



RECORD OF CONVERSATION

All persons listed were interviewed by Zoë Keliher:

The following is a summary of conversation:

LINDA ABRAMS (PILOT)

Here is the rest of what I found re: your question, "...anything in the logbooks about complying with the attached SB" (SB36, throttle inspection)"

The Annual inspection logged 2/7/20 (as well as prior Annuals) states that it was done "following Ercoupe 415c Service Manual and FAR 43 Appendix D Checklist..."
(The wording immediately following, which I said I couldn't previously read, just addressed ELT battery, so it's N/A.)

I was able to get out to the hangar last week and brought home my copy of the Ercoupe Service Manual. It, in turn, refers to the Continental Instruction & Service Manual, so those items required by Continental are incorporated. (I can't tell you on which page it says that, because my copy is a facsimile and the page numbers are outside the area of each page that was copied, but it's under "Inspections.") However, my copy of the Continental Operator's Manual does have page numbers and the instruction to lubricate the throttle shaft & linkage appears on page number 51/52.

Additionally, FAR 3 Appendix D checklist, which is also included in that log entry for the Annual Inspection, states:

"d) Each person performing an annual ...shall inspect (where applicable) components of the engine and nacelle group as follows:

.....(6) Engine controls—for defects, improper travel, and improper safetying.

.....(10) All systems—for improper installation, poor general condition, defects, and insecure attachment."

So his inspection of the throttle is logged by reference to both checklists.

On June 3, you wrote, "I will discuss with Continental before making a call on the magnetos." So I have been wondering all month what the Continental Engine people said about evenly rhythmic power dips?? And when could you get the magnetos inspected, please?

As I wrote then, "I am a little puzzled at your focus on parts that Ben already took apart and thoroughly examined... Because the chief unusual symptom of this power loss was its mechanically-even rhythmicity, and magnetos are inherently rhythmic, I am keen to see what you find there, and I hope that you'll have them inspected soon. Please let me know."

And, of course, if there's anything else you need from me, please let me know.

Zoë Keliher
Air Safety Investigator
Western Pacific Region

Many thanks —

Hello Zoe,

I got some answers about the probable cause of the rhythmic power sags! When you directed attention to the throttle cable, I remembered that Ben had mentioned the name of another Ercouper, Bill Arnold, to me, and I tracked him down. I learned that Ercouper Bill “Hap” Arnold is also “Arnold & Arnold” aviation investigators (and Hap said he knows you.)

Most importantly, Hap recognized what happened and said the same problem of evenly rhythmic power fades had happened to his Ercoupe multiple times until he figured it out & fixed it! When I described the problem in detail, Hap told me that he is 99.99% sure that the cause was the same as his: the throttle cable hitting the stop at the carb end, before the throttle knob hit the panel, thus “bowing” the throttle cable slightly. When bowed, IT ACTS LIKE A SPRING WITH A NATURAL PERIOD — which explains the evenly rhythmic fading!!! The curve in the wire sort of bounces, and that can increase in amplitude. So it sounds like you were *almost* right: it wasn’t exactly “slop” or looseness, but rigging that caused the throttle cable to hit the stop at the carb end just slightly before the throttle knob contacted the panel. It’s like pushing on one end of a piece of thick rope that is lying on a table: if the rope is lined up perfectly “in column,” it will move the whole & the rope stays straight, but if it isn’t “in column,” pushing on the one end would bend the rope into a curve. And this curve, being in wire, acted like a spring with a natural period! Hap said he would be glad to explain this further if you'd like.

More good news: Hap said that replacement with a kind of throttle cable that is solid (or has a solid section? this wasn’t clear to me) solved the problem, and it never recurred.

SB 24B (gascolator) is encompassed by A.D. 2002-16-04 . Compliance with that A.D. is shown on p. 2 of the 3 pages that I already texted to you (the 2020 Annual’s A.D. list.)

SM 66 (carb) & SB36 (throttle cable inspection): I checked with Efren and he replied that neither are on the Tdata disc, and performance of the inspections that SMs & SBs specify are not logged on a separate list like A.D.s, but rather inspections of the cables & carb are part of the normal annual inspection procedure. Also if you’ll look at the log entries for 3/7/2019 and 3/21/2019, you’ll see that the carb was removed, and completely overhauled by Don’s Dream Machines, then remounted. Annual inspection logged 2/7/20 states that it was done "following Ercoupe 415c Service Manual and FAR 43 Appendix D Cklist..." [I can’t read what follows. I’m a little handicapped because logs are with me, and copies are with you & Ben, but Efren is in O.C. and I often can’t read his writing.] He said the Service Manual shows what the routing for cables & carb heat arm should be and all were well separated. He also wrote, “[T]hrottle cable is clamp[ed] to engine mount...I look at the cables for throttle and carb heat at annual before I heard of SM66.”

I also still have the first 3 pages of the Ercoupe Inspection Report form he did from the 2017 Annual, and throttle control, carb heat & mixture control are part of that checklist (bottom of p. 3) The end of the flight was captured on video and posted on the internet at this website: https://www.youtube.com/watch?v=2kcW1d65_1c&feature=youtu.be .

MIKE WOTOVITCH (REPRESENTATIVE UNIVAIR)

Hi Zoë,

Sorry for the delay. I found a couple of drawings. One that shows the Adel clamp attached to the engine mount tube and a later style that attaches to a hard point. Unfortunately, I haven't been able to positively determine where the 415-40506 clamp attaches. All my drawings are hitting a dead end. I was hoping that a couple of my Ercoupe aficionados would have known, but they are only familiar with the engine mount clamp.

I watched the video several times and the 3/4 inch play does not look right to me, but that's only my opinion.

Let me know if you have any other comments, concerns, or questions.

Regards,
Mike.