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FW: 53 Scaled Up 1/2A Fubar 600 - Pylon Incidence Modification

1 message

Tandy Walker <rdb435021@icloud.com>
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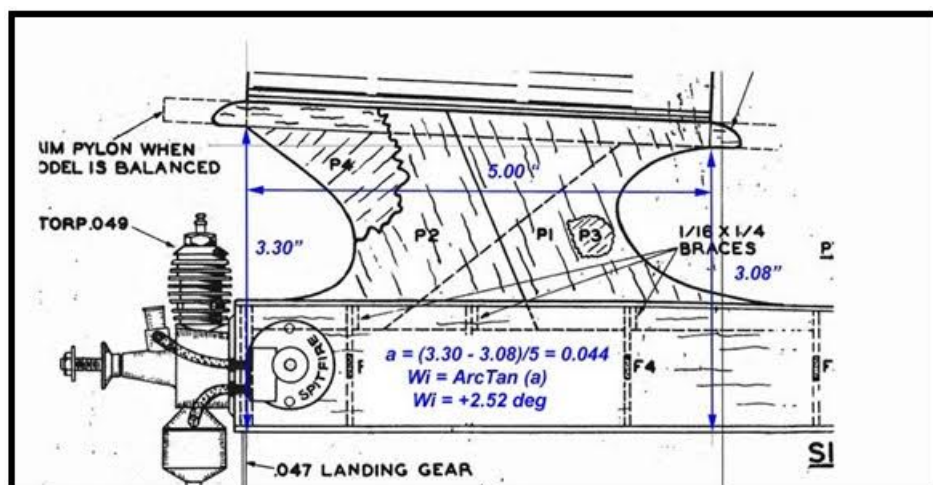
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From: Tandy Walker [mailto:aerotan1503@outlook.com]
Sent: Wednesday, June 15, 2016 3:18 PM
Subject: 53 Scaled Up 1/2A Fubar 600 - Pylon Incidence Modification

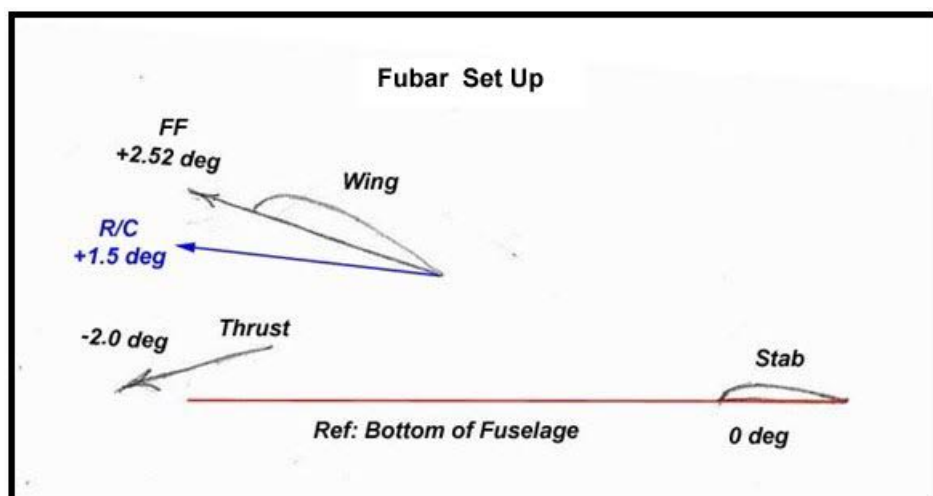
Scaled Up 1/2A Fubar 600

June 15, 31 2016

The +2.52° wing incidence (Wi) of the 1/2A Fubar was calculated from the plan below.



I have always looked at the various angles on a model in reference to the fuselage as shown below. Note that with the stab at 0° and the wing incidence at +2.52°, the decalage (Wing Incidence - Stab Incidence) is also +2.52. When converting a free flight over to R/C, it seems to be a standard practice to reduce the wing incidence, which I have never really understood. For example, Jay Burkart said he reduced his scaled up 1/2A Fubar wing incidence from +2.5° down to +1.5° as shown in blue below.



To try and understand why a reduction in wing incidence is necessary when converting a free flight model to an R/C model, I consulted with several lifelong experienced modelers and got some conflicting opinions. However in a phone conversation with Gene Wallock, I think I now understand the reason for reducing wing incidence on an R/C model. Gene said to achieve an upward spiraling power profile on a free flight model, increased wing incidence is used in conjunction with the appropriate amount of washout or washin in certain wing panels. He pointed out that without the washout or washin that causes the model to turn or bank, the increased wing incidence will cause the model to loop. The power profile for a SAM R/C limited engine run competition model is basically a straight away steep climb with no turning or banking. Therefore, the wing incidence should be reduced to eliminate having to constantly put in down elevator to prevent looping during the power climb. In conclusion, I will change the incidence in the pylon for the scaled up 1/2A Fubar 600 to 1.5° incidence based on Jay Burkart flight test results.....Tandy