SERVICE BULLETIN

Service Bulletin No.: DA20-52-01 - Rev. 0 **Date Issued:** 10 December 2012

Title: Canopy Locking Mechanism Inspection and Adjustment

1. ATA Code: 5200

2. Effectivity: All DA20-A1 Aircraft.

3. General: This Service Bulletin addresses the introduction of:

a. the canopy locking mechanism position placard.
This is done to make sure that the canopy is closed and locked correctly.

b. the optional (oversized) bushings for the installation on the aft locking pins.
This is done to simplify the procedure of the canopy locking mechanism adjustment (eliminated the need of the composite repair during the adjustment of the locking mechanism).

c. the procedure for the canopy locking mechanism adjustment and test.
This is done to improve the inspection criteria and to make sure proper operation of the canopy locking mechanism.

4. Compliance: Recommended to incorportae this SB at the next 100 hours or annual inspection.

5. Approval: Engineering data referenced or contained in this Service Bulletin is approved as part of the type design.

6. Labour: Approximately 2 hours will be required to accomplish this Service Bulletin.

This estimate is for direct labour 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
20-5650-00-05	Bushing, Ø10.2mm, Aft Pin	2(OPT.)
20-5650-00-06	Bushing, Ø12.2mm, Aft Pin	2(OPT.)
20-1130-00-28	Placard LH, Locking Mechanism Position	1
20-1130-00-29	Placard RH, Canopy Locked Position	1

The above material can be ordered as kit DA20-52-01-AMK1.

8. Special Tools: Calibrated spring scale.

9. References: DA20-A1 Aircraft Maintenance Manual, Document Number DA201.
DA20-A1 Airplane Flight Manual, Document Number DA202.
DA20-A1 Airplane Flight Manual, Document Number DA202-100.

10. Accomplishment Instructions:

Refer to Figures 1 and 2 for further information.

10.1 Unlatching Force - Checking and Adjusting.

10.1.1 Operate the LH and RH locking mechanism with the canopy in the open position and check for smooth operation. Make sure that the main locking pins and forward guide blocks are clean and aligned.

10.1.2 Remove the aft locking pin on the LH side.

10.1.3 Close the canopy and latch the canopy on both sides.

10.1.4 Operate the LH locking mechanism and check for smooth operation (without a significant increase in unlatching force).

Make sure that the fuselage canopy guide is clean and aligned with the main locking pin.

If required, adjust the rod ends on the canopy stabilizing rods to align the main locking pins with the fuselage canopy guides (recommend one turn of rod ends at a time).

10.1.5 Install the aft locking pin on the LH side.

10.1.6 Repeat Steps 10.1.2 through 10.1.5 for the RH side.

Make sure that the Emergency Lever is in the closed position during this operation and that the travel of the RH locking mechanism is not restricted by the Emergency Cable.

NOTE: If adjustment of the rod ends on the canopy stabilizing rods was performed during the testing of the RH locking mechanism, repeat Steps 10.1.2 through 10.1.5 for the LH side.

10.1.7 Close the canopy and latch both sides.

10.1.8 Measure the force required to unlatch the LH locking mechanism using a calibrated spring scale on the LH external grip, pulling directly aft.
The unlatching force must be 58-80 N (13-18 lbf).

NOTE: During unlatching movement of the handle, there should be a distinct increase in unlatching force when the aft locking pin passes the cam on the canopy locking shoe.

NOTE: If the canopy seal has been replaced recently, it is recommended to adjust the unlatching force to near the upper end of the tolerance.

10.1.9 If necessary, replace the bushing on the aft locking pin with oversized pin Ø10.2mm (P/N 20-5650-00-05) or pin Ø12.2mm (P/N 20-5650-00-06) to achieve required unlatching force.

10.1.10 Repeat Steps 10.1.7 through 10.1.9 for the RH side.

10.2 Door Warning Annunciation Checking.

10.2.1 With the canopy locking mechanism in the unlocked position turn the Master Switch (GEN/BAT) ON (Refer to the DA20-A1 AFM).
Confirm that the Door Warning annunciator is ON.

10.2.2 Close and lock the canopy.

Observe the Door Warning Annunciator. The annunciator should go off after the LH and RH grips are moved into the locked position.

10.2.3 Slowly move the LH grip aft and observe the Door Warning Annunciator. The annunciator must illuminate before the bushing on the aft locking pin passes the top of the cam on the locking shoe (defined by the increase in unlatching force). If required perform rework per Repair Instruction R20-56-006 (latest revision).

NOTE: Contact Diamond Aircraft Industries, Customer Support for the latest revision of Repair Instruction R20-56-006.

10.2.4 Repeat Steps 10.2.2 and 10.2.3 for the RH side.

10.2.5 Turn the Master Switch (GEN/BAT) OFF (Refer to the DA20-A1 AFM).

10.3 Placard Installation.

NOTE: Perform the placard installation after all tests and adjustments are completed.

10.3.1 Clean the area on the interior surface of the fuselage under the internal grip for placard installation with isopropyl alcohol or similar cleaning solution. Refer to the Material Safety Data Sheet (MSDS) for handling of chemicals.

10.3.2 Close and latch the canopy LH and RH sides.

10.3.3 Move the LH internal grip aft to the point when the annunciator starts to illuminate but before the bushing on the aft locking pin passes the top of the cam on the locking shoe (defined by the increase in unlatching force).

10.3.4 Move the LH internal grip forward 1 to 2 mm.

10.3.5 Install Placard LH, Locking Mechanism Position (P/N 20-1130-00-28) as shown in Figure 1.
Make sure that the aft edge of the green sector on the placard is in line with the aft edge of the internal grip.

10.3.6 Move the LH grip to the locked position.

10.3.7 Repeat Steps 10.3.1 to 10.3.5 for the RH side.

10.4 Final Tasks.

10.4.1 Remove all tools, equipment, and unwanted materials from the work area.

10.4.2 Make a log book entry that this Service Bulletin has been incorporated

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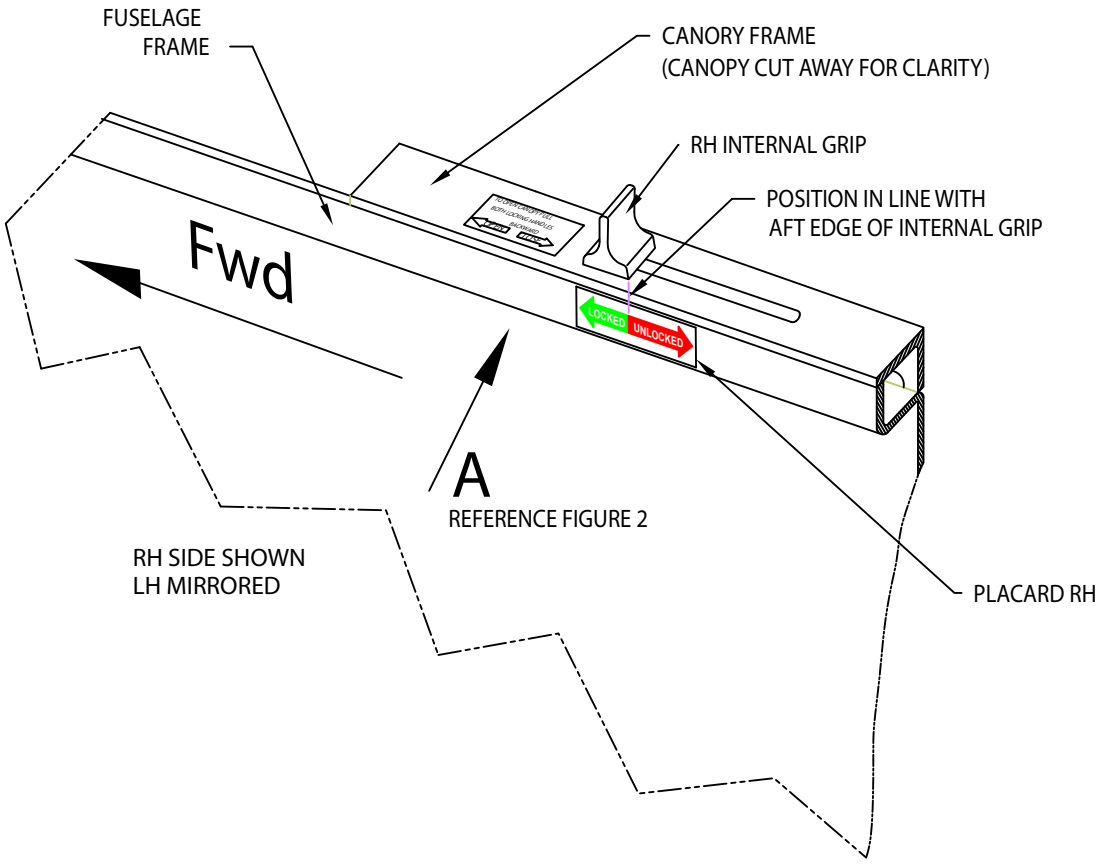

Figure 1 – Canopy Locking Mechanism Placard Installation

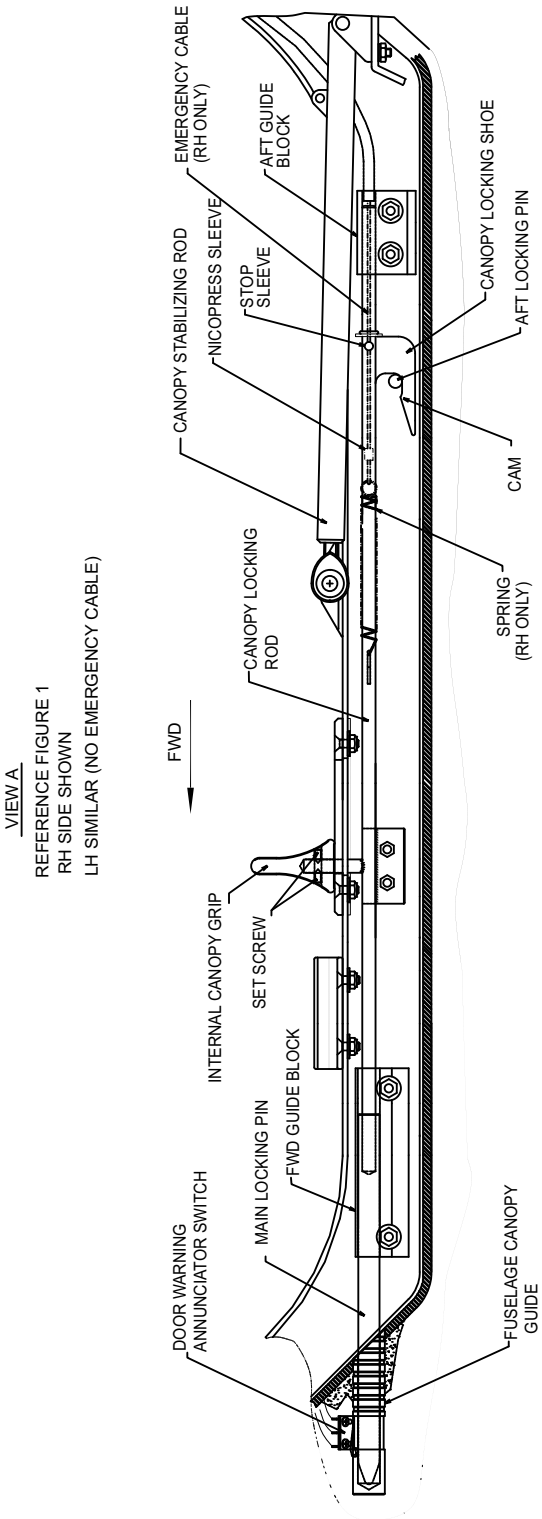

Figure 2 – Canopy locking Mechanism

11. Weight and Balance: The effect on Weight and Balance is Negligible.

12. Electrical Load Data: No impact to the electrical load.

13. Availability: Contact Diamond Aircraft Industries Inc..

14. Credit: None.

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