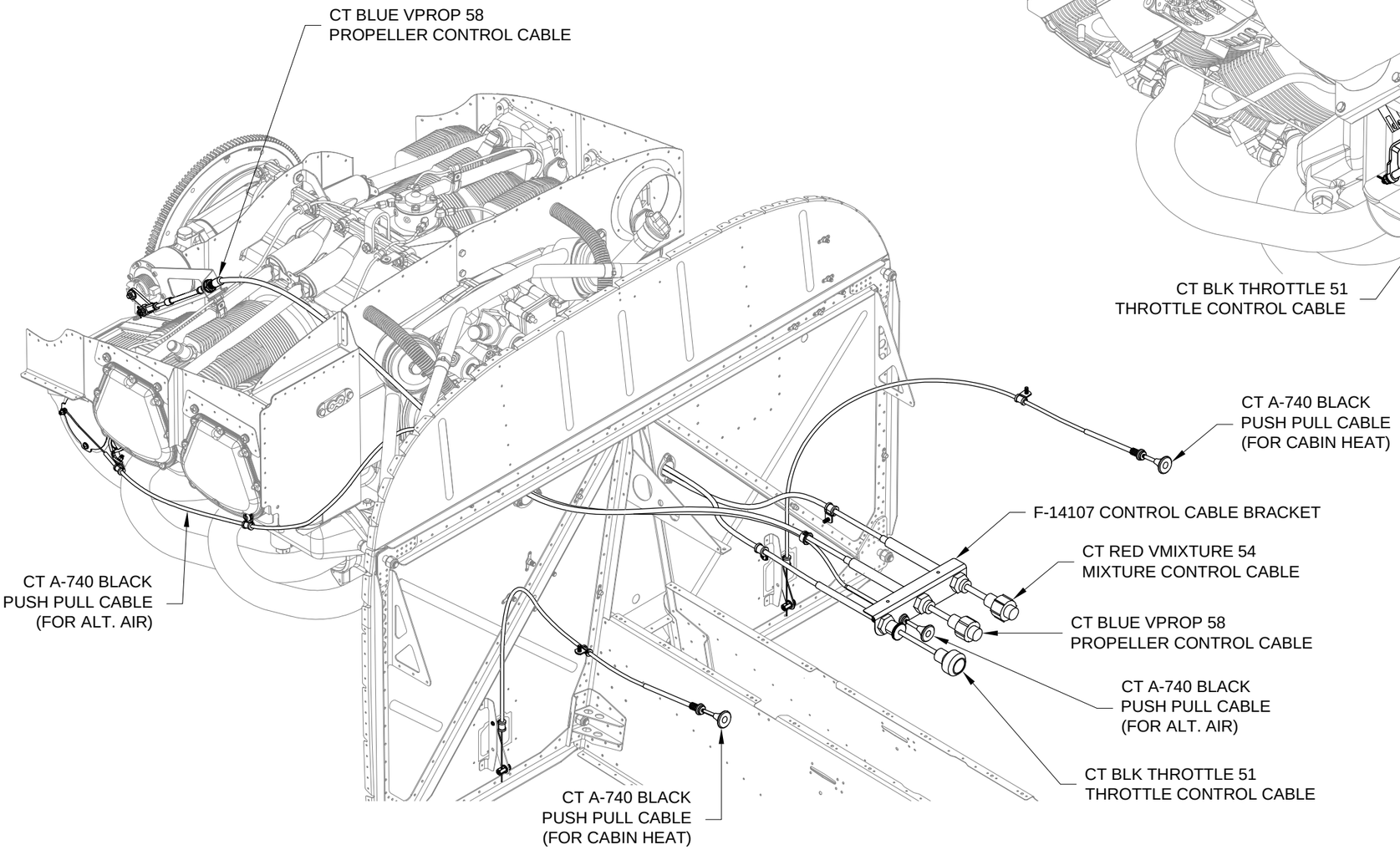
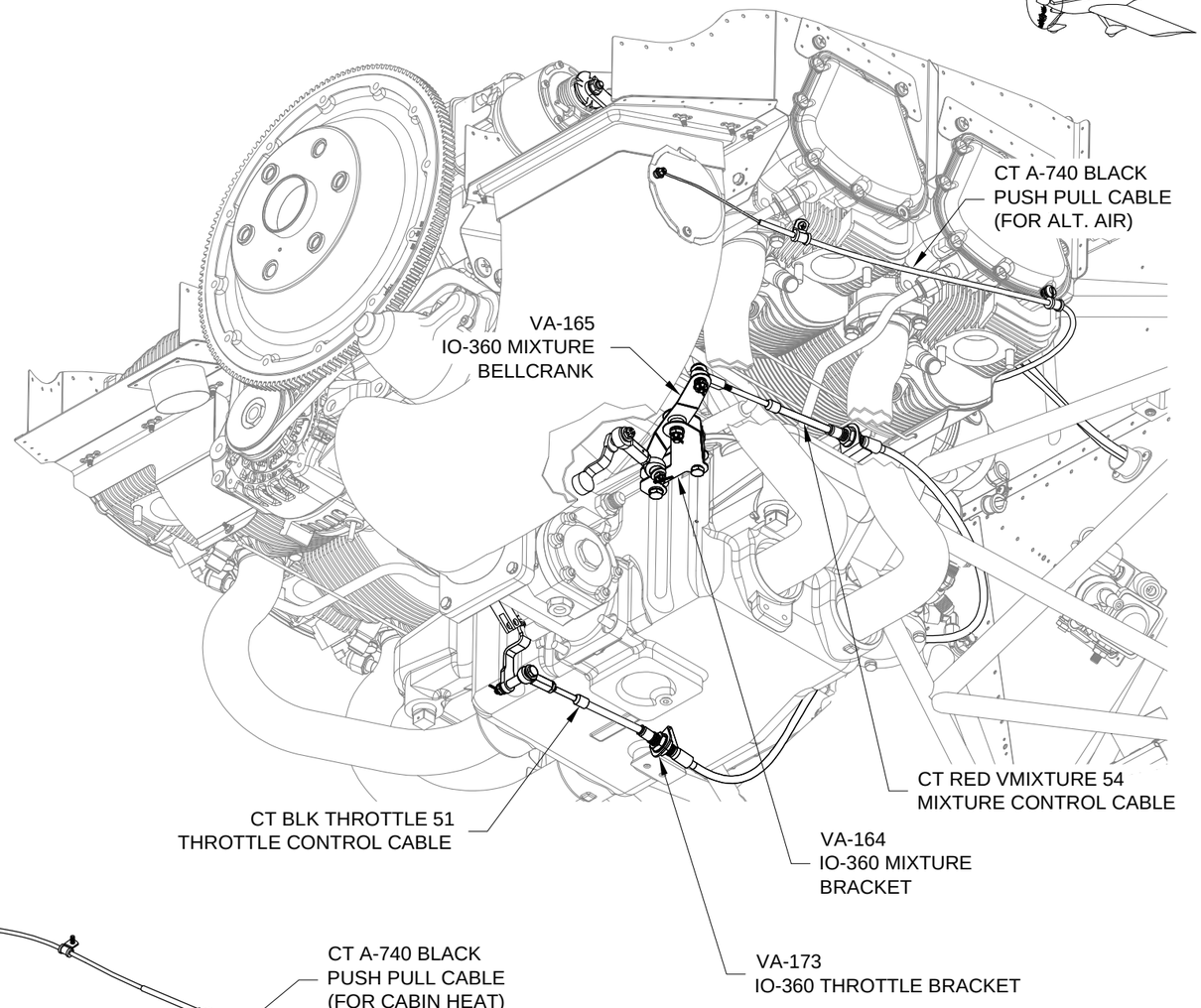
SECTION 50:
CONTROL CABLES





NOTE: If installing the IO-390-EXP119 engine, refer to KAI Section OP-62 for instructions pertaining to an additional exit door cable and alternate installation instructions for the throttle, mixture, and prop cables.

NOTE: If you have a Thunderbolt IO-360 or IO-390-A engine with Airflow Performance fuel injection, refer to the AP installation manual. The location of the throttle and mixture cables will be different from the Bendix-type servo shown here.

NOTE: For additional depictions of RV-14 control cable routing, see Section 51.

NOTE: For all control cable installations, there are two VITAL CRITERIA:

1. When the control knob is pulled out half way, the arm must also be at the halfway point between the "open" and "closed" control stops. This will ensure smooth and consistent inputs along the entire range of control motion.

2. When the control knob is in the full forward position, and the arm travel has been stopped by the control stop, a 1/16 in. [1.6 mm] "cushion gap" remains. This will ensure that the full travel of the arm is available and not limited by the control cable.

Step 1: Install the F-014107 Control Cable Bracket on to the F-01467 Instrument Panel Frame as shown in the right detail view in Figure 2.

Step 2: Remove all nuts, lock washers and rubber seals from the CT BLK THROTTLE 51 Throttle Control Cable, CT RED VMIXTURE 54 Mixture Control Cable, CT BLUE VPROP 58 Propeller Control Cable , and the three CT A-740 Black Push Pull Cables.

Step 3: Pull the knobs of the CT A-740 Black Push Pull Cables (For Cabin Heat) out until there is large (greater than 3 in. [76.2 mm]) gap between the knobs and the shanks. See Figure 1.

Step 4: Use a die grinder to trim the cabin heat housings and wires to the length called out in Figure 1.

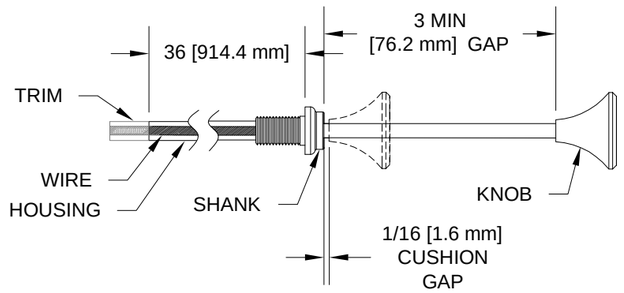


FIGURE 1: CABIN HEAT CABLE

Step 5: Push the knobs of the cabin heat cables in until the "cushion gap" remains between the knob and shank. See Figure 1.

Step 6: Close the cabin heat doors.

Step 7: Install the cabin heat cables as shown in the left detail view in Figure 2.

Step 8: Install, route, and loosely secure the throttle, mixture, propeller, and alt. air control cables as shown. Leave the tie wraps, clamps, and the ends of the cables loose for now.

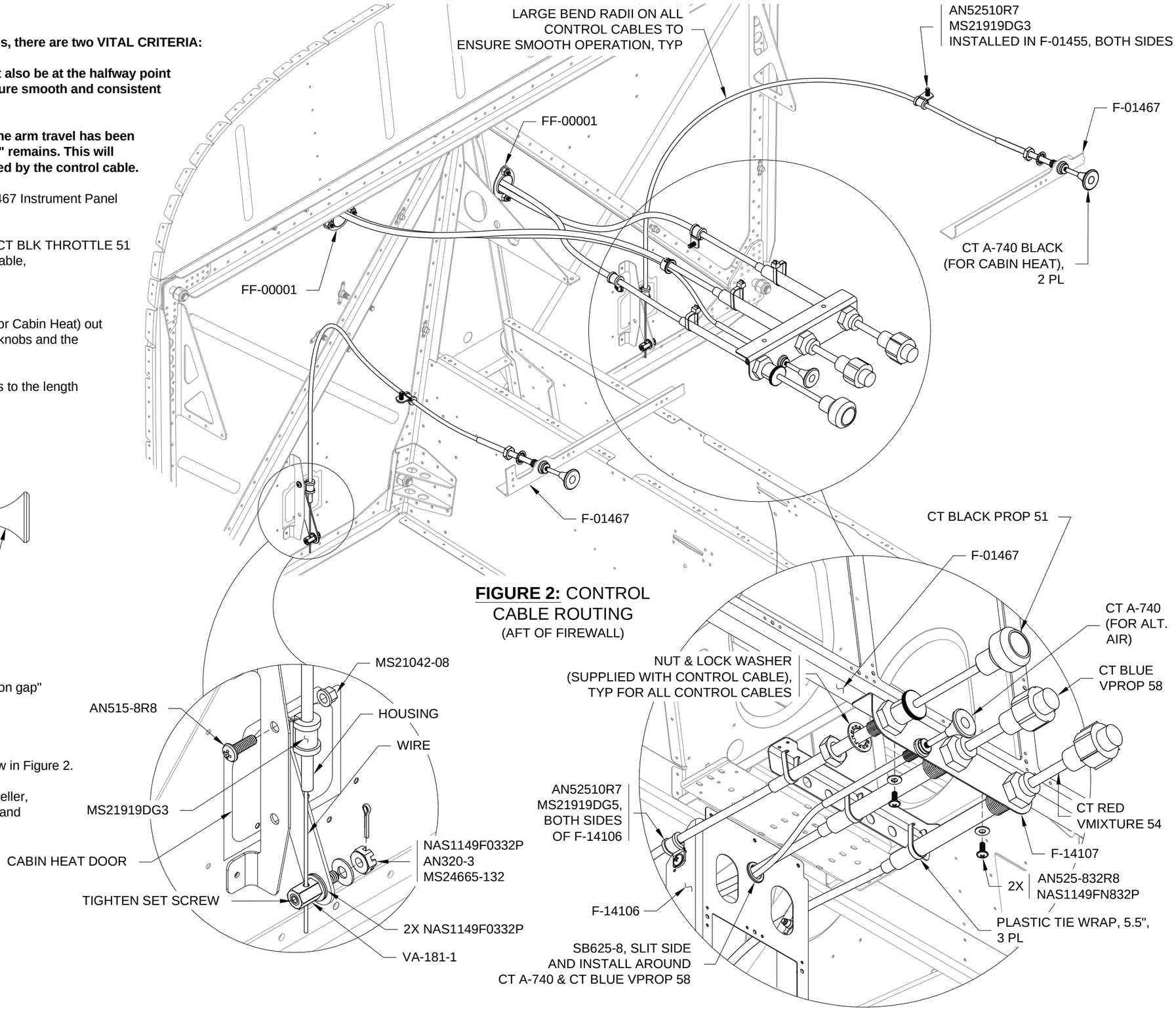


FIGURE 2: CONTROL CABLE ROUTING
(AFT OF FIREWALL)

Step 1: Install the snap bushing into the CB-00017 Left Aft Baffle as shown in Figure 2.

Step 2: Route and install the propeller control cable as shown in Figure 1 and Figure 2. Ensure the propeller control cable installation meets the vital criteria listed on Page 50-02. See Page 43-07 for more information on adjusting the propeller governor arm and faceplate.

Step 3: Install the mixture control cable as shown in Figure 1, Figure 3 and Section OP-22, Ensure the mixture control cable installation meets the vital criteria listed on Page 50-02. If necessary, adjust the clocking of the mixture arm.

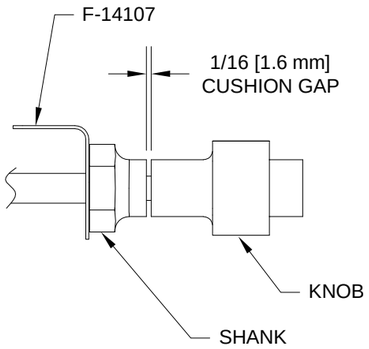


FIGURE 1: CONTROL CABLE, TYPICAL

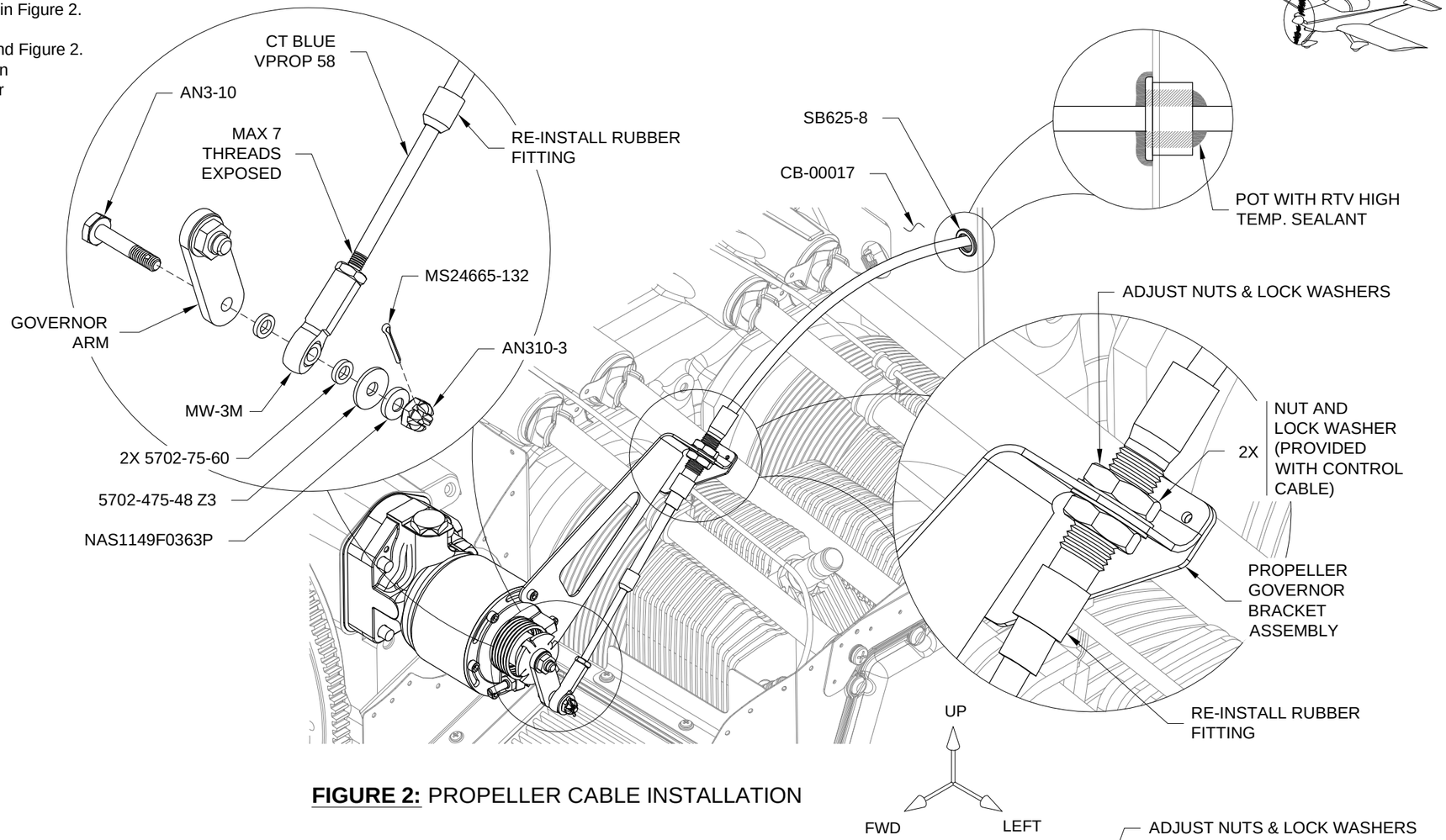


FIGURE 2: PROPELLER CABLE INSTALLATION

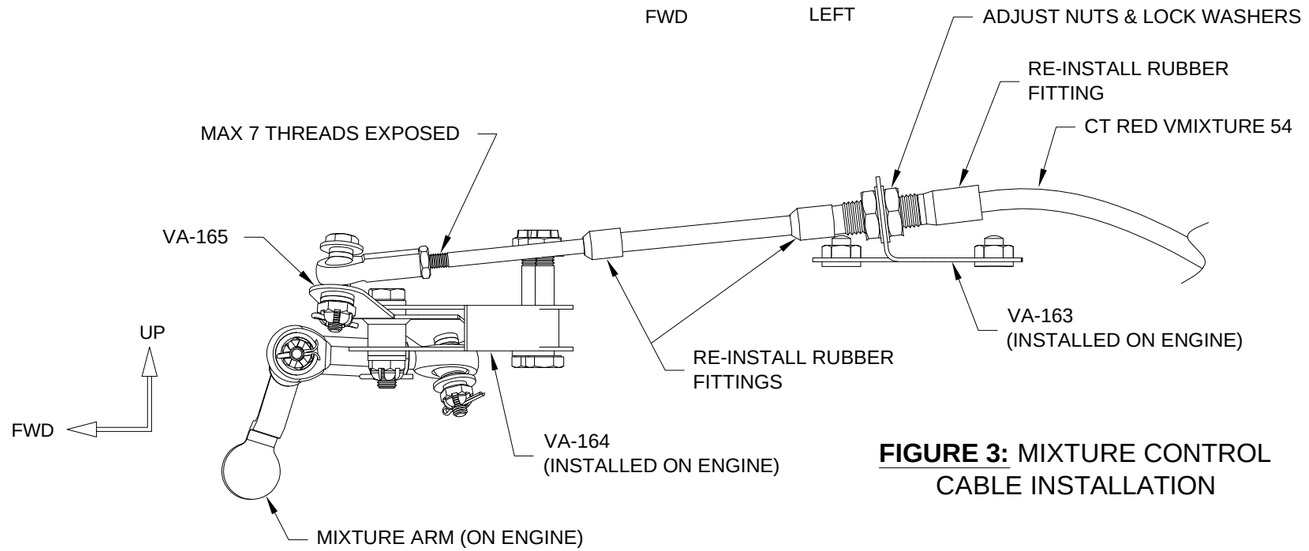


FIGURE 3: MIXTURE CONTROL CABLE INSTALLATION

Step 1: Install the Throttle Control Cable as shown in Section OP-22, Figure 1, and Figure 2. Ensure the throttle control cable installation meets the vital criteria listed on Page 50-02.
If necessary, adjust the clocking of the throttle arm.

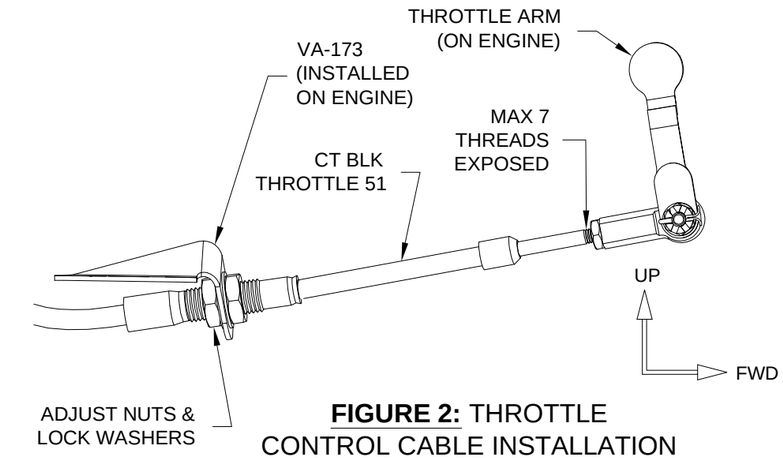


FIGURE 2: THROTTLE CONTROL CABLE INSTALLATION

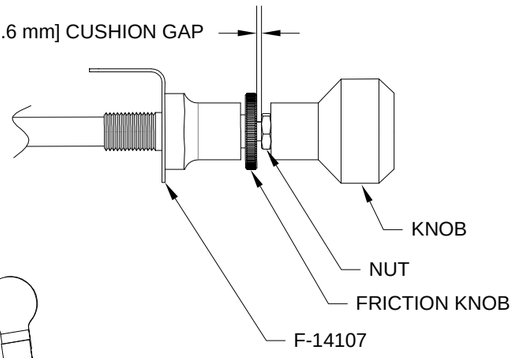


FIGURE 1: THROTTLE CONTROL CABLE

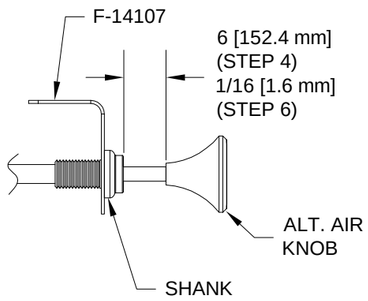


FIGURE 3: ALT. AIR CONTROL CABLE

Step 2: Install the clamps and route the alt. air control cable as shown in Figure 4. Leave the forward end of the cable loose for now.

Step 3: Pull the alt. air knob out until there is a large (greater than 6 in. [152.4 mm]) gap between the knob and the shank. See Figure 3.

Step 4: Trim the cable housing even with the aft edge of the VA-192B Filter Bypass door.

Step 5: Push the knob of the alt. air control cable to the full forward position, then pull it out until there is a 1/16 in. [1.6 mm] "cushion gap" between the knob and the shank. See Figure 3.

Step 6: Wrap the alt. air control wire around the screw 1 1/2 times. Tighten the nut, but leave it loose enough to allow the wire to rotate freely on the screw. Trim any excess wire.

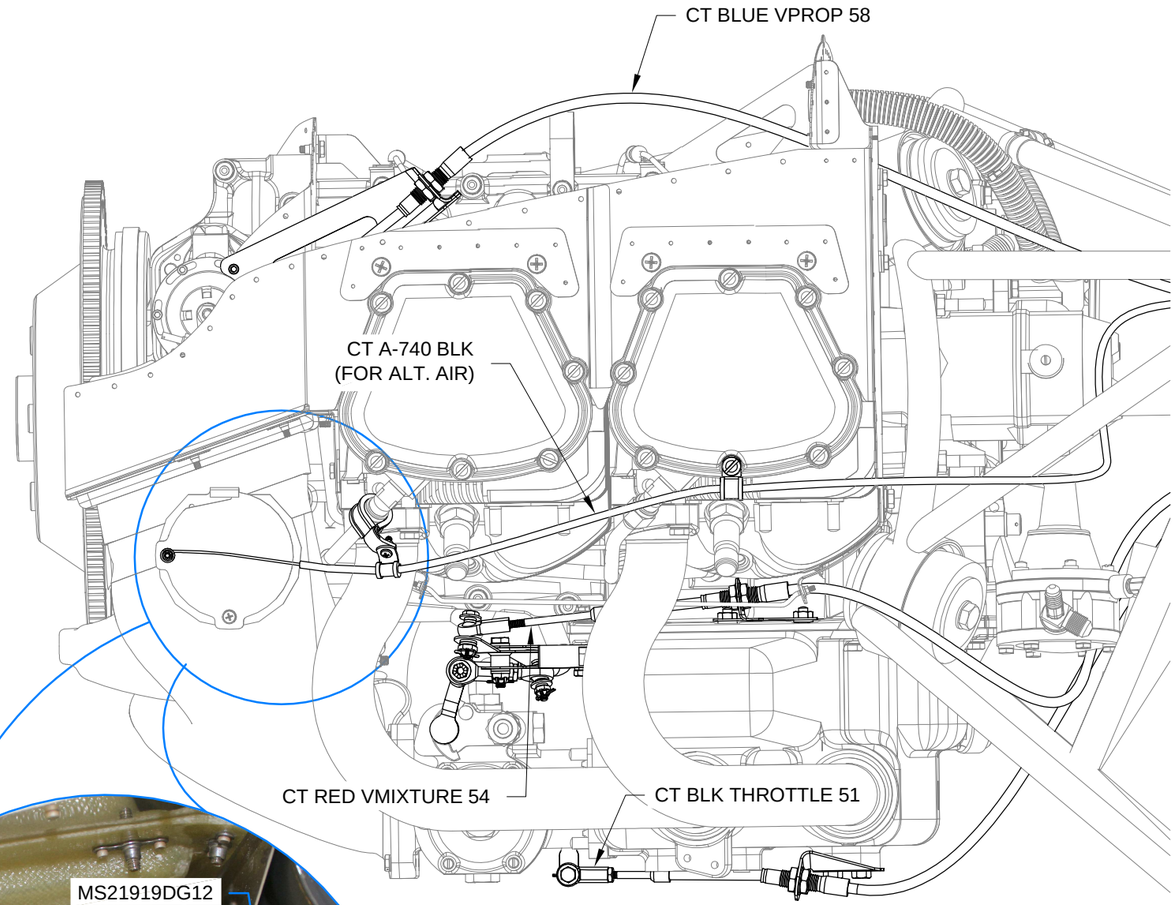
NOTE: The alt. air door is intended for emergency use only. The door may not close fully again after opening unless the cowl is removed and the cable and door are reset by hand.

Step 7: Verify that the control cables move through their full range of motion without interference, then verify that the "cushion gap" on each control cable is still present when the controls are moved to the full forward position.

Step 8: Use safety wire to secure the alt. air cable housing to the clamp as shown in the detail view in Figure 4.

Step 9: Secure the wire to the filler bypass dorr with a dot of RTV High Temp. Sealant.

Step 10: Tighten all tie wraps and clamps installed previously.



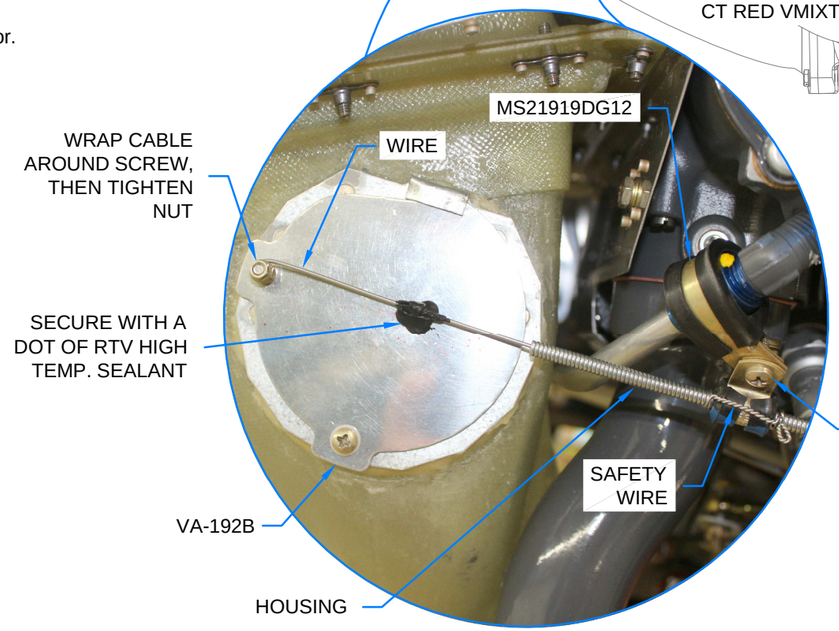


FIGURE 4: ALT. AIR INSTALLATION & CONTROL CABLE ROUTING
(LEFT SIDE)