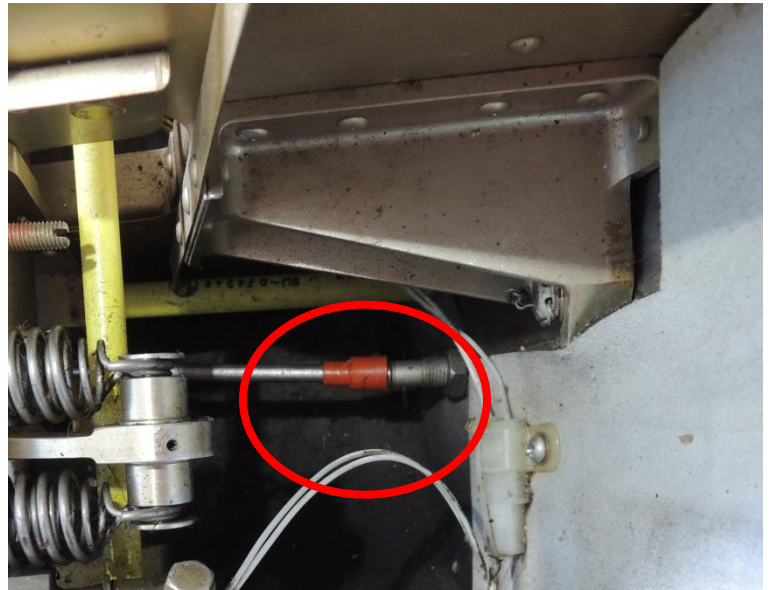




Modifying the throttle cable sheath attachment on F and FX series helicopters

Background;

There have been some reports of premature throttle cable failures on F or F series helicopters. It is suspected that a change in the manufacture of the throttle cables is responsible for the cables not being able to handle the angle change in the cable between the cable sheath attachment bracket and the throttle cable connection at the correlator.



The permanent repair of this issue requires replacement of the bracket that secures the forward end of the throttle cable sheath. This tutorial documents the procedures to modify the installation.

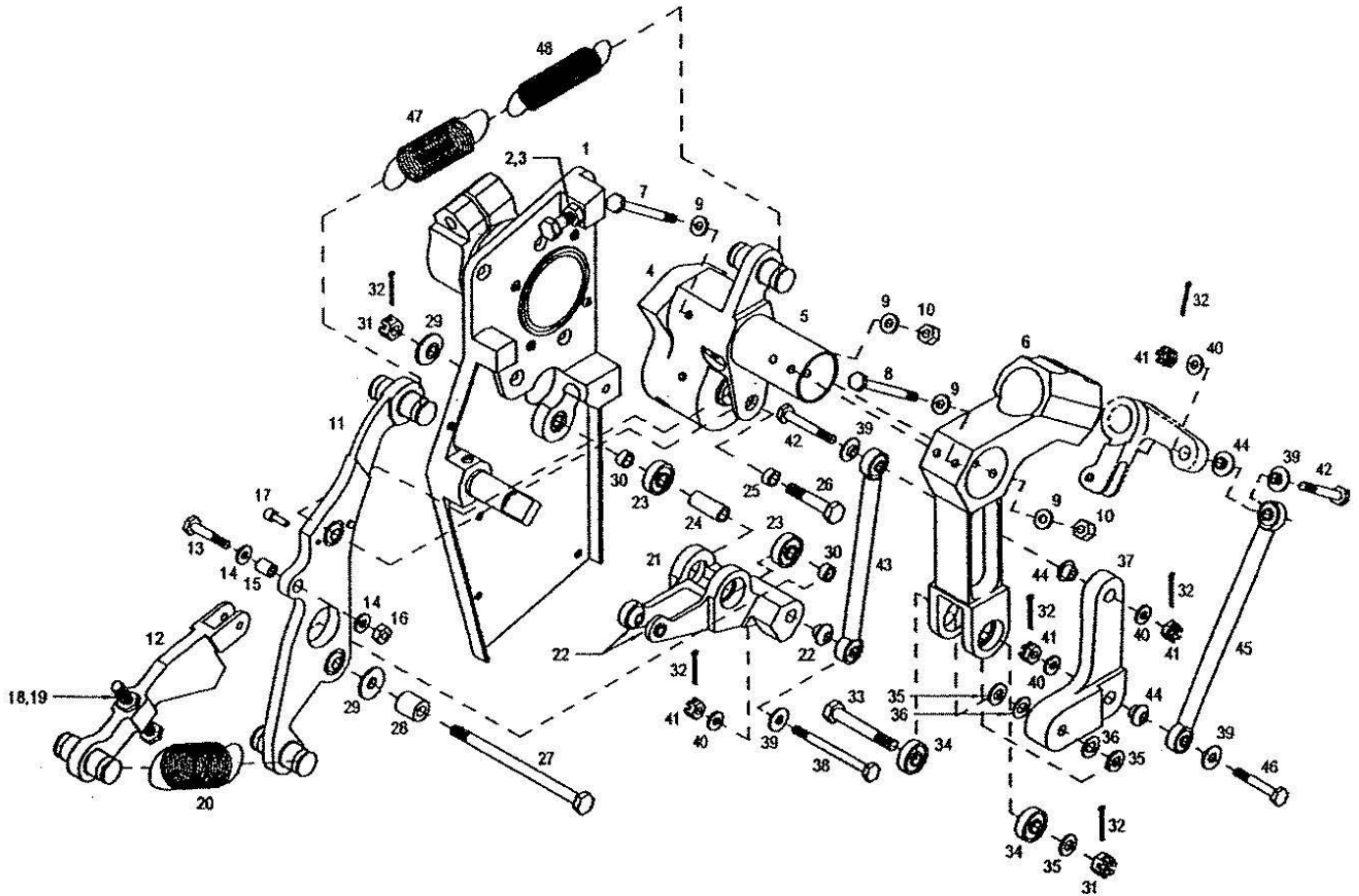


Figure 1

1. Remove springs (20, 47 & 48) from correlator.(Figure 1)
2. Disconnect the co-pilot throttle connect rod (8) (figure 2) at the throttle bellcrank (1).

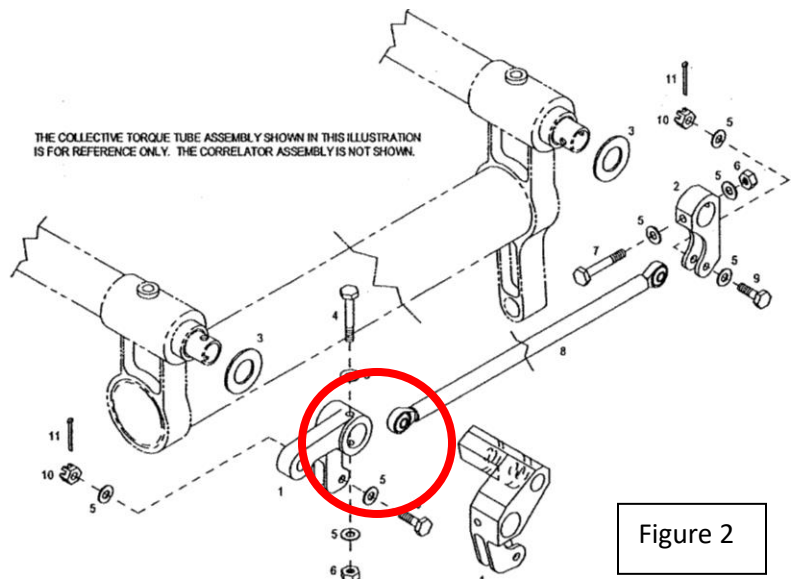
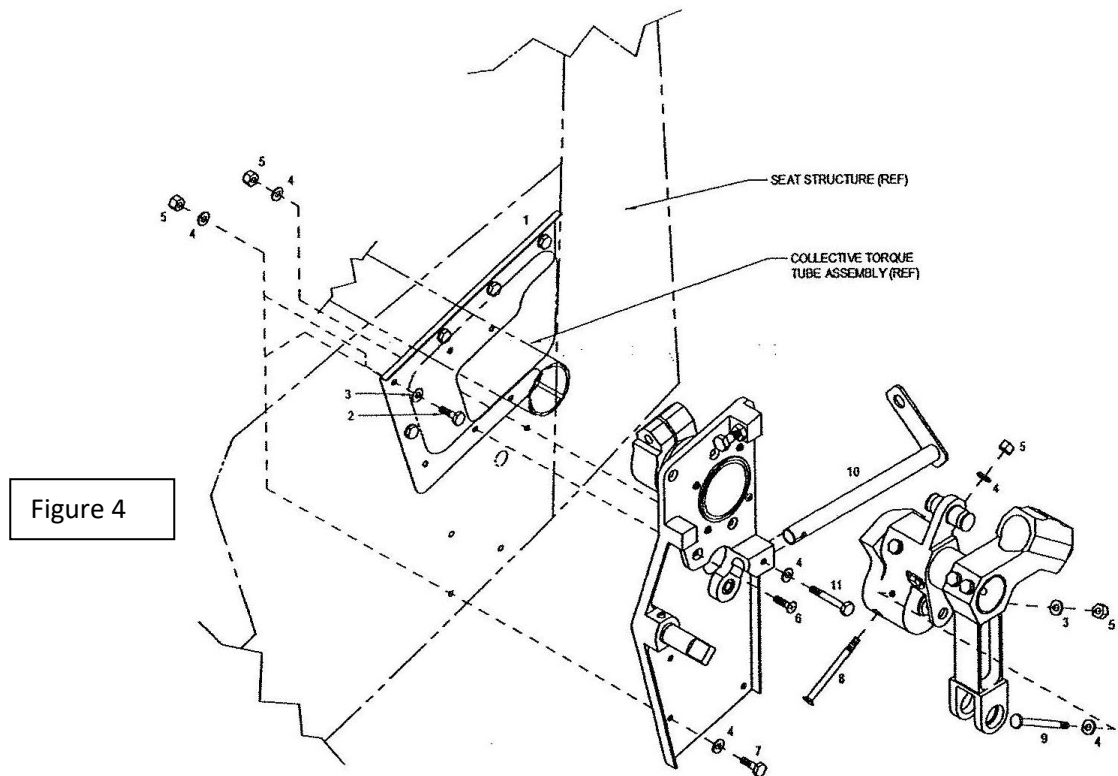
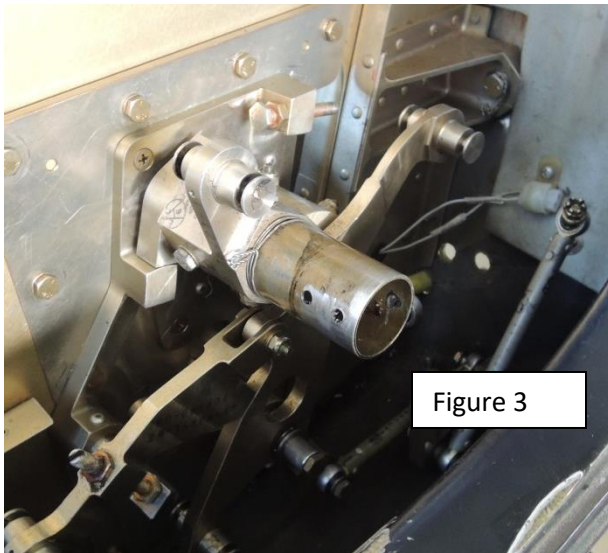
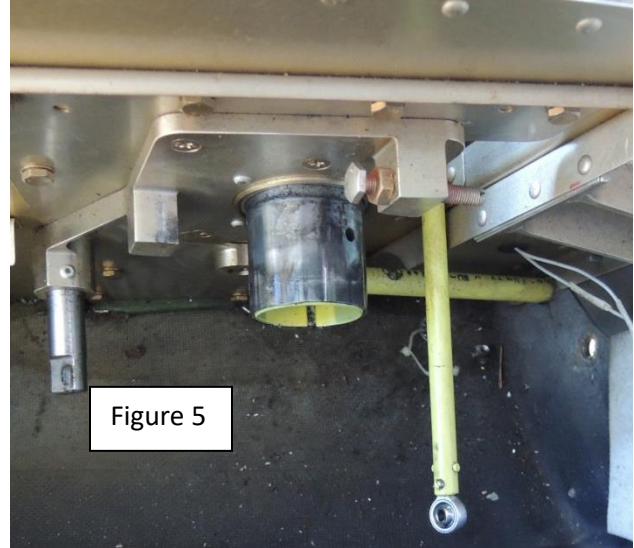


Figure 2

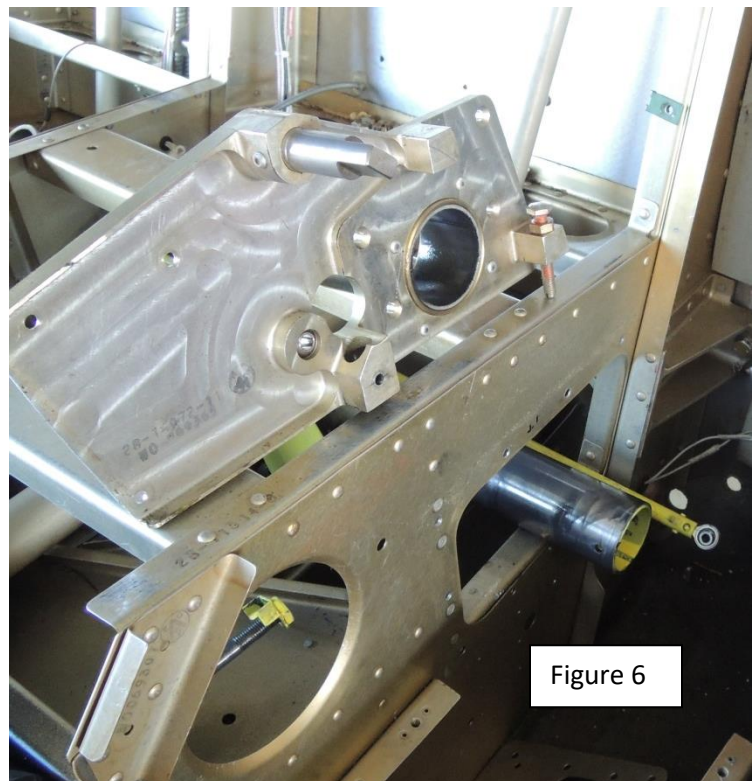
3. Remove the top bolt (42) from the throttle tie rod (43) (figure 1).
4. Remove two bolts (8) from the collective socket (6).
5. Remove the collective socket (6) from the support tube (5) (figure 3).



6. Remove the pivot bolt (27) (figure 1) and collect the shims, bushings and washers.
7. Remove the attach screw (8) (figure 3) and the adjacent bolt (not shown) from the offset tube assembly (4) (figure 1).
8. Remove the offset tube assembly from the collective torque tube assembly. (figure 5)



9. Remove the cable support assembly (10) (figure 3) from the plate assembly (1) (figure 1)
10. Remove the plate assembly (1) (figure 1) from the seat structure bulkhead. (figure 6)



11. Insert the original cable support assembly (10) (figure 4) into the mounting block, install a bolt to locate the hole, and use masking tape to indicate the installed depth of the support assembly, (figure 7)

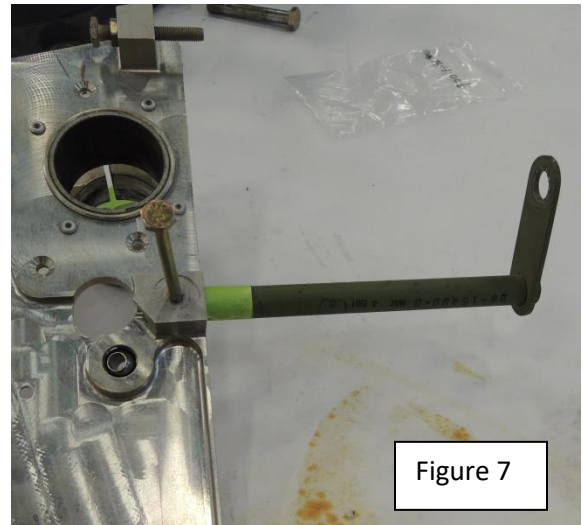


Figure 7

12. Lay the two cable support assemblies next to each other and tape the new one to indicate the proper insertion depth. (figure 8)

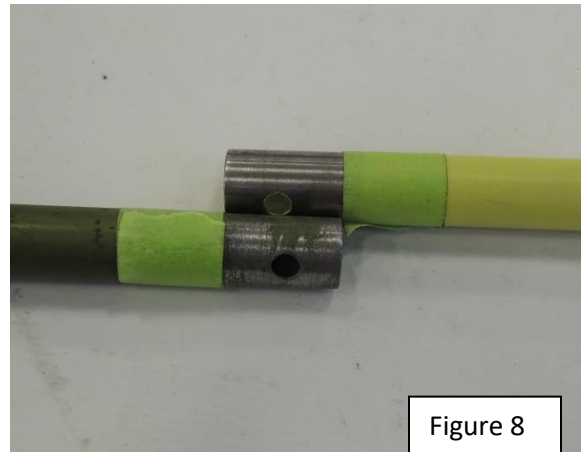


Figure 8

13. Insert the new cable support assembly into the plate assembly. The bolt that secures the cable support assembly will be changed from horizontal position to the vertical position. Use a long bolt or drill bit to align the hole parallel to the edge of the plate and mark the bottom of the attach boss with the centerline of the hole as shown in figure 9.

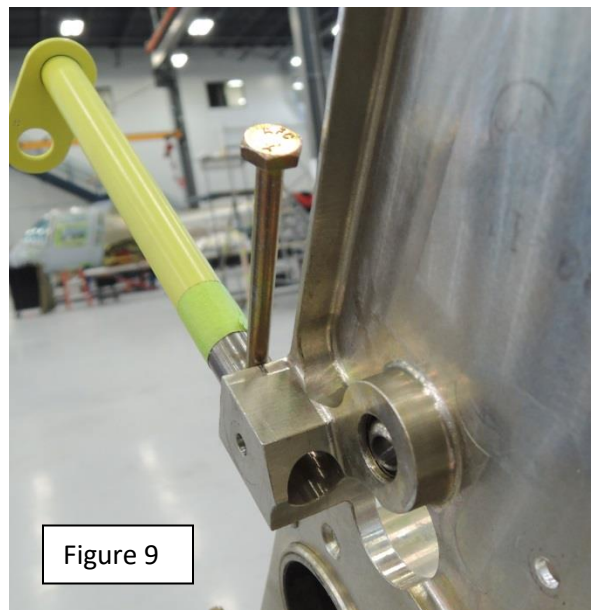
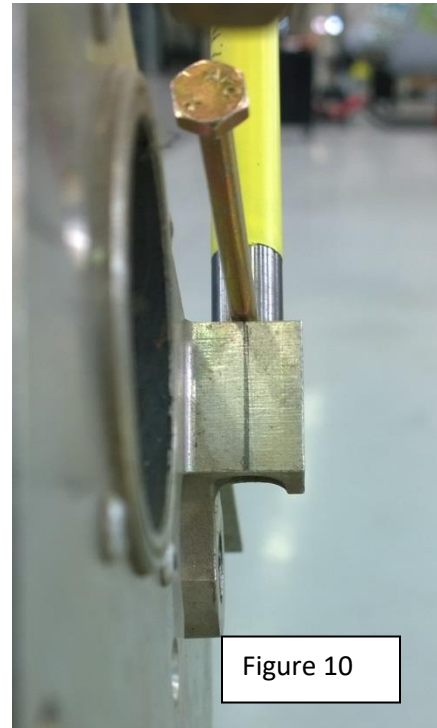
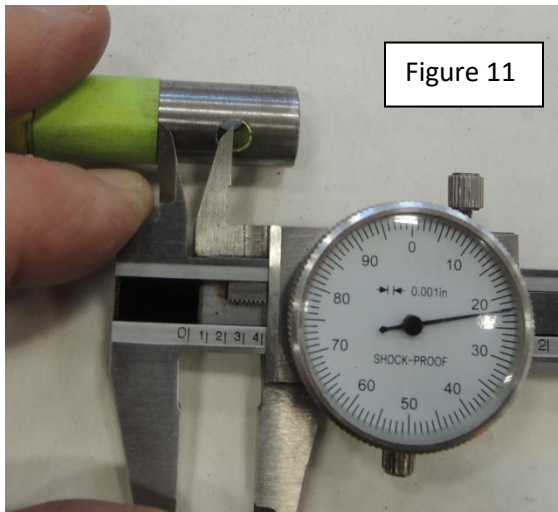


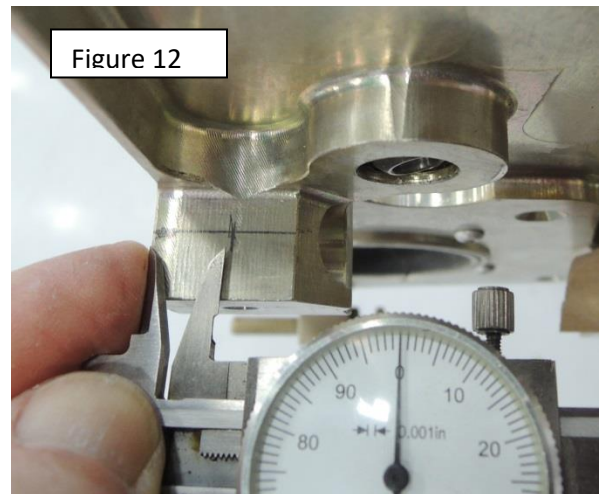
Figure 9

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14. Transfer the line across the boss (figure 10) and use a caliper to locate the position of the attach hole onto the boss. (figure 11 & 12)



15. With the cable support assembly not installed, center punch the locating mark. Use a small drill bit, drill through the edge of the boss into the center hole. Do not drill through the other side of the boss at this time.
16. Open the hole to 3/16 inch.
17. Install the new cable support assembly into the boss and slip the drill bit through the boss of the plate assembly and through the first hole of the support assembly into the second hole on the support assembly.
18. Drill the hole through the second side of the boss.
19. Open the hole to a #10 drill bit to fit the attach bolt (11) (figure 4). Remember, the bolt will now be installed in the vertical position.
20. Install the plate assembly (1) (figure 1) back onto the seat structure and install the cable support assembly (10) (figure 4) into plate assembly.
21. Use a drill and file to relocate the cable hole through the fire wall of the helicopter.



22. Plug the old hole through the firewall and install and seal the cable support assembly.
23. Assemble the correlator in the reverse order of disassembly. The cable should be pretty straight and not hit the cable support attach boss during operation of the throttle.
24. Rig the correlator.

