

How To Install Co-Pilot Side Toe Brakes

This is the procedure to install co-pilot side toe brakes using the supplied kit, which consists of left and right rudder/brake pedal assemblies for the co-pilot side, two brake cylinders, 8 brake line fittings and two lengths of brake line. Two aluminum fluid reservoirs are also included..



**Co-Pilot Side
Brake Kit Components**

Procedure

- Clamp the line from firewall-mounted brake fluid reservoir to the brake cylinders to prevent loss of fluid from the reservoir during installation. Don't forget to remove this clamp before attempting to bleed the system.
- Remove both wheel fairings.
- Disconnect brake lines at both wheel calipers and drain the system.
- Remove the old fittings from the calipers and replace them with new fittings. The new fittings are self-sealing.
- Disconnect brake lines at brake cylinders mounted on the pilot-side rudder pedals.
- Remove the old fittings from the forward end of the pilot-side brake cylinders and replace them with new fittings.
- If your airplane still has the old, large-diameter brake lines, the new, clear brake lines will fit inside of them. The hydraulic fluid clinging to the inside of the old line acts as a lubricant. Cut the old line approximately 2" back from the caliper. Dress the edge of the new line to remove any sharp edges or burrs. Then slide the new line into the old line until the new line exits the old line inside the cockpit.
- If resistance is met when inserting new lines into old lines, remove the seat bottom cushions and remove the zip ties that gather and hold the brake lines and wiring to the outboard sides of the seat structure. Replace these zip ties when you are through. Check also at every hold down clamp location inside the cabin, to be sure the line is not binding at these locations.

- If it is not possible to push the new lines all the way through the old lines, push the new lines at least one foot into the old lines and use the old lines to draw the new lines through the fuselage, as you would use fish tape to pull electrical wiring. Then remove and replace the old line with new line, reusing the hold down clamps and installing new zip ties as needed.
- Route the new brake lines to the co-pilot side of the cockpit.
- Remove the old rudder pedal extensions on the co-pilot side.



Pedal/brake assemblies.

Right side (foreground)

Left side (background)

- Remove the brake master cylinder/bracket assemblies from the new rudder pedal assemblies using a 5 mm Allen wrench. Slide the new rudder pedal extensions into the brake pedal support tubes (left to left, right to right) and re-attach the brake master cylinder/brackets.
- Cut and install crossover brake lines from the pilot side output fittings (end of the cylinder) to the co-pilot side input fittings (top of the cylinder). The left pilot brake cylinder attached to the left co-pilot brake cylinder, and the right brake cylinders are similarly attached. Route the crossover lines so that there is no danger of fouling.
- Attach the brake lines to the forward end of the co-pilot side brake cylinders, left-to-left and right-to-right.



Pilot side installation complete.

Note supplemental fluid reservoirs installed atop brake cylinders.



Co-pilot side installation complete.

Brake lines from the forward ends of these cylinders lead to the respective calipers. Brake lines atop these cylinders lead from the output of the respective brakes cylinders on the pilot side.

- Remove the clamp from the line between the brake fluid reservoir and the brake cylinders.
- Fill the system with brake fluid before attaching the brake lines to the calipers. When the system is full, attach the lines to the calipers and bleed them normally.
- It may help to pressurize the brake fluid reservoir while pumping the brakes.

End of “How To Install Co-Pilot Side Toe Brakes.”