

SERVICE BULLETIN



Service Bulletin No.: DAC1-52-03 Rev 1

Date Issued: August 17, 1999

Title: Canopy Lock Cover Plate Installation

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- 1. ATA Code:** 5210
- 2. Effectivity:** DA20-C1 Aircraft up to and including S/N C0084
- 3. General:** Cracks in the acrylic canopy bubble originating at the lock have been reported on some aircraft. This is most likely a result of the canopy being closed with the lock cam in the locked position. This service bulletin addresses the relieving of the acrylic around the lock and the installation of a stainless steel doubler plate and placard. Aircraft starting with C0085 have a different lock installation and do not require this service bulletin.
- 4. Compliance:** Compliance with this service bulletin is recommended.
- 5. Approval:** Engineering data referenced or contained in this service bulletin is approved as part of the type design.
- 6. Labour:** Approximately 4 hours will be required to accomplish this service bulletin.
This estimate is for direct labor performed by a technician and it does not include setup, planning, familiarization, cure time, part fabrication or tool acquisition.
- 7. Material:**
- | Part Number | Description | Qty |
|---|---|-----|
| 22-5610-60-01 | Cover Plate, Canopy Lock | 1 |
| 22-5610-60-02 | Placard, Canopy Lock | 1 |
| MS24693C27 | Machine screw, 6-32, 100° Countersink | 2 |
| The above material may be ordered as kit DAC1-52-03-AMK0. | | |
| Materials required but not supplied: procure locally. | | |
| N/A | Sandpaper, 320 grit | A/R |
| N/A | Sandpaper, 10 micron grit | A/R |
| N/A | Caulking, white, commercial
(e.g. Mono Ultra) | A/R |
| N/A | Epoxy, fast curing, commercial
(e.g. 3M DP110) | A/R |
| N/A | Solvent (isopropyl alcohol or acetone) | A/R |
- 8. Special Tools:** ϕ 1/8" router bit and rotary tool (die grinder)
6-32 tap
#36 twist drill
- 9. References:** DA20-C1 Maintenance Manual (MM), Document # DA201-C1.
DA20-C1 Illustrated Parts Catalogue (IPC), Document # DA203-C1.

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10. Accomplishment Instructions:

- 10.1 If desired, remove canopy from aircraft (MM, Chap. 52-10-00, Page 201). It is easier to perform the following steps with the canopy on a workbench.
- 10.2 Remove left hand canopy latch: (Figure 1)
 - 10.2.1 Remove two AN526C832 screws retaining latch cover.
 - 10.2.2 Remove MS35207 friction adjust screw.
 - 10.2.3 Remove four MS24693 retaining screws.
 - 10.2.4 Lift latch and cover upwards out of frame.
- 10.3 Remove canopy lock:
 - 10.3.1 Remove plastic plug.
 - 10.3.2 Remove cam retaining nut, lock washer, cam, and cam stop. Note orientation of cam and cam stop on shaft before removing (Figure 2).
 - 10.3.3 Remove ring nut.
 - 10.3.4 Slide lock body outboard to remove.
- 10.4 Place cover plate (P/N 22-5610-60-01) on canopy frame and insert canopy lock. Align bottom edge of plate with edge of canopy, and temporarily tape it in place. On some aircraft, it may be necessary to trim the top of the plate to clear the canopy screws.
- 10.5 Mark the center of the screw holes on the canopy frame, and remove cover plate.
- 10.6 Carefully drill through the frame at each screw hole with a #36 ($\phi 0.1065$ ") drill. Do not damage canopy seal.
- 10.7 Thread the holes using 6-32 tap. CAUTION: Do not lubricate the tap.
- 10.8 Using $\phi 1/8$ " router bit and rotary tool, carefully enlarge hole in acrylic by approximately 1 mm all around. Do not damage carbon fibre canopy frame. Ensure that there are no cracks or ridges on the bore in the acrylic.
- 10.9 Polish the bore of the hole in the acrylic with 320 grit sandpaper, followed by 10 micron sandpaper. The surface of the bore in the acrylic should be smooth and nearly transparent.
- 10.10 Mask canopy around cover plate:
 - 10.10.1 Temporarily install cover plate with two MS24693C27 screws.
 - 10.10.2 Apply masking tape to canopy frame around plate.
 - 10.10.3 Remove cover plate.
- 10.11 Clean cover plate and canopy frame with solvent (isopropyl alcohol or acetone). Do not allow solvent to come in contact with acrylic portion of canopy.

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- 10.12** Install placard on exterior face of cover plate, ensuring it is centered. Trim placard around edge of plate and lock hole.
- 10.13** Cover placard with masking tape.
- 10.14** Apply white caulking to plate and position it on canopy using MS24693C27 screws. It may be necessary to use a clamp to press the plate down to the canopy. Remove excess caulking.
- 10.15** Remove masking tape from canopy before caulking cures.
- 10.16** After caulking cures, remove any remaining caulking from lock hole. Do not damage bore in acrylic.
- 10.17** Remove both MS24693C27 screws. Put a small amount of DP110 into the screw holes. Replace both screws.
- 10.18** Remove masking tape from cover plate.
- 10.19** Install canopy lock (reverse of removal). Ensure cam and cam stop are installed in correct orientation (Figure 2). Apply Loctite 222 on nut that holds cam. Install canopy latch (reverse of removal). Apply Loctite 222 to latch retaining and cover plate screws.
- 10.20** Install canopy on fuselage (MM, Chap. 52-10-00, Page 201).
- 10.21** Test and adjust latch force (MM, Chap. 52-10-00, Pages 202 and 203).
- 10.22** Check lock operation. **CAUTION:** It may be necessary to bend the cam slightly so that it does not rub on the outboard side of the strike plate on the fuselage.
- 10.23** Make a log book entry stating that this service bulletin has been incorporated.

11. Weight and Balance:

The weight and balance is not affected by this Service Bulletin.

12. Availability:

Contact Diamond Aircraft.

To obtain satisfactory results, procedures specified in this service bulletin must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft Industries Inc. cannot be responsible for the quality of work performed in accomplishing the requirements of this service bulletin. Diamond Aircraft reserves the right to void continued warranty coverage in the area affected by this Service Bulletin if it is not incorporated.

If you no longer own the aircraft to which this service bulletin applies, please forward it to the current owner and send the name of the current owner to Diamond Aircraft Industries, Inc., at the address below.

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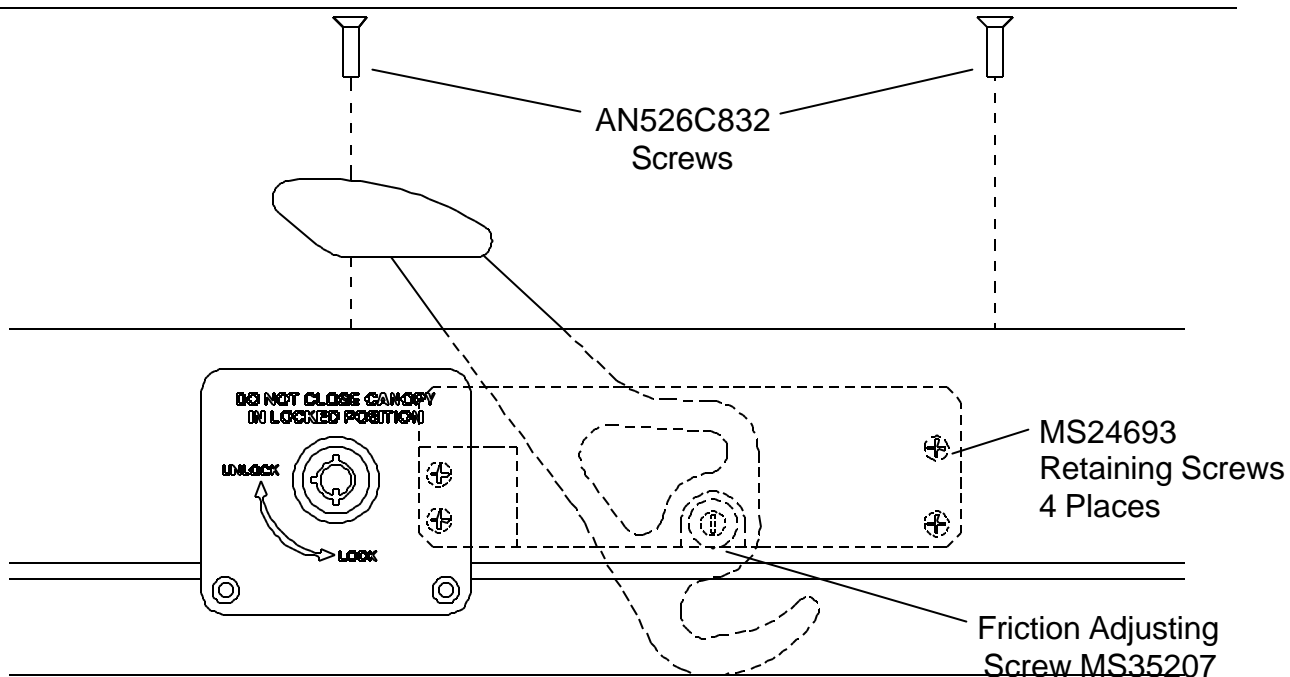


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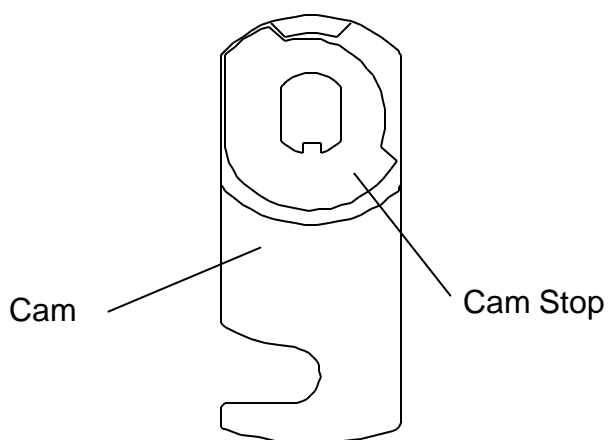
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Canopy Lock/Latch
Locked Position
Looking Inboard

Figure 1



Canopy Lock
Locked Position
Looking Outboard

Figure 2