

**From:** [REDACTED]  
**To:** [REDACTED]  
**Subject:** Re: N611E  
**Date:** Tuesday, February 16, 2021 9:54:55 AM

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Hi Mark

On Sunday I torqued an AN nut to 150 in-lbs with a digital torque wrench. I wanted to measure the amount of torque it took to remove it. It took about 130 in-lbs to loosen the nut. I did it twice, they were within a few in-lbs of each other. I then used a wrench to tighten the same nut holding the wrench short (3 fingers on the handle). I have the length marked on a paper but haven't measured the length yet. It took 138 in-lbs and 131 in-lbs to loosen the nut. All I know is I had a good angle on the nut when I tighten it in the field with the wrench and had two fingers on the end of the handle in order to get the most torque.

I looked up the torque range for an AN6. The range was 150-195 in-lbs for aluminum and 270-300 for steel. Since the fitting off the pump was steel and the AN T fitting is aluminum I would say it should be torqued to at least 195. The fuel line was clamped about 3-4" from the hard 90 deg to the engine mount causing it not to be as flexible which may have some contribution to it coming loose from the engine vibrating side to side. It took 3.5 hrs for the fuel line to come off the first and about 0.6 hrs to come off the 2nd time. That tells me the nut had to be torqued more than the second time. How much more? Who knows. Since the engine was new and wanted to break in the engine I was running the engine at altitude between 1400-2000' at 25-26" of MP and 2500-2600 rpm most of the time. Obviously the fitting wasn't tight enough and a hard lesson learned which I'm having to deal with

On Tue, Feb 16, 2021 at 7:21 AM Keefer, Mark (FAA) [REDACTED] wrote:

Good morning Daren,

I received your text, here is a picture I took showing the length of your modified wrench.

I borrowed an 11/16" crows foot over the weekend, so today some time I will torque the nut to the minimum and record it, like I did in the other video. I will get back with you on the outcome. Trying to catch up this morning.

If you still need to talk to me you can call me if needed anytime today.

***Mark V. Keefer***

***Principal Maintenance Inspector***

*Tampa FSDO/AFG-800-SO35*

*Office:*

[REDACTED]

[REDACTED]