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To:

Date: 12/17/2016 9:22:58 AM

Subject: 184a Sailplane Exhaust Extension Attachment Procedure

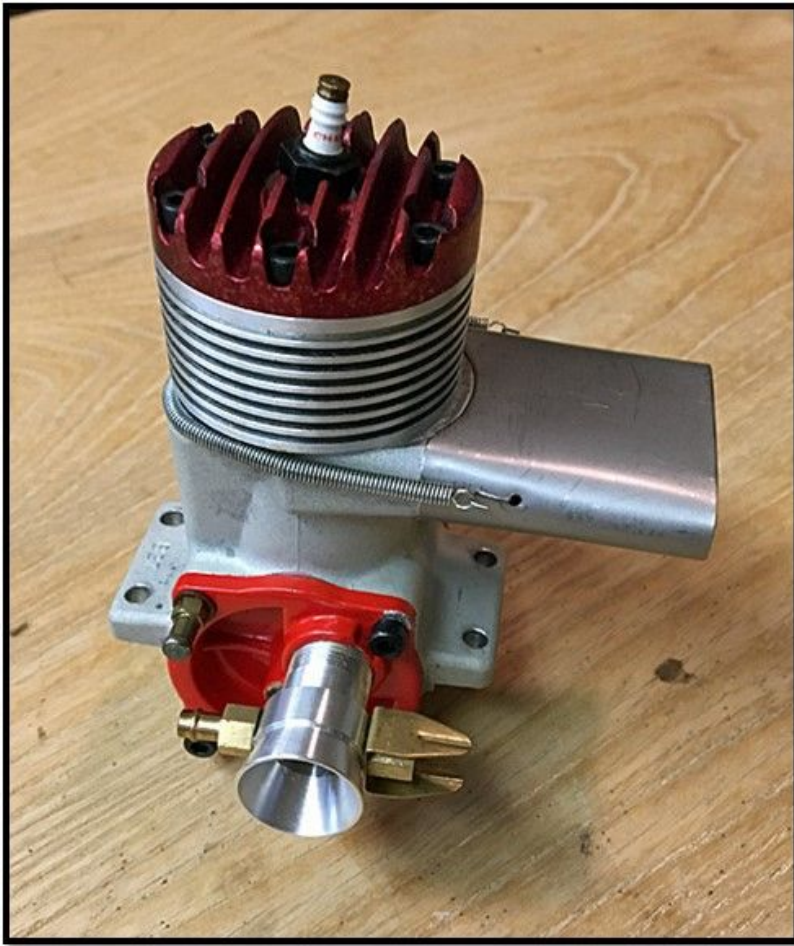
### *Comet Sailplane Project*

*December 16, 2016*

A procedure had to be developed to attach the exhaust extension with the engine mounted inside the cowl as shown below. Since I failed to discuss this procedure in the Sailplane's previous reports, I will do so here. The procedure is difficult to describe and takes a number of illustrative pictures, so please bear with me.



The new stainless steel extension slips over the engine's short exhaust stack and is held snugly in place with two springs hooked together at the back of the engine and on either side of the extension as shown below. However, with the engine mounted, there is no way to put the cowl on.



After a number of approaches were tried, a special metal clip shown below was made out of two straight pins soldered together. Actually two clips were made, one for each side of the engine's exhaust stack.



A long wire "puller" that would reach inside the cowl was made out of .032" piano wire and is hooked into the loop on the end of the clip as shown below.

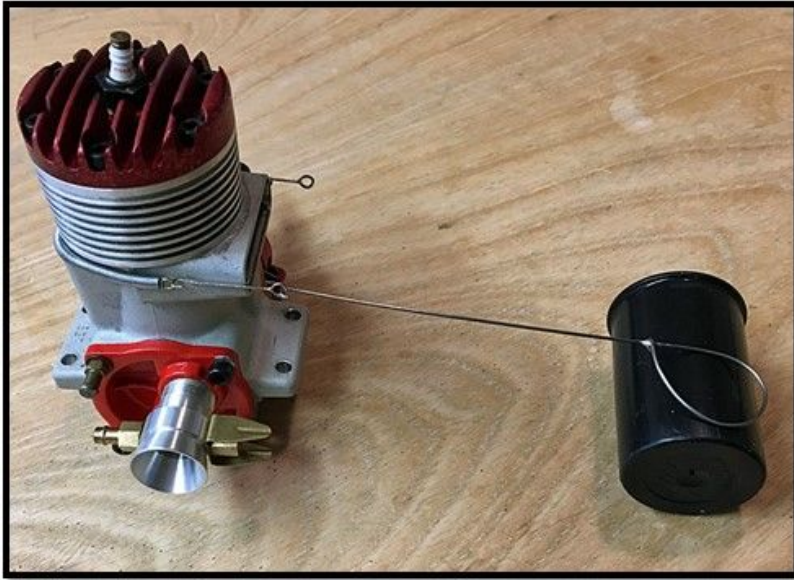


The springs were installed on the engine using the two clips as shown below before the engine was mounted.



With the engine mounted and inside the cowl, the wire puller is put through the cowl's exhaust opening and hooked to the loop in the end clip as shown below.

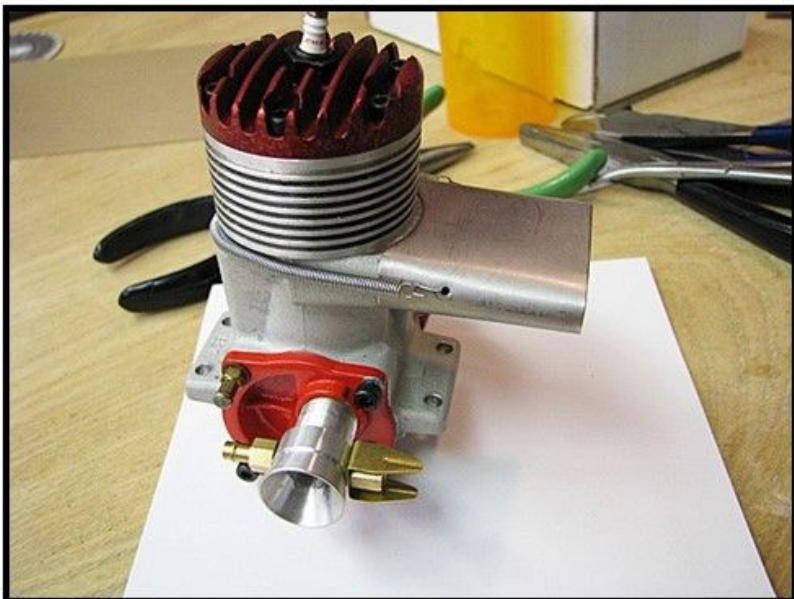




Now for the tricky part that requires the use of both hands. The extension is partially slipped into the cowl's opening slightly cocked forward. The puller is used to extract the clip out from the edge of the engine's exhaust stack and the extension is pushed onto the engine's exhaust stack in the back. Then the wire puller pulls the clip forward and slips the loop on the end of the spring over the exhaust extension's hook as shown below.



The clip is then unhooked from the loop in the spring, leaving it hooked to the exhaust extension as shown below. The clip is removed from inside the cowl with the wire puller.



Then the process is repeated to engage the spring on the front side of the exhaust extension as shown below.



This picture shows the exhaust extension held securely in place on the engine with springs inside the cowl.

