MyPilotPro

GoPro Mounts for the Adventurer

StrutPro

Mounting Instructions

Fits Cessna 172 Wing Struts

Box Contents

StrutPro Body and Hardware

- 1 – Preassembled Mount Body Halves
- 2 – 2.625” X 4.5” Neoprene Pads (separately packaged)
- 2 – ¼-20 X 1.25” Stainless Steel Hex Head Bolts
- 4 – ¼” Stainless Steel Washers
- 2 – ¼” Stainless Steel Exterior Tooth Lock Washers
- 2 – ¼-20 Stainless Steel Nylon Lock Nuts

StrutPro Tube Bracket Hardware

- 4 – Tube Brackets
- 4 – ¼-20 X 3” Stainless Steel Machine Screws
- 4 – ¼” Stainless Steel Washers
- 8 – ¼” Stainless Steel Exterior Tooth Lock Washers
- 4 – ¼-20 Stainless Steel Nylon Lock Nuts
- 4 – 0.875” X 1.375” Neoprene Pads

StrutPro Tube

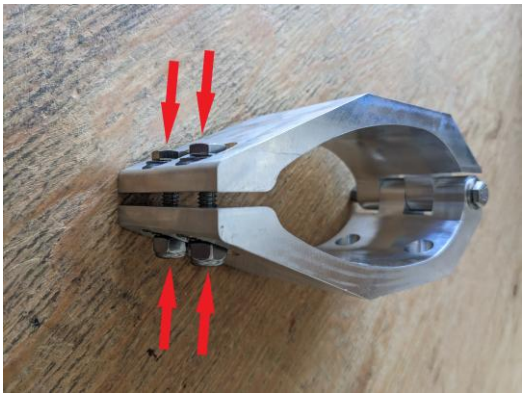
- 1 – Preassembled 48” Long Tube with Aluminum End Caps and GoPro Adapter

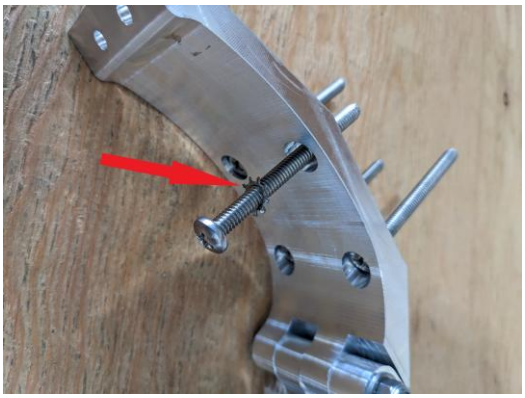
Scan the below QR code to watch an instructional assembly video

You can also go to https://youtu.be/1pErf8Dv0ig to watch the video

Step 1:

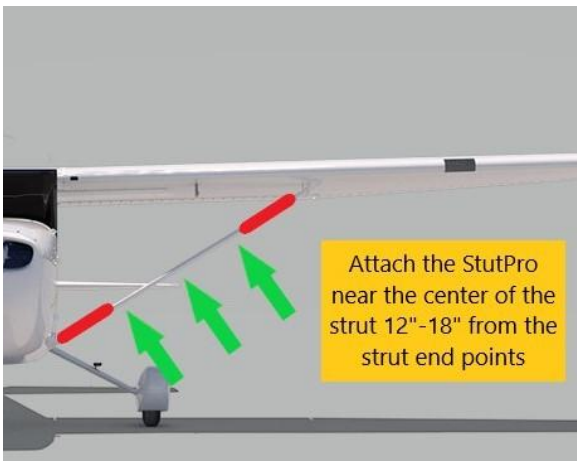
Remove the hardware from the rear of the mount. 2 nylon lock nuts, 2 exterior tooth washers, 4 flat washers, and 2 hex bolts





Step 2:

Screw in all 4 of the 3” ¼-20 stainless steel machine screws. **ENSURE YOU PLACE AN EXTERIOR TOOTH LOCK WASHER OVER THE SCREW FIRST AS PICTURED.** Firmly torque the machine screws down.



Step 3:

Place the StrutPro near the center of the strut 12”-18” from either strut end point. See the illustration on the left. Make sure to place both large neoprene spacers on the inside of the StrutPro halves. See the Picture on the right.

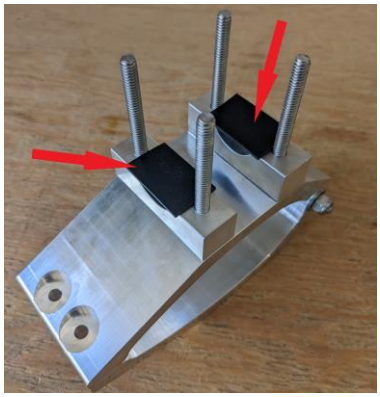
Step 4:

Tighten down the StrutPro to your strut using the 1.25” stainless steel hex head bolts, exterior tooth lock washers, flat washers, and nylon lock nuts.

***** THERE WILL BE A .125” +/- GAP ON THE REAR *****

This gap is intentional and must be present. See the picture on the left.

You are almost there! At This point you have successfully secured the StrutPro clam shell halves to your strut and it should look like the picture on the right. Just a few more steps to go!

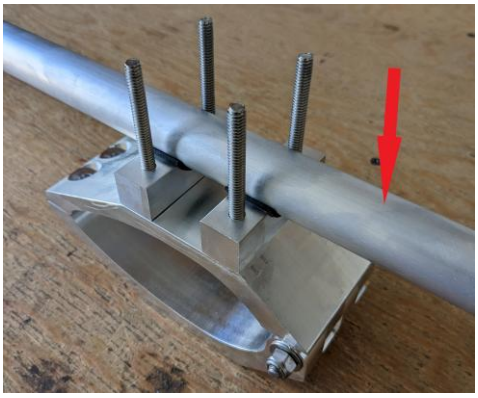


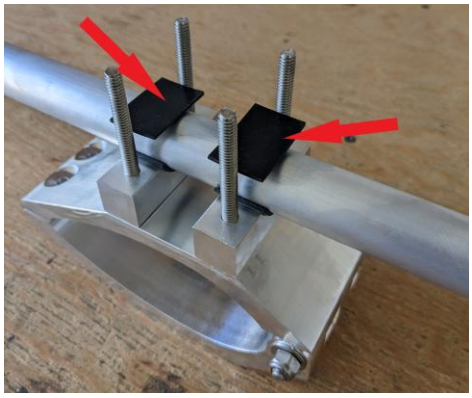
Step 5:

Insert 2 tube brackets over the machine screws and place 2 of the small neoprene spacers over the tube brackets as pictured. The neoprene spacers should fit perfectly between the 2 machine screws.

Step 6:

Place the StrutPro Tube on the 2 neoprene spacers from the previous step and push down so the neoprene spacers. Firmly seat in the saddle of the brackets as pictured.





Step 7:

Place the remaining 2 small neoprene spacers on the top of the StrutPro tube between the machine screws as pictured. Ensure they are placed directly over the 2 bottom tube brackets as pictured.

Step 8:

Place the remaining 2 tube brackets over the small neoprene spacers as pictured. Next, place a flat washer over the machine screws, then an exterior tooth washer, and finally tighten the nylon lock nuts onto the machine screws.

You did it! You successfully installed the MyPilotPro StrutPro.

Congratulations!

MyPilotPro
GoPro Mounts for the Adventurer

Airframe and Powerplant (A&P) Guide to Mount Action Cameras

The FAA Advisory Circular 43-210A provides a flowchart on pages 14 and 15 that this guide will refer to. This flowchart is provided below. The FAA memorandum titled *Request for Clarification: External Camera Mounts* is also provided below for reference.

This guide is the opinion of Bridger Manufacturing Corporation on installing MyPilotPro action camera mounts to aircraft and is meant to assist A&P's in determining if they can install action camera mounts. It is only an opinion and is not an official FAA document.

Step 1

The first question the flowchart asks is, "Is this a repair or alteration?" Installation of an action camera mount is an alteration.

Step 2

The next question on the flowchart asks, "Is the scope of the alteration sufficient to process as a major change in type design? (14 CFR 21.93)". 14 CFR 21.93(a) says, "A 'minor change' is one that has no appreciable effect on the weight, balance, structural strength, reliability, operational characteristics, or other characteristics affecting the airworthiness of the product." If you determine this alteration meets this definition of a minor change then you would answer ***No*** and move onto page 15 of the flowchart.

Step 3

The next question on the flowchart asks, "Repair or alteration listed in product's specifications?" To our knowledge there are no aircraft that have specifications referencing action camera mounts. You would answer ***No*** to this question.

Step 4

The next set of questions on the flowchart asks if the alteration could have an appreciable effect on weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness. If you can answer ***No*** to all of these, you would move on to the next question on the flowchart.

Step 5

The next question asks, "Accepted practices or elementary operations?". Elementary operations are ones that are simple and require basic tools. If you can answer ***Yes*** to this, then you can consider the installation of an action camera mount a minor alteration. You would return your aircraft to service by documenting the alteration in the maintenance records.

Sample Logbook entry:
Installed MyPilotPro StrutPro Mount on the right strut. I have determined this installation is considered a minor alteration per AC 43-210 figures 3-1 and 3-2.

Figure 3-1. Field Approval Process

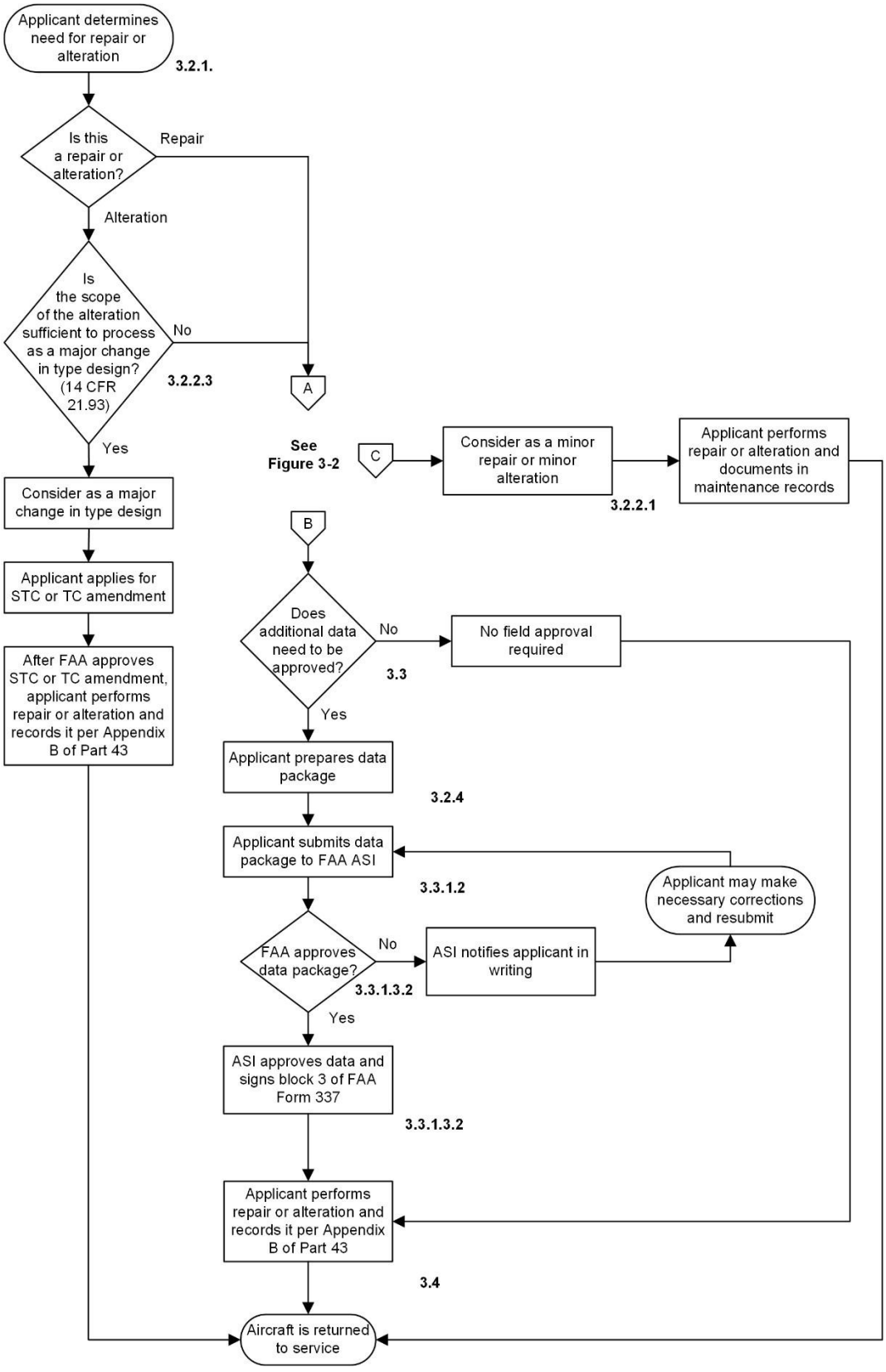
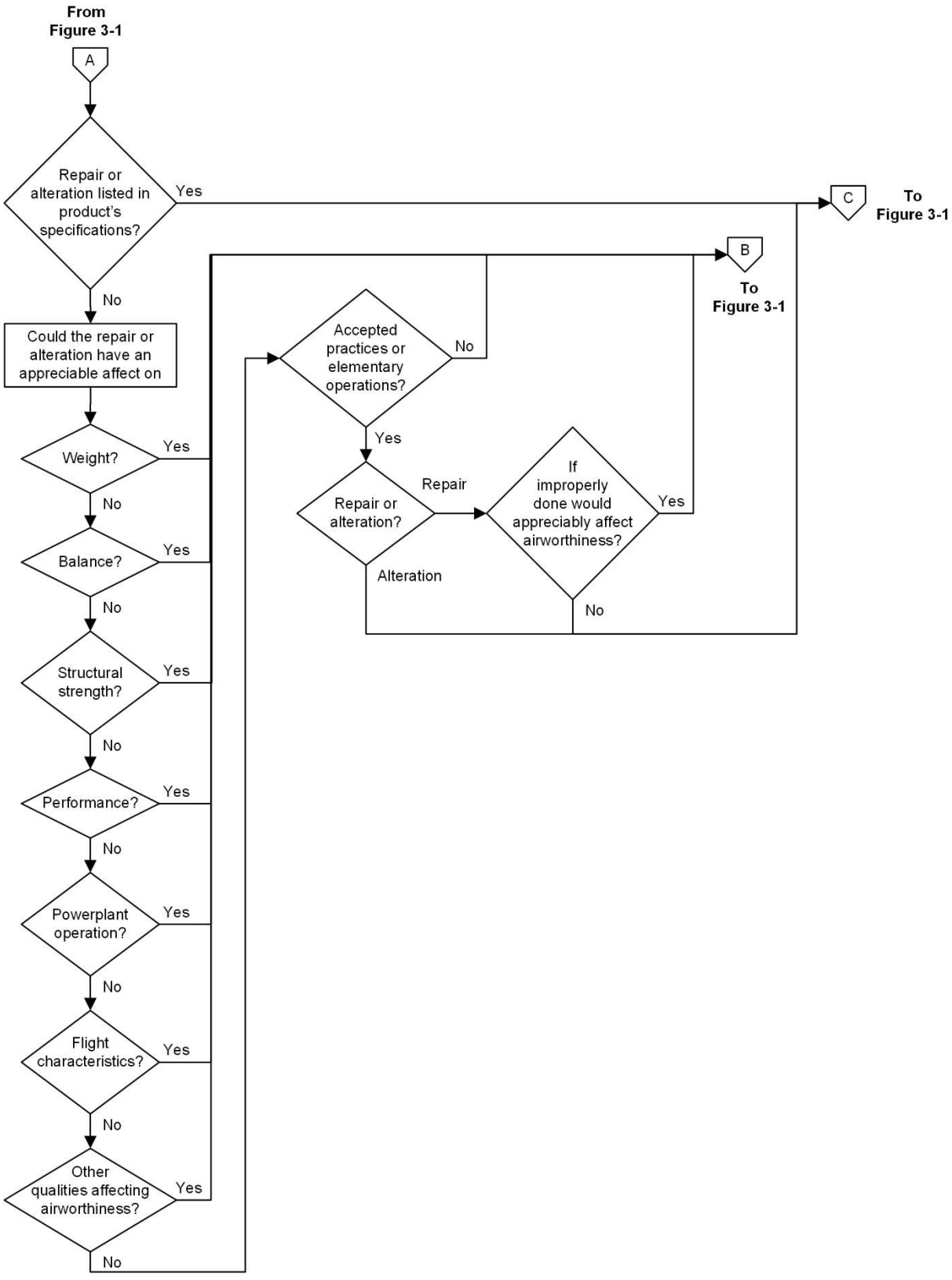


Figure 3-2. Determination of Major or Minor Alteration or Repair



Federal Aviation Administration

Memorandum

Date: MAR 1 3 2014

To: James E. Gardner, Manager, Flight Standards Great Lakes Region, AGL-200

From: Steven W. Douglas, Manager, Aircraft Maintenance Division, AFS-300 *KK for*

Subject: Request for Clarification: External Camera Mounts;
AGL-200 Memo of 01/23/14

M360-8000.1-F-1403-0047

In reference to the Subject memo, the Aircraft Maintenance Division, in coordination with the Small Airplane Directorate, ACE-100, has reviewed your request for information and provides the following responses:

QUESTION 1: Has AFS determined whether or not the installation of external camera mounts, such as the "GoPro" or "NFlight" cameras, can be considered a minor alteration as defined by Title 14 Code of Federal Regulations (14 CFR) part 43 Appendix A?

RESPONSE: The Appendix A, titled "Major Alterations, Major Repairs, and Preventive Maintenance", provides a broad spectrum of alterations that are typically considered major. This Appendix does not encompass the numerous possible alterations that could be accomplished to an aircraft and therefore relies heavily on the definitions of major and minor alterations, contained in 14 CFR part 1.

Because of the varying installation possibilities of this equipment, the major vs. minor determination is done on a case-by-case basis and made by the installer. Major alterations are those that have an appreciable effect on the weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness. If the installation did affect one of the above listed variables, then the installation would be considered major and would require approved technical data prior to returning the aircraft to service.

Another consideration, in the case of this type of equipment, is the applicability of the term "alteration". FAA Order 8110.37E, defines an alteration as "*a modification of an aircraft from one sound state to another sound state*". The use of suction cups, or other temporary methods of attachment (not including permanent mechanical attachments to the aircraft), would not be considered a modification to the aircraft. These temporary attachments would not be subject to the regulatory purview of 14 CFR part 43.

The use of these type attachments however are not supported by the FAA, and may (in the case of an in-flight detachment) lead to "careless operations" as provided for in 14 CFR sections 91.13 and 91.15.

QUESTION 2: The focus of your second question pertains to the determination of whether or not the installation of this type of equipment could be considered a Minor Change to Type Design" as defined in 14 CFR section 21.93.

RESPONSE: We are aware of no design approval holder that has made a minor change in type design approved under 14 CFR 21.95 to incorporate such an installation. Nor are we aware of any person who has applied for approval of a major change in type design under 14 CFR 21.97 to do so. Therefore, the installation described is not a change in type design, and consequently 14 CFR 21.93 is not applicable. If such an installation were to be approved as a minor change in type design, it would have to be shown to have no appreciable effect on the weight, balance, structural strength, reliability, operational characteristics, or other characteristics affecting the airworthiness of the product. This determination would be dependent upon the specific model type design in question and the details of the design change.

We appreciate the opportunity to assist you. If you have any additional questions regarding this memorandum, please contact Tim Shaver, Manager, Avionics Branch, AFS-360 at (202) 385-4292.