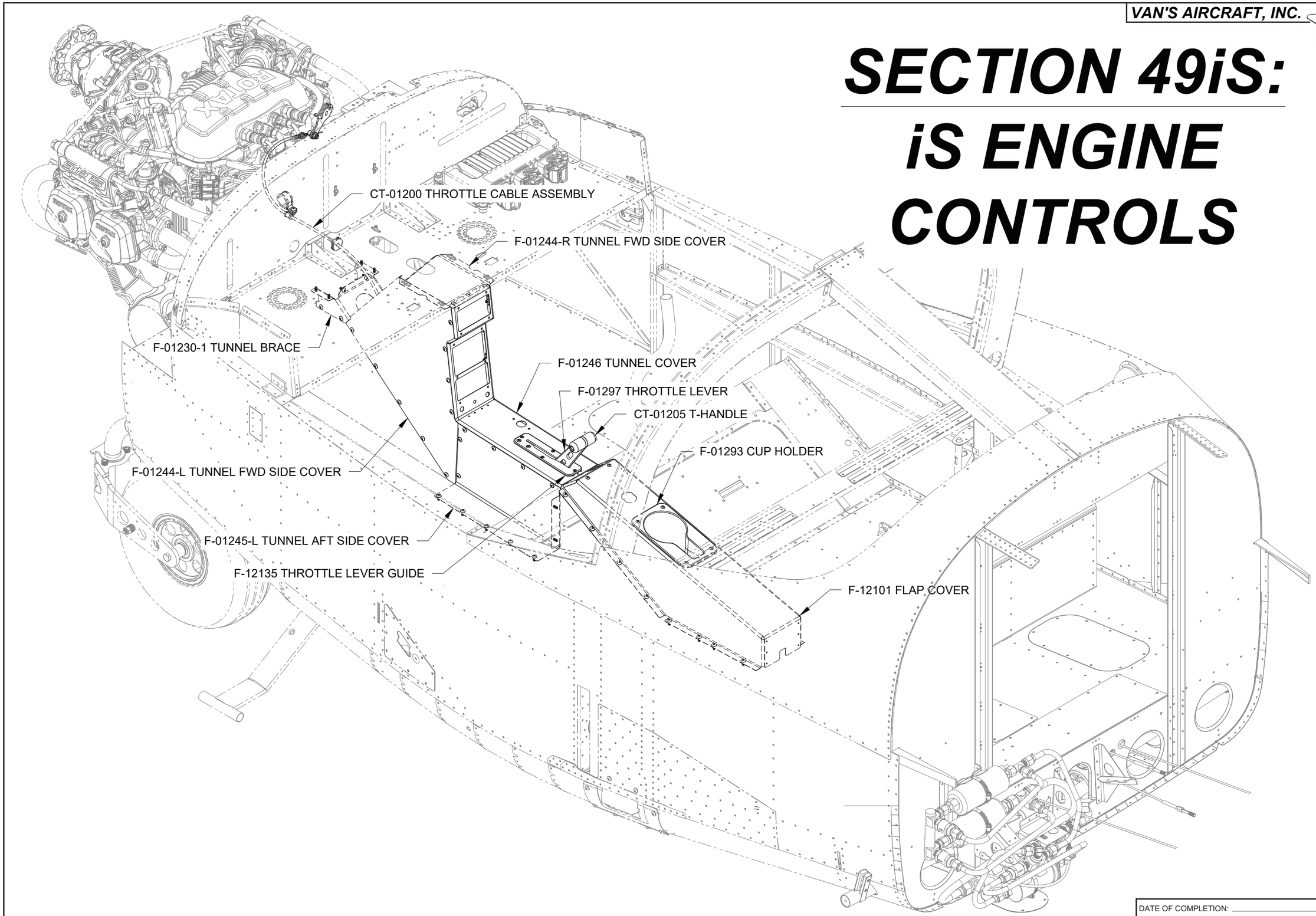
VAN'S AIRCRAFT, INC.

SECTION 49iS:
iS ENGINE CONTROLS



DATE OF COMPLETION: _____

PARTICIPANTS: _____

Step 1: Dimple #40 the nutplate rivet holes in the side flanges of the F-01246 as shown in Figure 1, then rivet the nutplates along the side flanges of the F-01246 as shown.

Step 2: Machine countersink the remaining #40 holes in the F-01246 as shown in Figure 1.

Step 3: Rivet the F-01246A Throttle Cable Bracket, F-01246E Spring Clip, and nutplates to the F-01246 as shown in Figure 2.

Step 4: Ensure the F-12134 Throttle Lever Stop is oriented as shown in Figure 3, then machine countersink #27 the hole for the screw. Assemble the screw, nuts, and spring as shown in Figure 3. Tighten the second nut as far as possible while allowing the spring to rotate freely around the screw.

For the remainder of this section, this assembly will be called the Eco Stop Assembly.

Step 5: Rivet together the two nutplates as shown in the detail view in Figure 4.

Ensure that the two screws slide freely within the narrow ends of the slot in the F-12134. Smooth/debur the slot as required.

Step 6: Attach the free end of the spring to the F-01246E, then install the Eco Stop Assembly as shown in Figure 4. Do not fully tighten the screws at this time; they will be tightened during throttle rigging later in this section.

For the remainder of this section, this assembly will be called the Tunnel Cover Assembly.

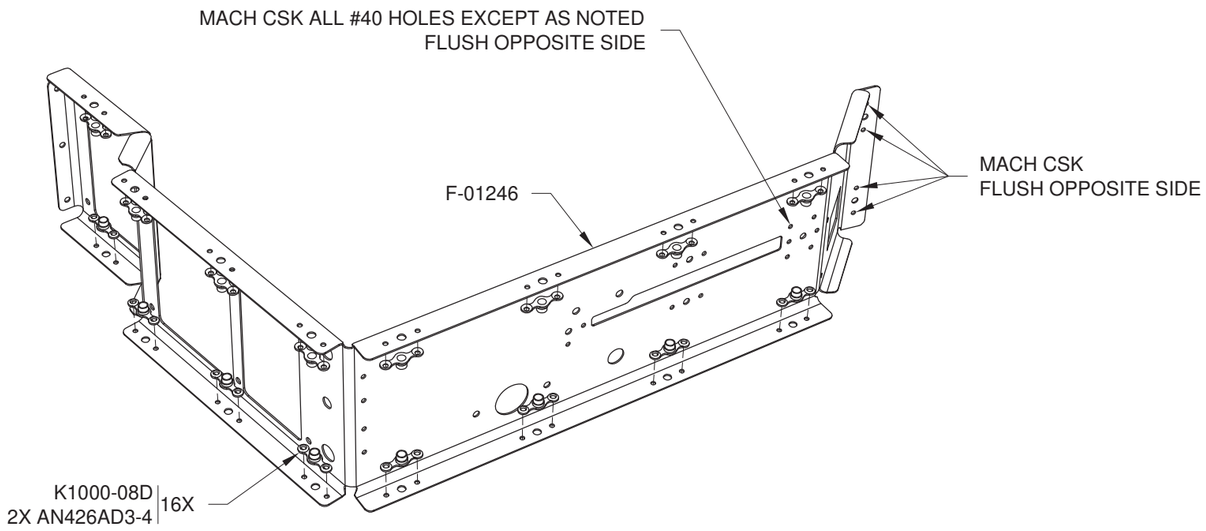


FIGURE 1: F-01246
NUTPLATE INSTALLATION

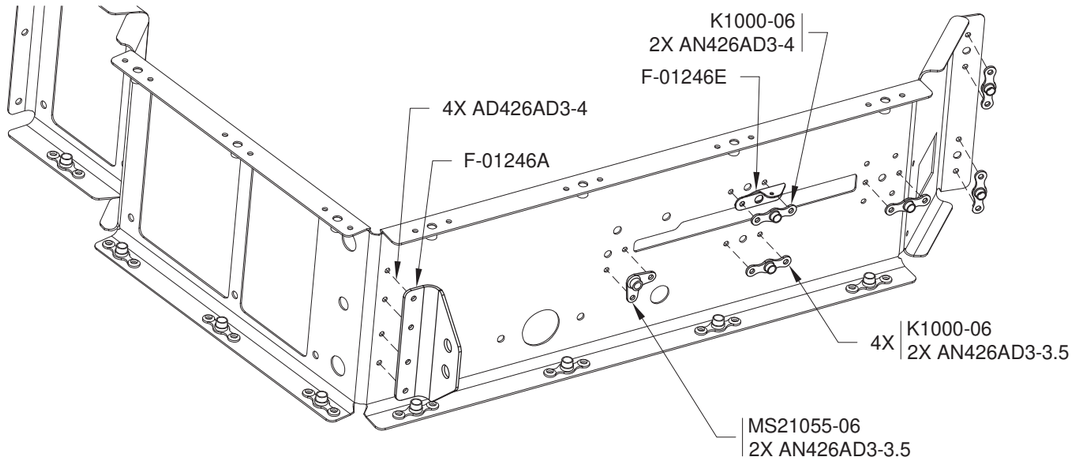


FIGURE 2: F-01246 PARTS AND HARDWARE

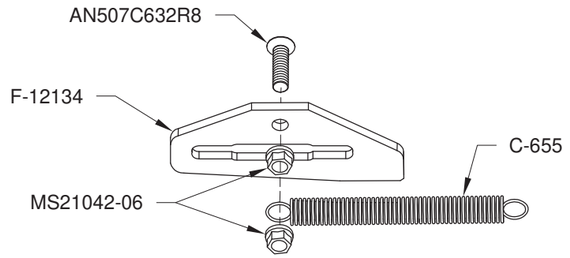


FIGURE 3: ECO STOP ASSEMBLY

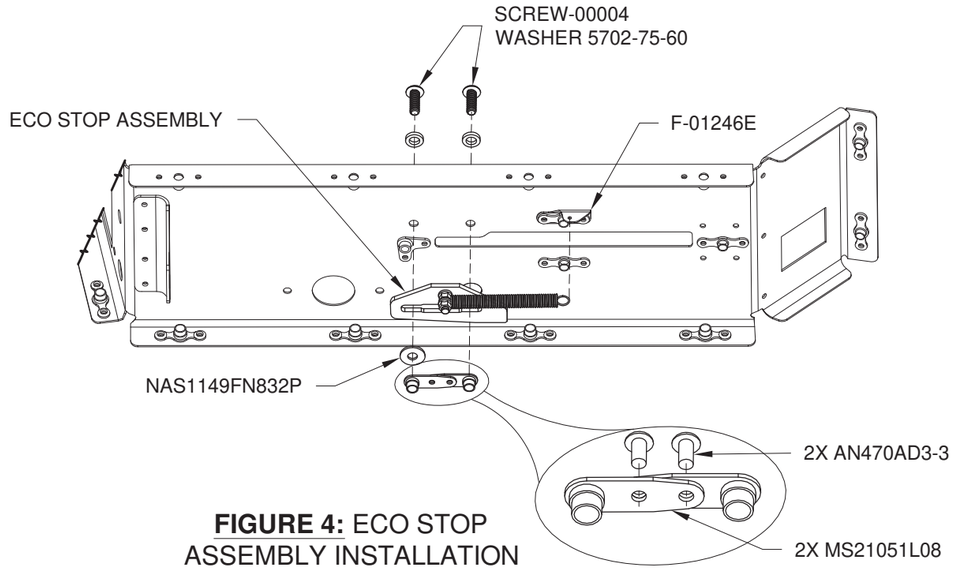


FIGURE 4: ECO STOP
ASSEMBLY INSTALLATION

Step 1: Insert the HW-00008 and HW-00009 Clamps into the F-01230-1, then install the F-01230-1 using the hardware called out in the detail view in Figure 1.

Place the the main brake lines into the HW-00008 as shown in Figure 1.

Step 2: Install the throttle lever using the hardware called out in Figure 1. Tighten the nut enough to remove any slop or play but still allow the throttle lever to pivot with light friction.

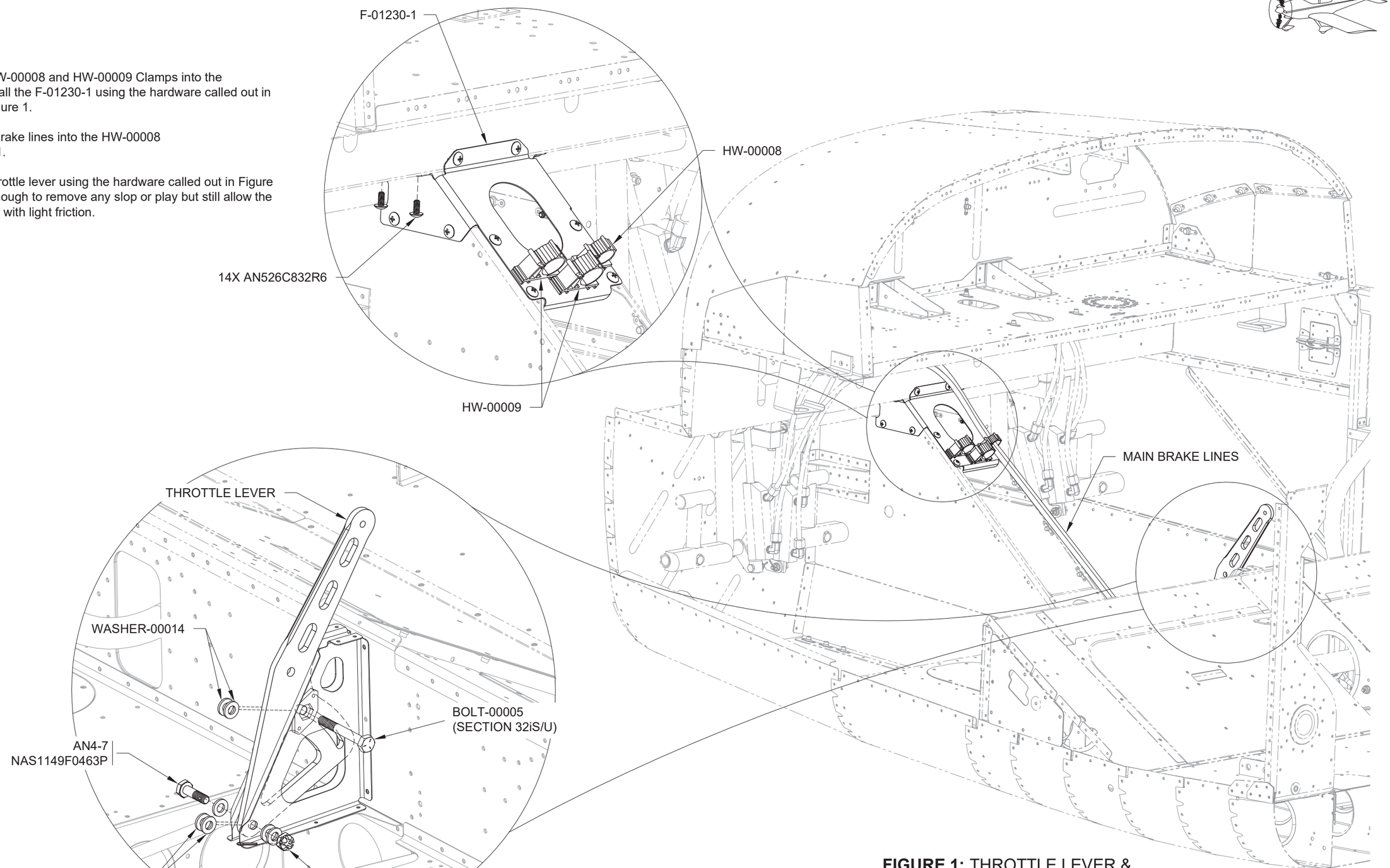


FIGURE 1: THROTTLE LEVER & TUNNEL BRACE

NOTE: Use a short flush head rivet set on the upper side and a tall flush head rivet set on the lower side to squeeze the rivets installing the Tunnel Cover Assembly.

Step 1: Rivet the Tunnel Cover Assembly to the fuselage using the fasteners called out in Figure 1.

CAUTION: Do not use lubricant on the firewall penetration grommet.

Step 2: Install the grommet in the firewall passthrough hole, then thread one end of the CT-01200 through the grommet as shown in Figure 2.

Step 3: Attach the CT-01200 conduit to the F-01246A as shown in Figure 2. Ensure the conduit is located in the right side hole of the F-01246A. Adjust the nuts so the F-01246A will be approximately centered on the threaded portion of the conduit, then tighten.

Step 4: Thread the CT-01200 lead through the hole in the shank of the VA-219-2 Control Cable Bolt, then loosely attach the VA-219-2 to the throttle lever using the hardware shown in the detail view in Figure 2. Ensure the flange of the bushing is against the throttle cable lead.

Adjust the CT-01200 lead so that the end of the lead extends beyond the shank of the VA-219-2 as shown in the detail view in Figure 2. Tighten the hardware to 12-15 in-pounds.

Step 5: Route the CT-01200 from the firewall to the engine as shown in Figure 3 and secure it with the hardware called out in Figure 3. Adjust the nuts so the cable bracket will be approximately centered on the threaded portion of the conduit, then tighten.

Do not connect the CT-01200 lead to the engine throttle arm at this time. This will be done as part of the throttle rigging procedure later in this section.

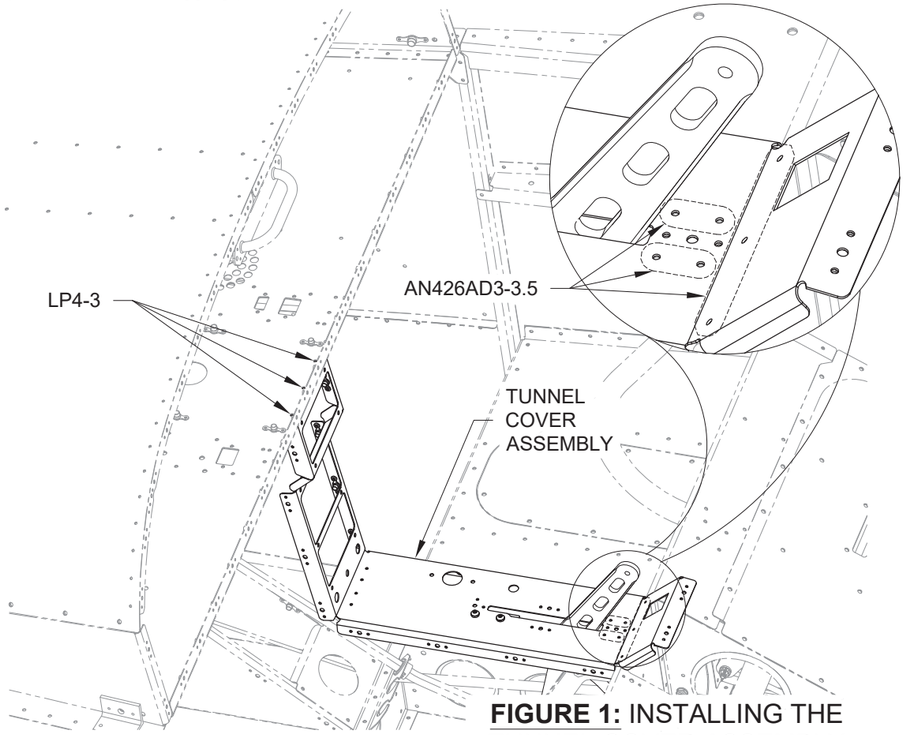


FIGURE 1: INSTALLING THE TUNNEL COVER ASSEMBLY

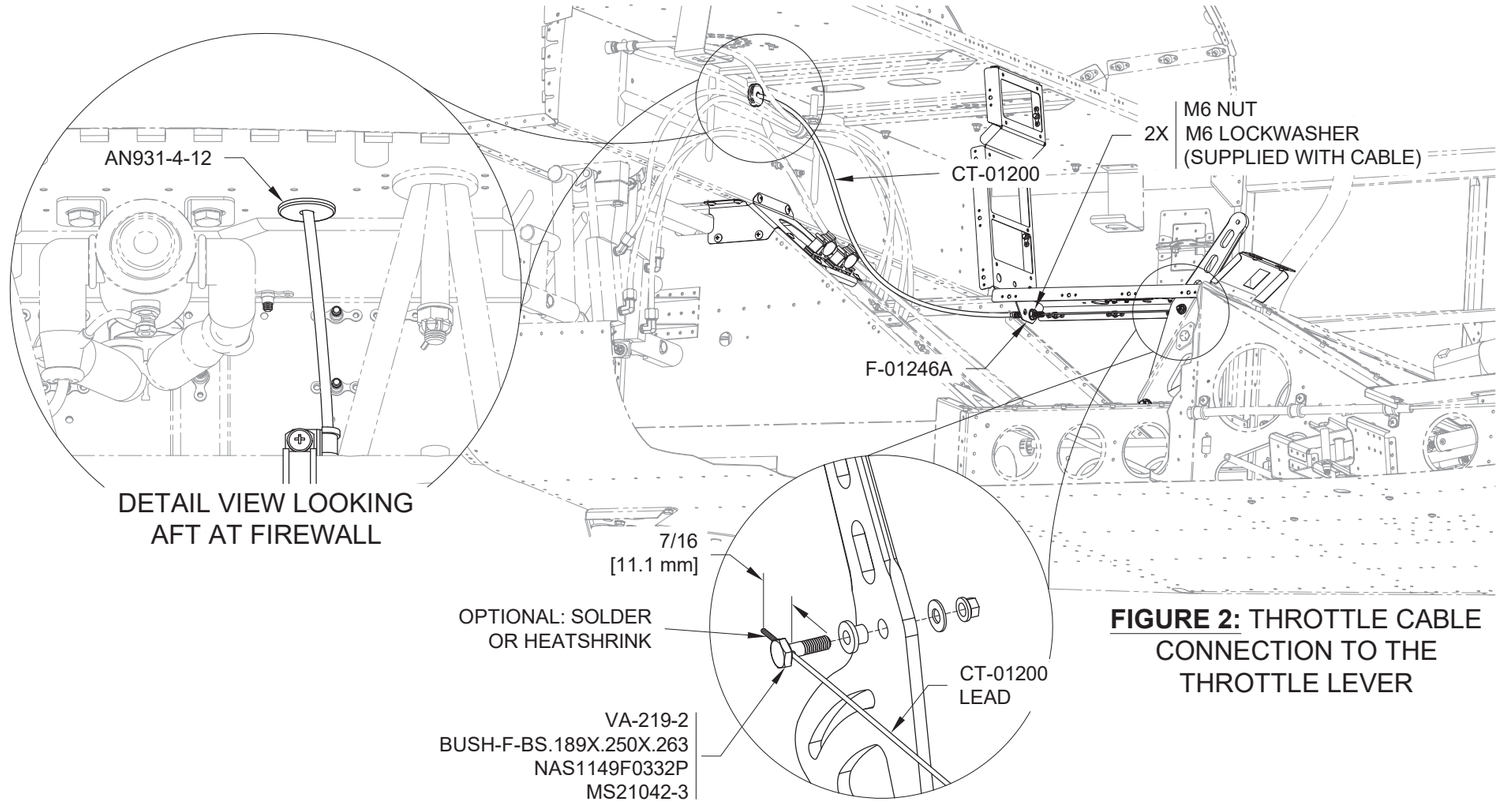


FIGURE 2: THROTTLE CABLE CONNECTION TO THE THROTTLE LEVER

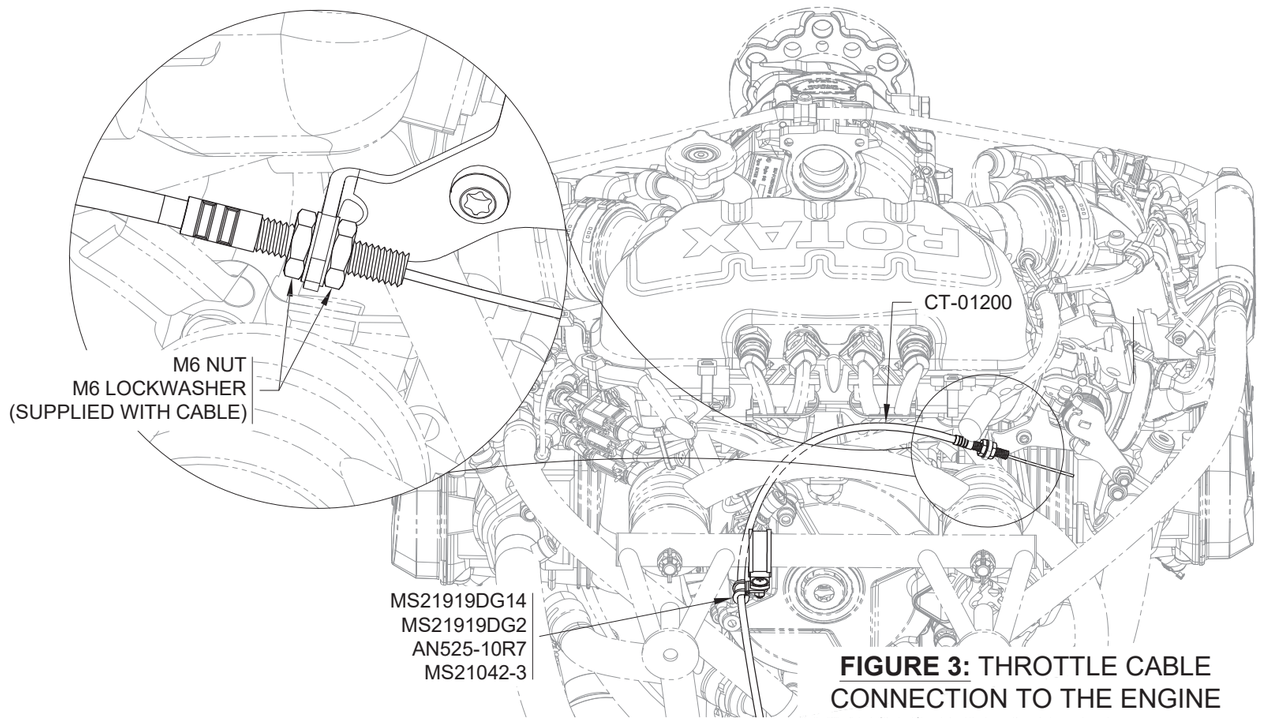


FIGURE 3: THROTTLE CABLE CONNECTION TO THE ENGINE

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Step 1: Dimple #40 the nutplate rivet holes in the F-01244-L and F-01244-R as shown in Figure 1, then rivet the nutplates in place.

Step 2: Install the F-01244-L, F-01245-L, and F-01244-R using the hardware called out in Figure 2.

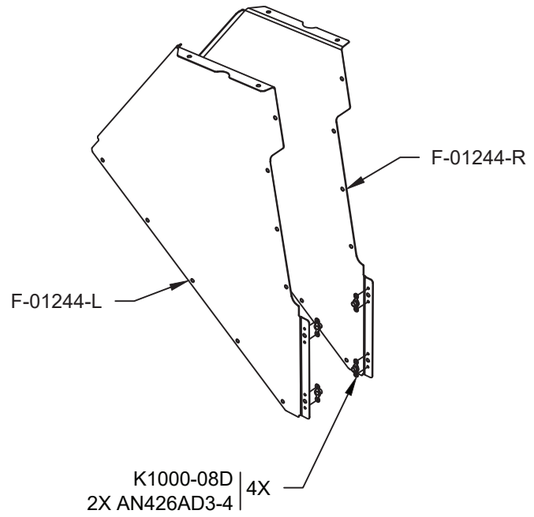


FIGURE 1: TUNNEL FWD SIDE COVER PERPARATION

Step 3: Dimple #40 the nutplate rivet holes in the F-12101 as shown in Figure 3. Dimple, then rivet the nutplates to the F-12101 with the rivets shown.

Step 4: Rivet together the sides of the F-12101 with the rivets shown in Figure 3.

Step 5: Sand and paint the F-01293. Painting the F-01293 before installation will provide the plastic better protection from UV damage and scratches & scuffs.

Step 6: Install the F-01293 & TOOL-00117A using the hardware shown in Figure 3.

Step 7: Install the F-12101 using the hardware called out in Figure 4.

Step 8: Install TOOL-00117 as shown in Figure 3.

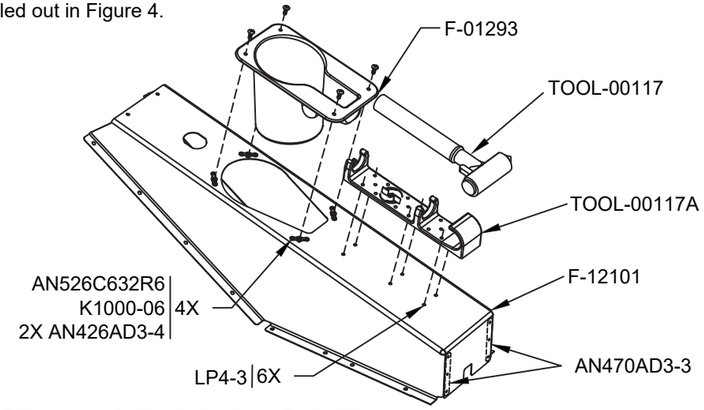


FIGURE 3: INSTALLING THE CUP HOLDER & EMERGENCY EGRESS HAMMER

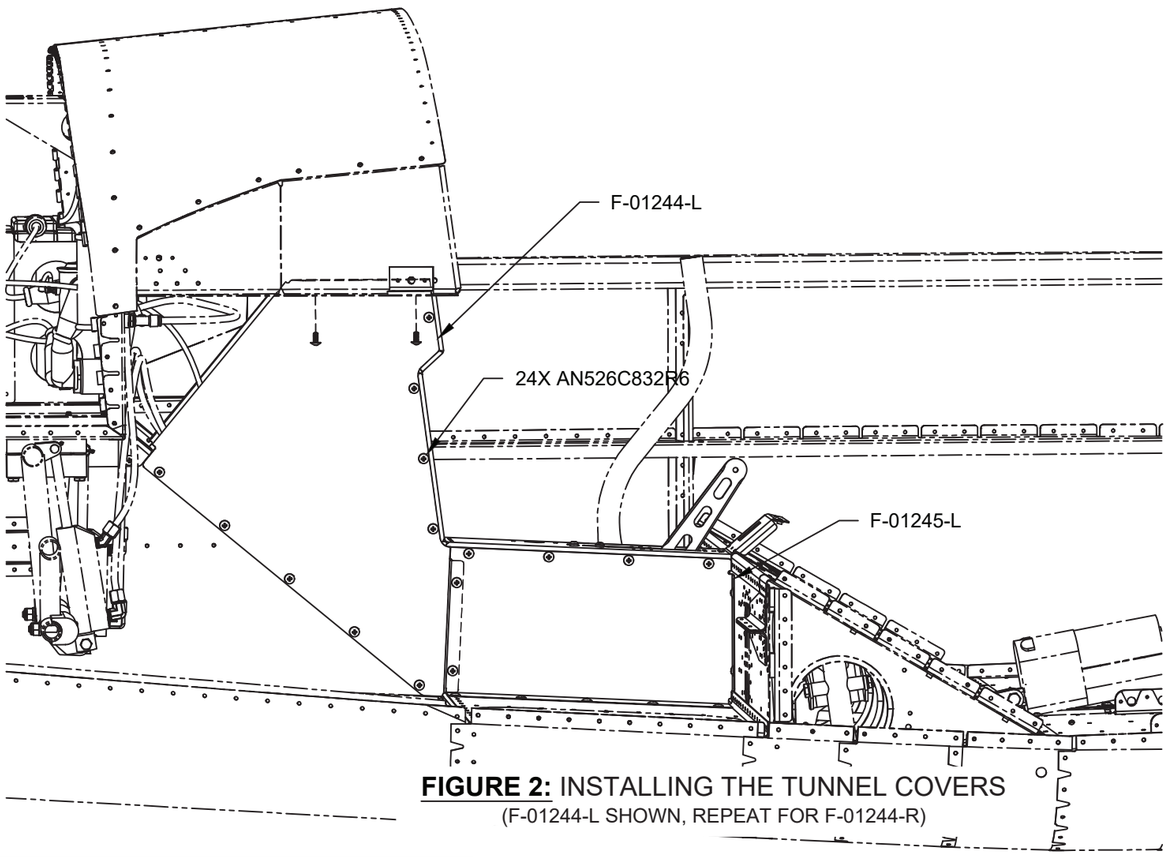


FIGURE 2: INSTALLING THE TUNNEL COVERS
(F-01244-L SHOWN, REPEAT FOR F-01244-R)

FIGURE 4: INSTALLING THE FLAP COVER

Step 1: Install the Throttle Friction Assembly hardware onto the BOLT-00005 as shown in the detail view in Figure 1.

Step 2: Install the F-01245-R using the hardware called out in Figure 1.

Step 3: Install the CT-01206 1/4-20 KNOB as shown in Figure 1.

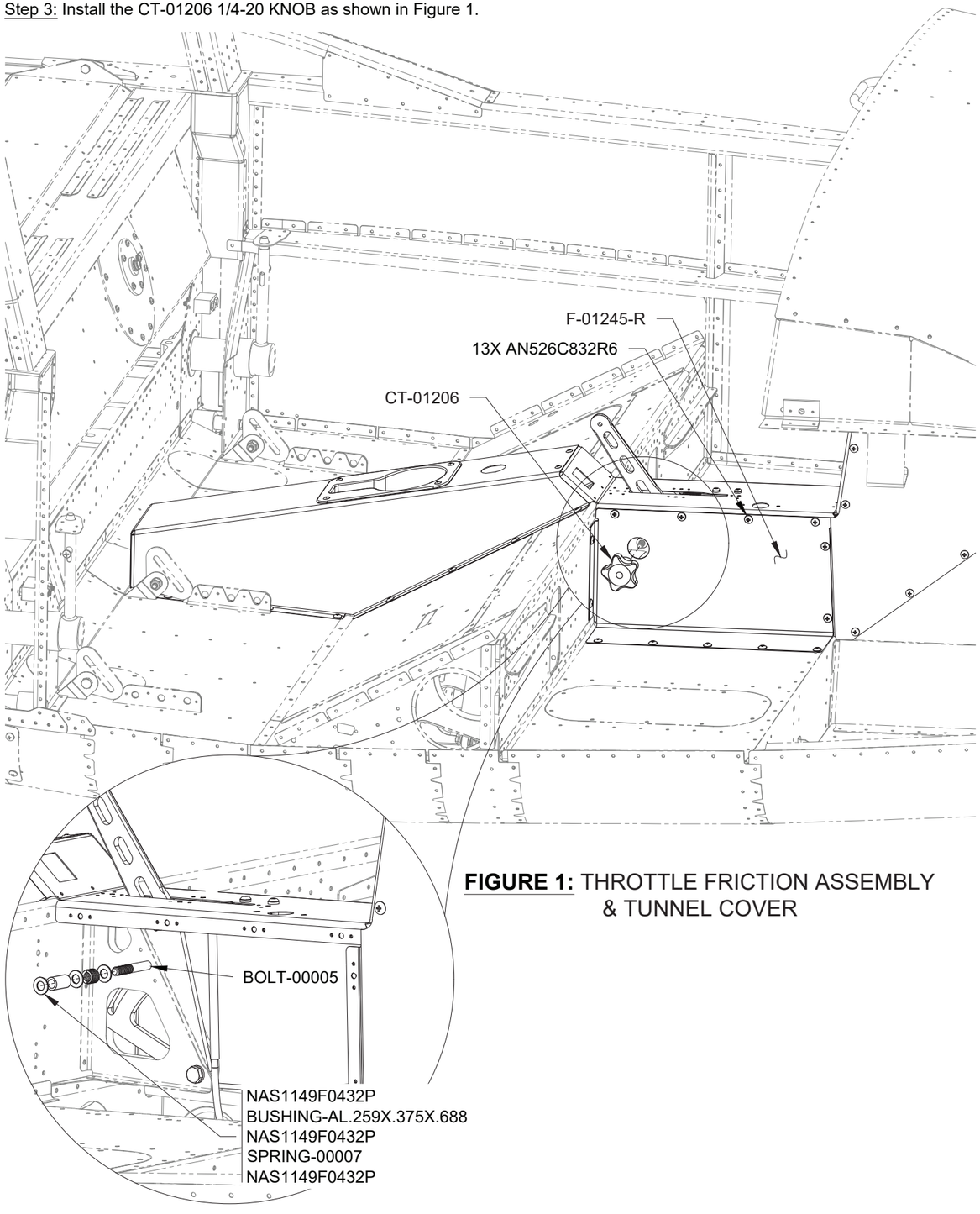


FIGURE 1: THROTTLE FRICTION ASSEMBLY & TUNNEL COVER

Step 4: Move the throttle lever forward from the aft end of the slot as shown in Figure 2 and fully tighten the throttle friction adjustment.

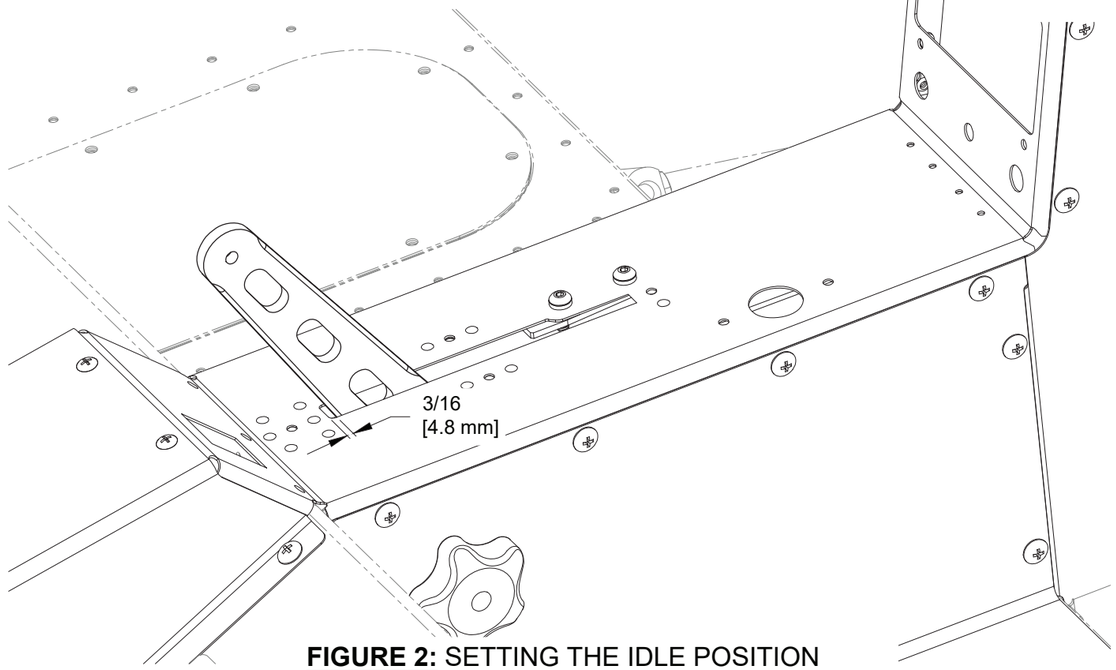


FIGURE 2: SETTING THE IDLE POSITION

Step 5: Remove the throttle arm hardware from the engine throttle arm and insert the CT-01200 lead through the hole in the drilled bolt.

Rotate the engine throttle arm until the arm is lightly resting against the idle speed adjustment screw, then reinstall the throttle arm hardware as shown in Detail A. While holding tension on the CT-01200 lead, tighten the throttle arm hardware to the torque specified in the Rotax 912iS Installation Manual.

Step 6: Loosen the throttle friction adjustment. Actuate the throttle lever through its full range of travel. Ensure that the full range of motion of the engine throttle arm is achieved (idle stop screw-to-full open stop). Check for any interference throughout the full range of motion of the throttle arm, throttle arm hardware, and throttle cable lead.

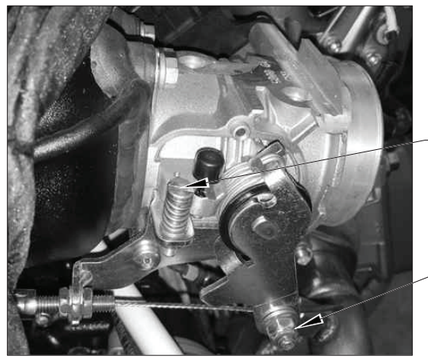
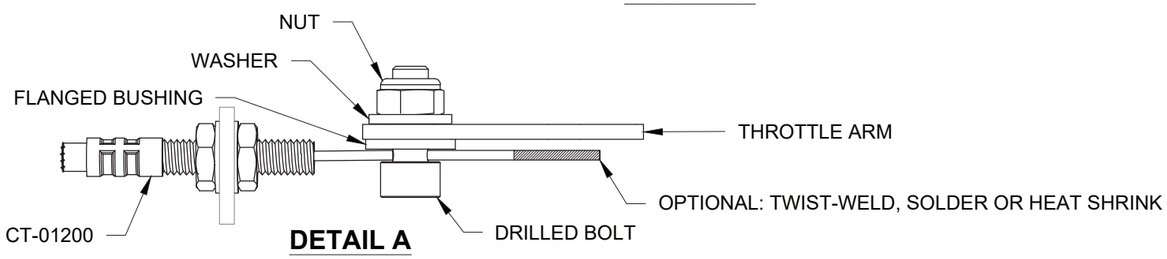


FIGURE 3: THROTTLE ARM CONNECTION



DETAIL A

NOTE: Setting of the Eco Stop requires the EFIS percent throttle display.

Step 1: While pulling the throttle lever towards the left-hand side of its slot to engage the Eco Stop, actuate the throttle lever forward until the EFIS percent throttle display transitions from 97% to 98%.

Tighten the Eco Stop adjustment screws to set the Eco Stop at this power setting.

Step 2: Actuate the throttle lever through its full range of travel. Check for interference through the full range of travel.

Check that advancing the throttle lever to the Eco Stop results in the EFIS indicating 98% throttle.

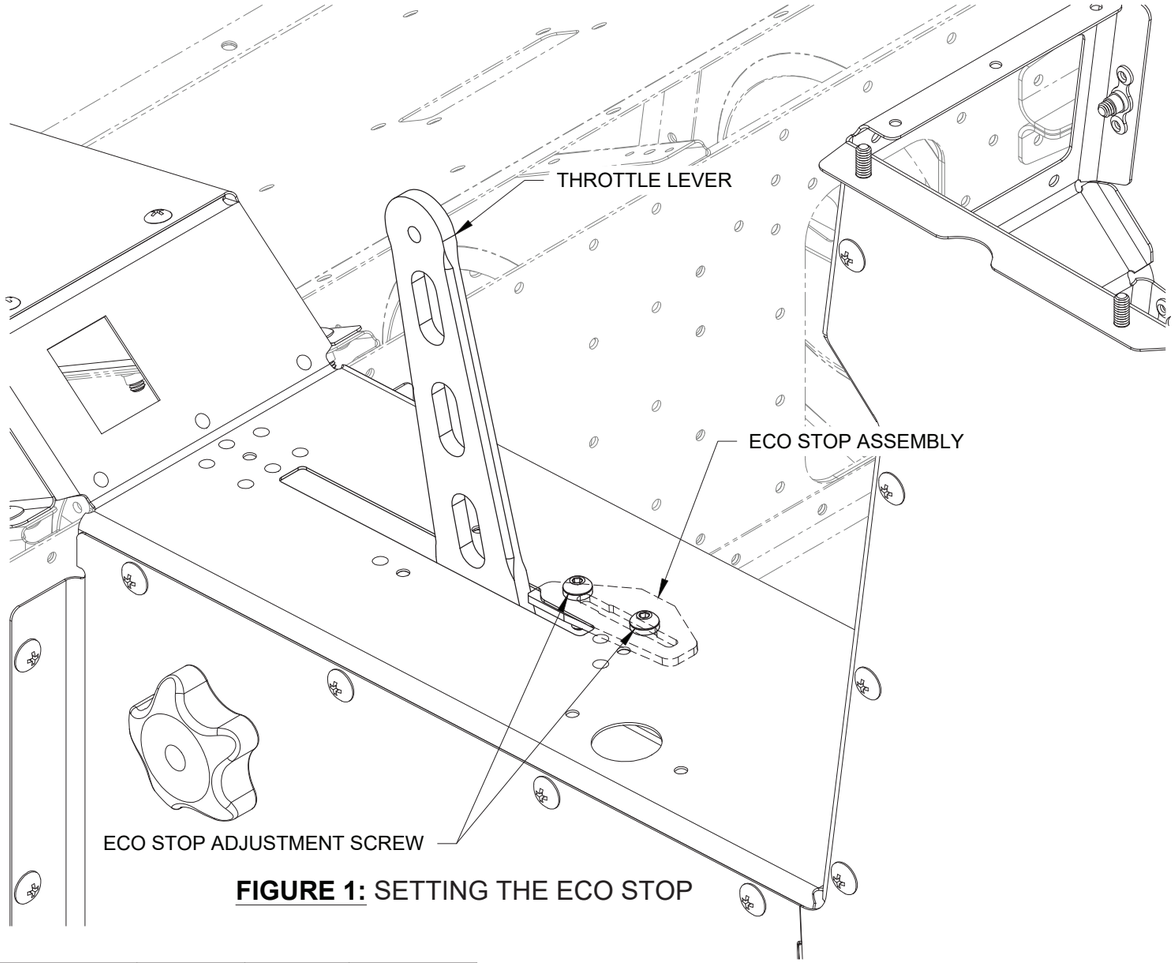


FIGURE 1: SETTING THE ECO STOP

Step 3: Install the F-12135 using the hardware as called out in Figure 2. Do not over tighten the screws.

NOTE: Optional alternate throttle grip is available to install. Order KIT 12iS THROTTLE GRIP from Van's Aircraft.

Step 4: Install the CT-01205 using the hardware shown in Figure 2.

END OF SECTION

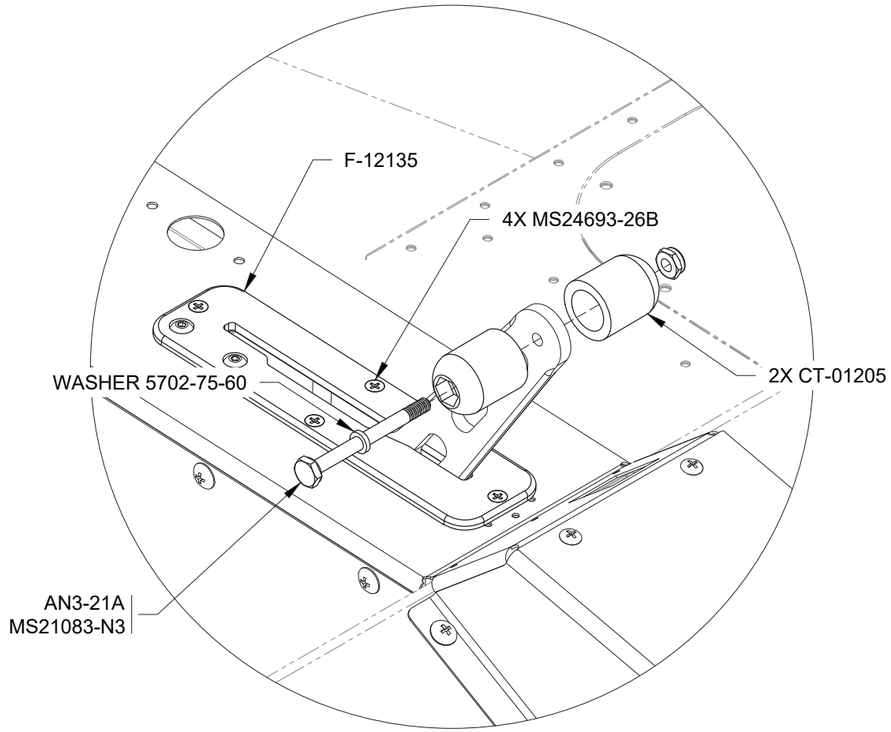


FIGURE 2: THROTTLE GUIDE & T-HANDLE