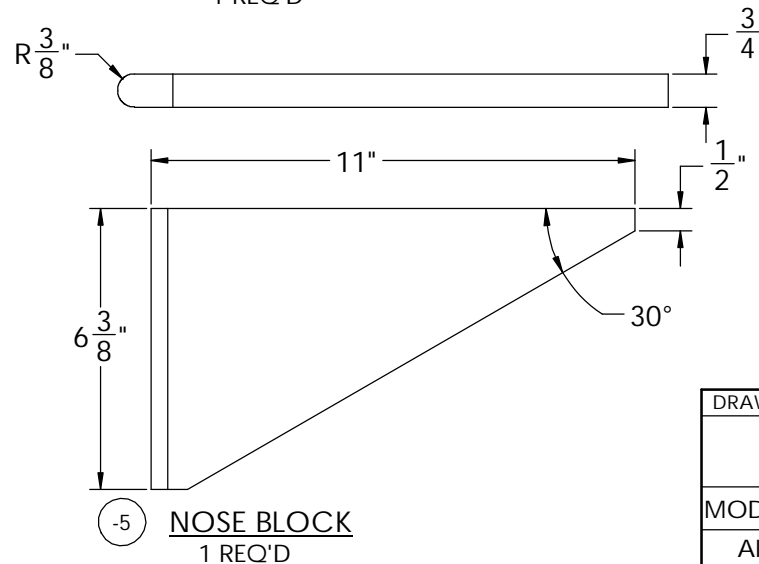
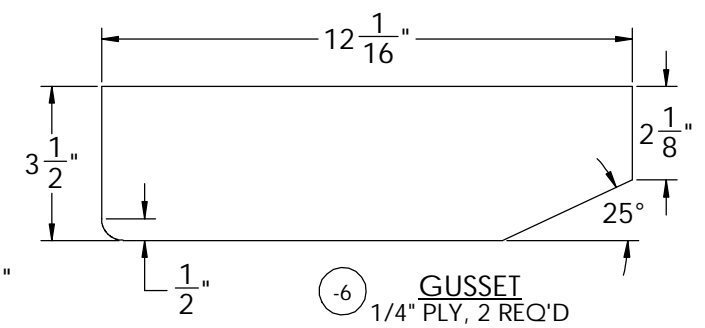
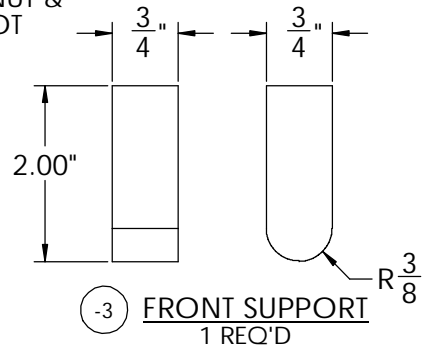
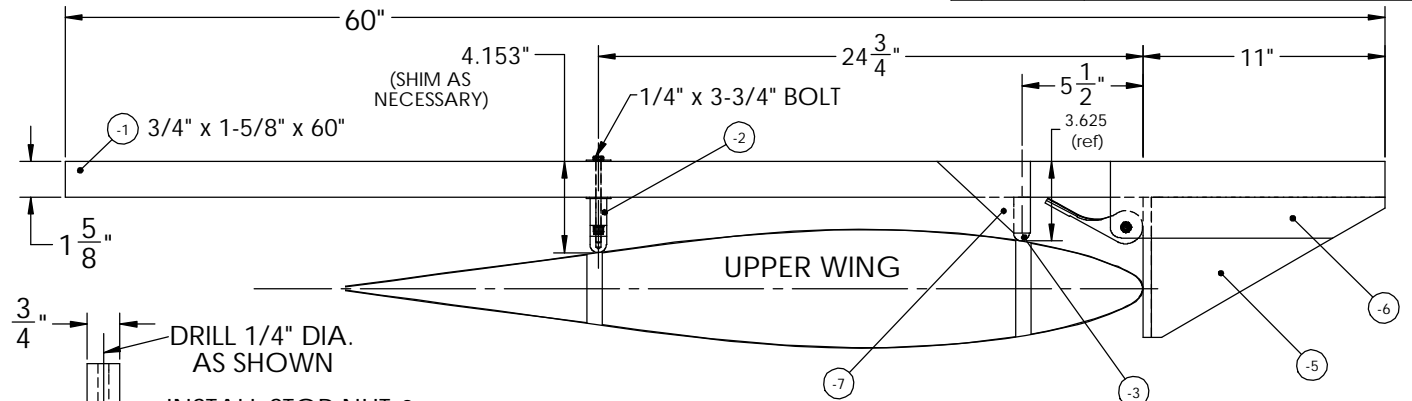
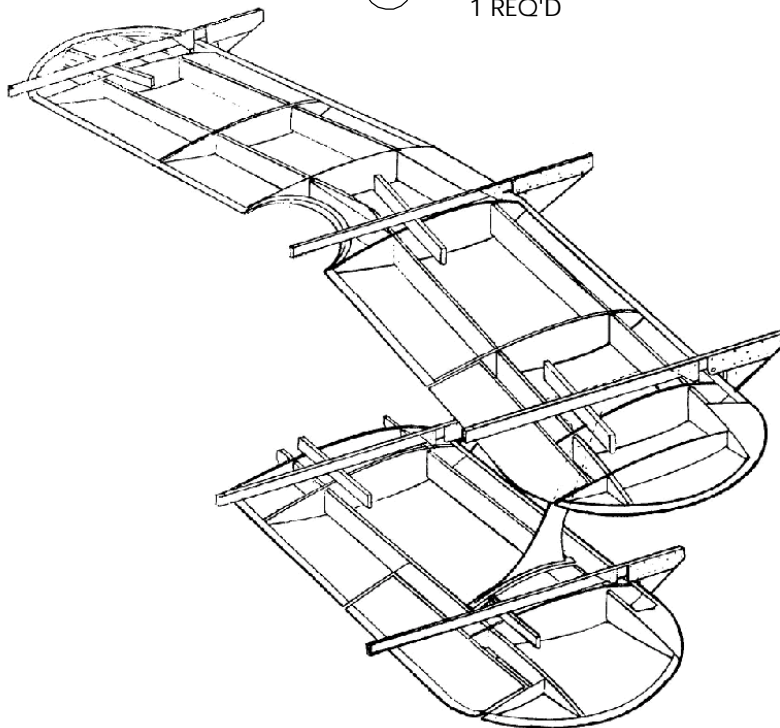
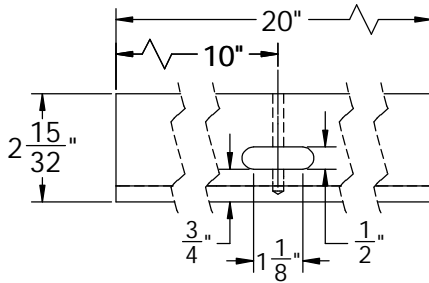
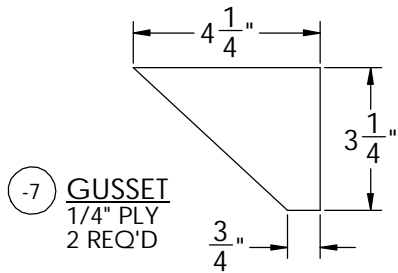
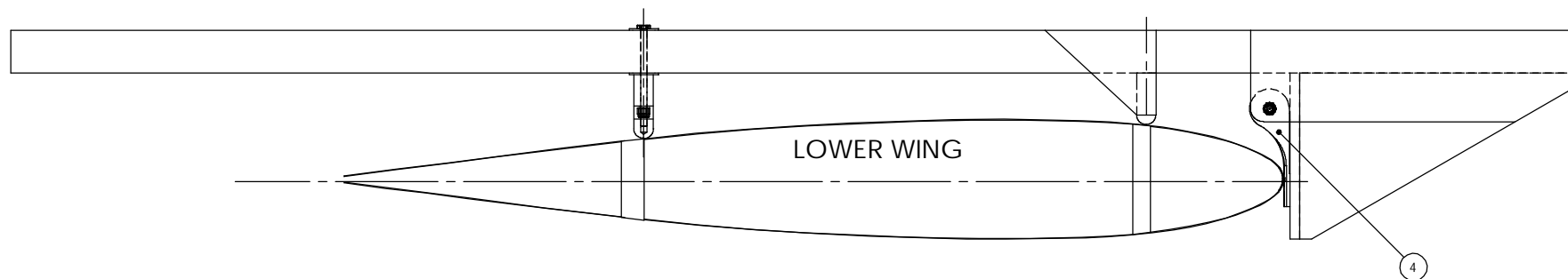


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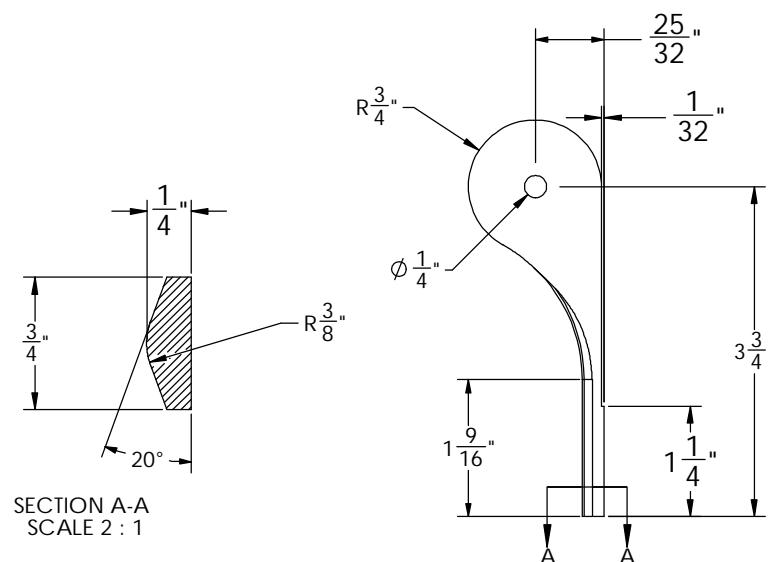


GLUE & NAIL ALL GUSSETS  
USE AN970-4 WASHERS 3 PLACES

DRAWN BY: <i>Bill Rose</i>	DATE: 05/08/2019
<b>LIVINGSTON WING RIGGING TOOL</b>	
MODEL: Ultimate 10-100 & 10-200	SCALE: NONE
AIRFOILS: DWG No. AI - 004	
ALSO REF: PITTS DWG# 41574	
Sht. 1 of 3	REV A



POSITION AS SHOWN  
FOR LOWER WING



④ MOVEABLE BLOCK  
1 REQ'D

DRAWN BY: <i>Bill Rose</i>		DATE: 05/08/2019		
<u>LIVINGSTON WING</u> <u>RIGGING TOOL</u>				
MODEL:Ultimate		10-100 & 10-200	SCALE: NONE	REV <b>A</b>
			Sht. 2 of 3	

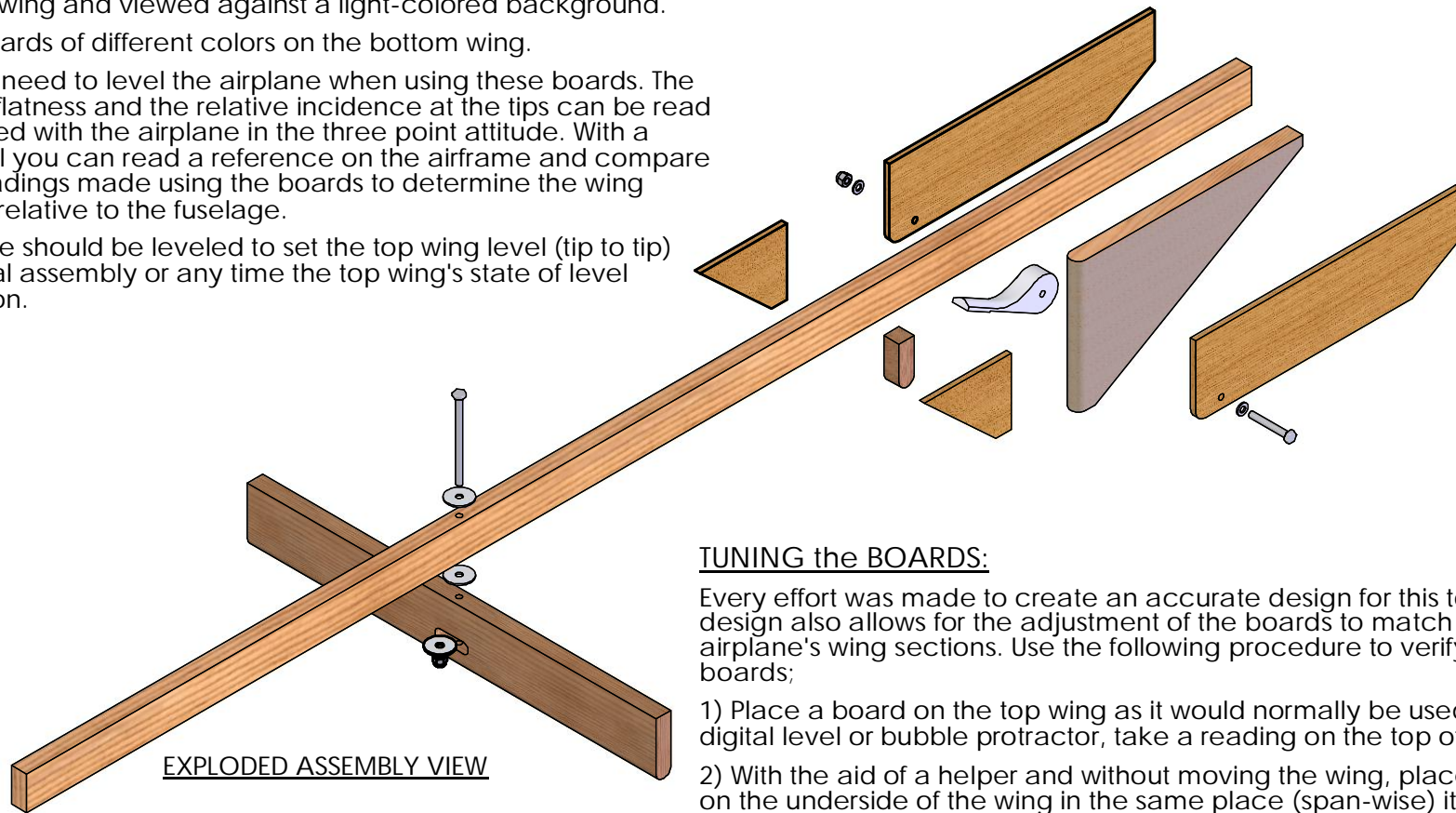
### NOTES on USE:

Make three complete boards. Paint two red and the third white. This will allow you to see all three boards at once when they are installed on the top wing and viewed against a light-colored background.

Use two boards of different colors on the bottom wing.

There is no need to level the airplane when using these boards. The top wing's flatness and the relative incidence at the tips can be read and adjusted with the airplane in the three point attitude. With a digital level you can read a reference on the airframe and compare it to the readings made using the boards to determine the wing incidence relative to the fuselage.

The airplane should be leveled to set the top wing level (tip to tip) during initial assembly or any time the top wing's state of level is in question.



### TUNING the BOARDS:

Every effort was made to create an accurate design for this tool but the design also allows for the adjustment of the boards to match a specific airplane's wing sections. Use the following procedure to verify and tune the boards;

- 1) Place a board on the top wing as it would normally be used. Using a digital level or bubble protractor, take a reading on the top of the board.
- 2) With the aid of a helper and without moving the wing, place the board on the underside of the wing in the same place (span-wise) it was located for the top reading. Take another reading.
- 3) The two readings should match. If they don't, adjust the height of the aft support by adding or removing washers until the readings match.
- 4) Repeat the above steps on a bottom wing. The readings should match each other. If they are different, make a small adjustment to the aft support as needed.
- 5) If changes were made in step 4, check the top wing again and choose a compromise adjustment as needed to minimize any errors. Differential readings of  $0.2^\circ$  or less are ideal.
- 6) After tuning the first board, match the new aft support dimension on the other two boards.