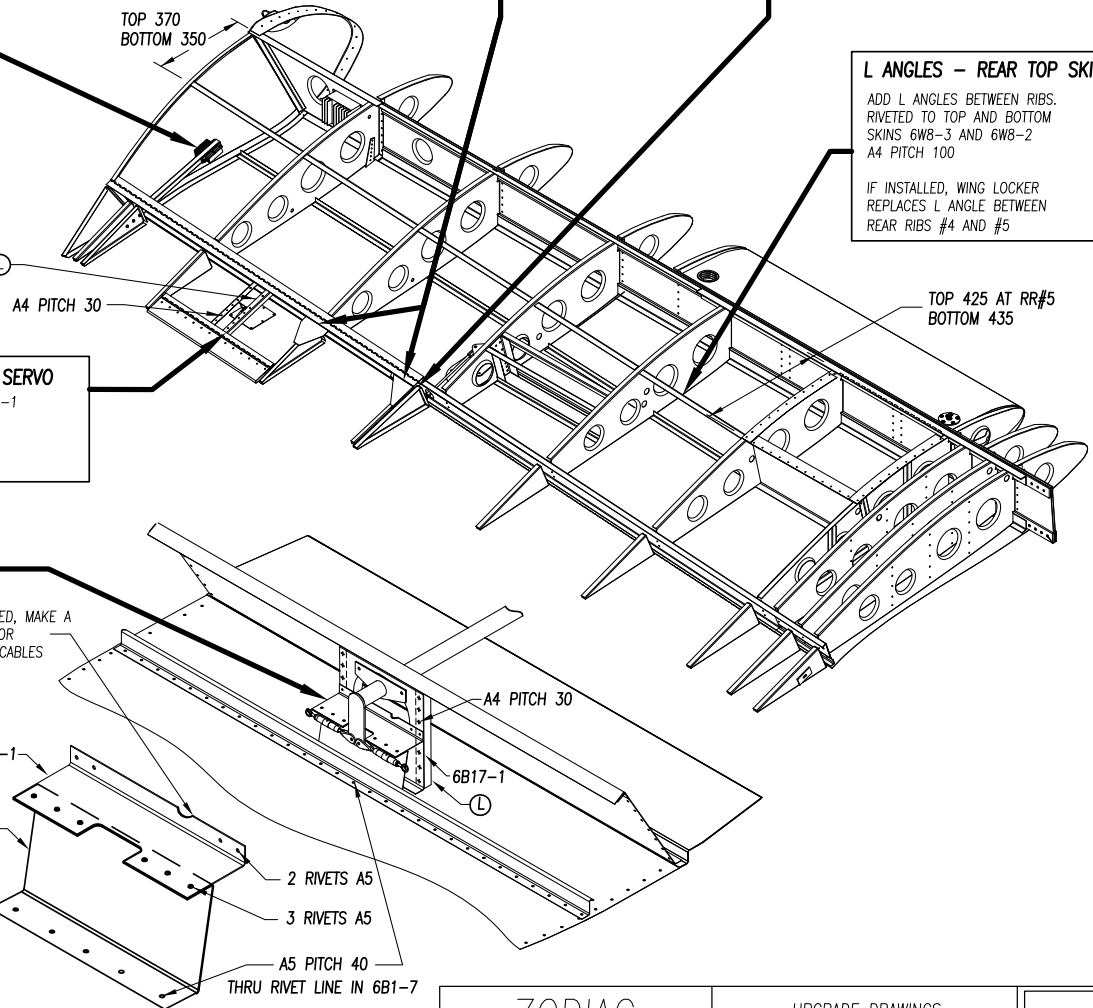
6-S-3-1 FLAP STOP

ELECTRIC FLAP ACTUATOR DRAWS FLAPS UP AGAINST
 FLAP STOPS AND SHUTS OFF AUTOMATICALLY WITH
 FLAPS UNDER LOAD. WHEN ONE FLAP IS COMPRESSED
 AGAINST ITS FLAP STOP, CHECK THAT OTHER FLAP IS
 ALSO PUSHED FIRMLY AGAINST ITS STOP.
 REPLACE ONE STOP IF NECESSARY.

L ANGLES - REAR TOP SKIN.

ADD L ANGLES BETWEEN RIBS.
 RIVETED TO TOP AND BOTTOM
 SKINS 6W8-3 AND 6W8-2
 A4 PITCH 100

IF INSTALLED, WING LOCKER
 REPLACES L ANGLE BETWEEN
 REAR RIBS #4 AND #5

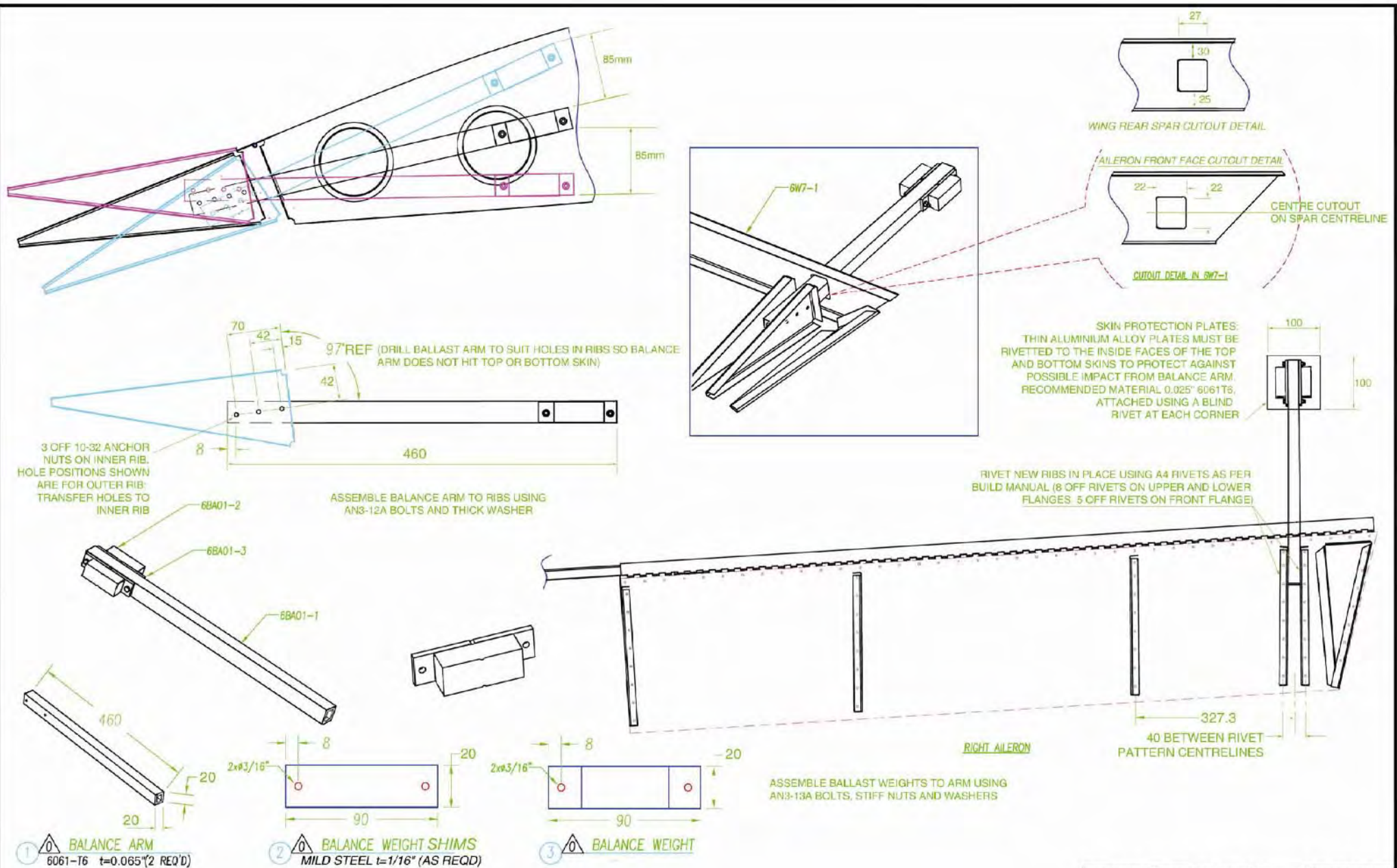


IF REQUIRED, MAKE A
 CUTOUT FOR
 CONTROL CABLES

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 CH 601 XL / 650

UPGRADE DRAWINGS
 CONTROL STOPS - SERVO L ANGLES

6-ZU-4



CH601XL	LAA BALANCED AILERON	18 AUG 2009
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FIGURE 4