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SERVICE DIRECTIVE BULLETIN

DATE: June 25, 2014

1. SUBJECT: Copilot Collective – Retention Pin Installation

2. MODEL: 480 and 480B

3. EFFECTIVITY: S/N 5172 and prior

4. BACKGROUND:

Enstrom had received a report of the copilot collective retention pin assembly disengaging from the stick fitting and dropping into the throttle controls (the copilot's collective had been removed for flight). As a result of this incident, Enstrom has relocated the retention pin lanyard mount from the stick fitting to the co-pilot collective stick.

Revision 1 installs washers under the collective socket insert to ensure clearance between the end of the retention pin and the throttle control tube.

This SDB (Service Directive Bulletin) provides instructions for removing the retention pin lanyard mount from the stick fitting and installing it to the copilot collective stick.

5. COMPLIANCE:

At the next 100 hr/annual inspection, modify the copilot collective retention pin lanyard mount in accordance with paragraph 6.

6. PROCEDURE:

NOTES

Perform all maintenance in accordance with the TH-28/480 Series Maintenance Manual.

The retention pin is also referred to as a quick release pin or P/N ABC6114 expando pin.

6.1 Disconnect the copilot collective electrical harness from the floor connection.

6.2 Remove the retention pin securing the collective stick and remove the collective stick.

6.3 Remove the black plastic cover to access the copilot stick fitting.

6.4 Remove the AN525-832R6 screw and P/N 4167218-11 tab. Use care when removing hardware to avoid dropping the parts into the throttle controls (see Figure 1).

6.5 Retain the retention pin and lanyard.

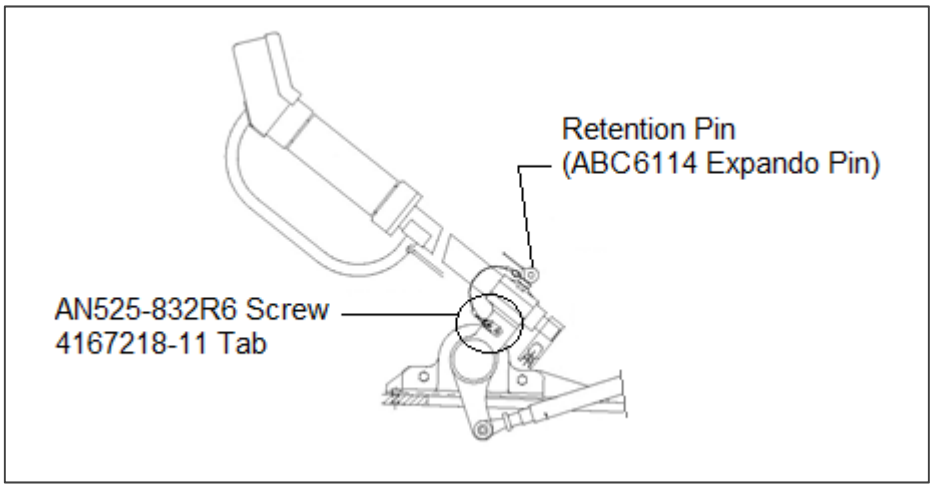

Figure 1. Former Retention Pin Lanyard Installation

6.6 Reinstall the cover.

6.7 (Reference Figure 2) Disassemble the collective stick assembly (1) to remove the throttle control tube assembly (25).

6.7.1 Remove the torque pin (6).

6.7.2 Remove the conduit (22) and switch box cover (21).

6.7.3 Remove the switch box housing (11).

6.7.4 Move the switch box assembly to the side and push the throttle control tube assembly (25) through the forward end of the collective stick (1).

6.8 Drill a Ø.129/.132 hole through the wall of the collective stick in the location shown in Figure 3. Deburr the hole.

WARNING: Ensure the collective stick is free of debris. Throttle operation may be impaired if debris is not removed.

6.9 Remove all debris from the interior of the collective stick.

WARNING: Ensure the rivet is the correct length. Improper rivet length and/or rivet installation could interfere with the throttle operation.

6.10 Install retention pin lanyard (51) to the collective stick using NAS1149FN616P washer (53) and CR3213-4-02 rivet (52). The washer and rivet may be painted a semi-flat black.

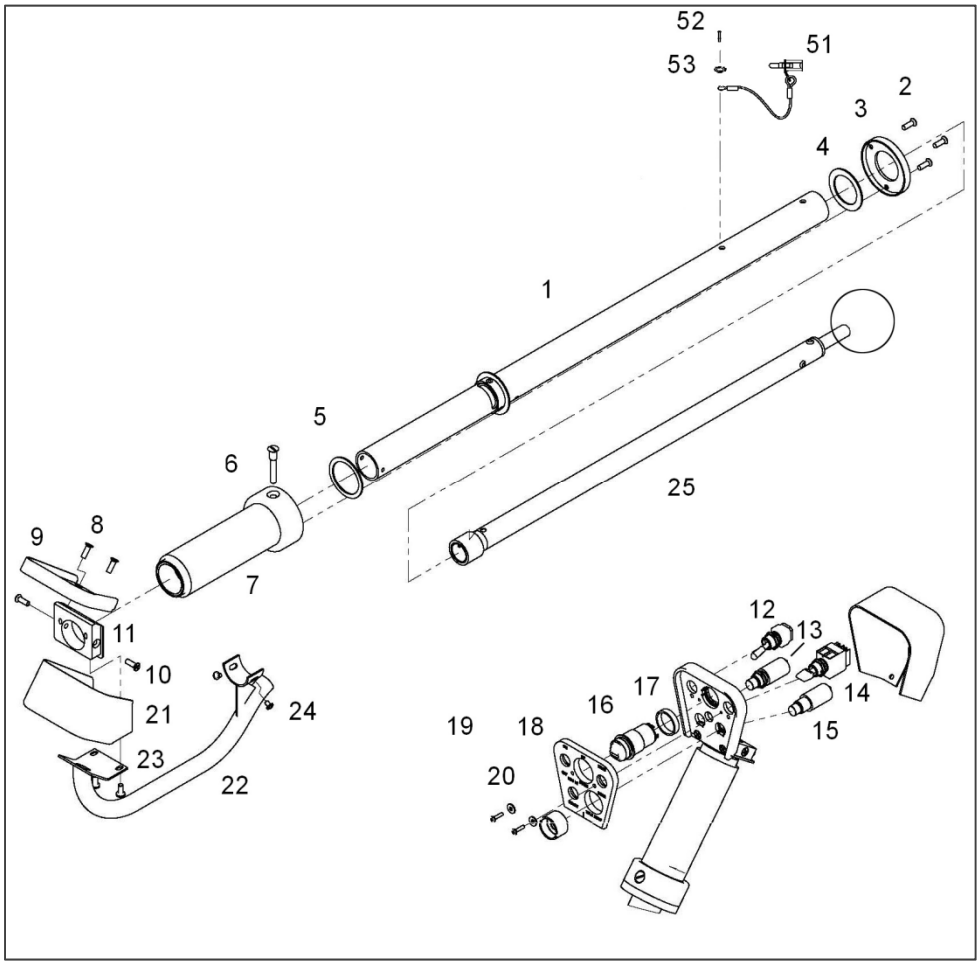

Figure 2. Collective Stick Assembly

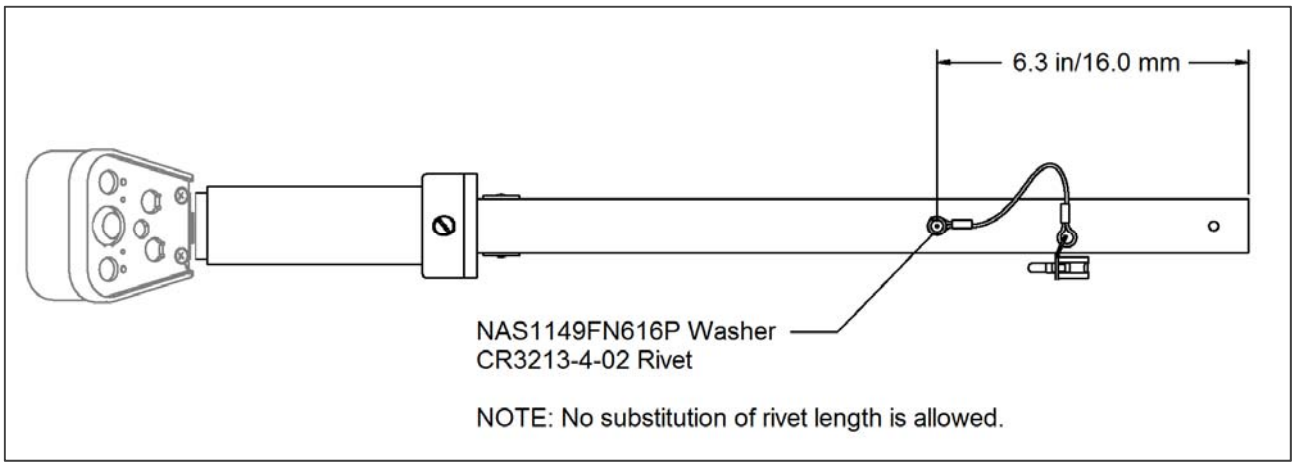

Figure 3. Lanyard Mount Hole Location

6.11 Reassemble the collective stick assembly.

6.11.1 Install the throttle control tube into the collective stick.

WARNING: Rotate the throttle control tube to ensure there is no contact with the rivet installation.

6.11.2 Ensure that there is no contact of the throttle control tube with the rivet.

6.11.3 Align the hole in the throttle control tube with the hole in the grip (7) and install the torque pin (6).

6.11.4 Install switch box housing (11), switch box cover (21), and conduit (22).

6.12 Install the collective stick into the stick fitting. Ensure the throttle push-pull rod is properly engaging the bellcrank.

6.13 Check clearance between the retention pin and the throttle control tube (Figure 4).

6.13.1 Measure the distance from the insert to the control tube (A).

6.13.2 Measure the length of the pin (B), bottom of tab to tip of pin (measure length with pin uninstalled).

6.13.3 If (B) is longer than (A), stack appropriate combination of washers (NAS1149D0516K and/or NAS1149D0532K) between the insert and the collective socket fitting to ensure (A) is greater than (B), and provide necessary clearance. **NOTE: The maximum stack-up is 0.080” (2.03 mm).**

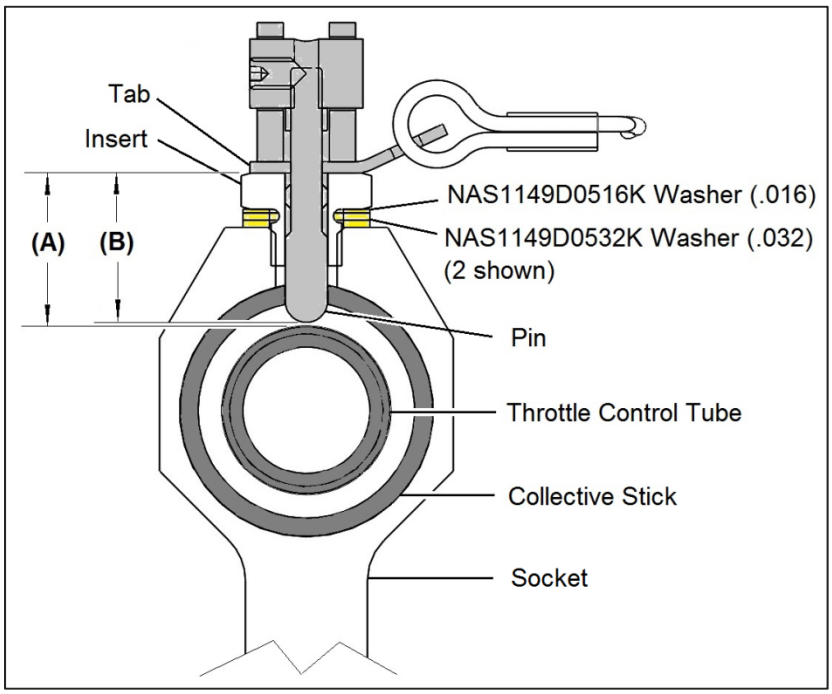

Figure 4. Washer Installation

6.14 Insert the retention pin with lever aligned with the collective and fold the lever down.

NOTE: The pin lever is correctly installed when the cam locking feature is engaged. If the lever folds down with no resistance felt, insert the pin 180° the other way, and fold down. A resistance should be felt as the cam engages.

WARNING: The pin must engage the hole in the collective stick. After installing the pin, verify the security of the collective stick by trying to pull the collective stick out of the stick fitting.

6.15 To ensure the pin is fully engaged in the hole in the collective stick, try to pull the collective stick out of the stick fitting. If the collective stick does not pull out of the stick fitting, it is properly secured.

6.16 Twist the throttle full travel and verify the pilot's and copilot's throttles move together.

6.17 Move the collective full travel and move throttle full travel with the collective fully up and full down. Verify there is no binding or interference in the throttle or collective.

7. PARTS:

7.1 Required hardware:

Part	Description	Quantity
NAS1149FN616P	Washer	1
CR3213-4-02*	Rivet	1
NAS1149D0516K**	Washer	3
NAS1149D0532K**	Washer	3
*No substitution of rivet length is allowed. ** Stack-up not to exceed 0.080" (2.03 mm)		

7.1 Consumable material supplied by the installer:

Semi-flat black paint

8. SPECIAL TOOLS: N/A

9. MAN-HOURS: 15 minutes

10. WARRANTY: Per Enstrom Warranty Policy

11. WEIGHT CHANGE: None

12. LOG BOOK ENTRY: Record modification in the maintenance log book.

13. REPETITIVE ACTION: N/A